LAW OFFICES OF
JENNINGS, CHRISTY & COPPLE
JAMES T. JENNINGS
SIM B. CHRISTY IV
ROGER L. COPPLE
BRIAN W. COPPLE
1012 SECURITY NATIONAL BANK BUILDING
P. O. BOX 1180
ROSWELL, NEW MEXICO 88201
TELEPHONE 622-8432
AREA CODE 505

Rec'd July 19, 1971

WFX - 360

No Hearing

July 19, 1971

New Mexico Oil Conservation
Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

RE: SHENANDOAH APPLICATION FOR ADMINISTRATIVE APPROVAL OF ADDITIONAL WATER INJECTION WELL, ~~CASE NO. 3486~~

Enclosed herewith you will find Shenandoah's Application in triplicate for administrative approval of an additional injection well in the Shenandoah Northeast Maljamar Waterflood Project in the Maljamar Pool, Lea County.

We only have one copy of the log of the State "D" No. 2 Well, which is Exhibit D and it is attached to the original hereof. If the Commission or the offset operators desire additional copies of this log, we will obtain them from Electrical Log Services, Inc.

We hope that you find the enclosed Application in order and that administrative approval can be given at an early date. If you have any questions or if you need any further information, please call us.

JAMES T. JENNINGS

JTJ/mb
Encl.
cc: Shenandoah Oil Corporation
Phillips Petroleum Company
Great Western Drilling Company
Murphy Baxter

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF SHENANDOAH OIL CORPORATION TO CONVERT AN ADDITIONAL WELL TO WATER INJECTION WELL IN THE SHENANDOAH NORTHEAST MALJAMAR WATERFLOOD PROJECT IN THE MALJAMAR POOL, LEA COUNTY, NEW MEXICO.

~~Case No. 3486~~

APPLICATION FOR ADMINISTRATIVE APPROVAL OF ADDITIONAL WATER INJECTION WELL

Comes now Applicant Shenandoah Oil Corporation and hereby makes application for administrative approval of conversion of an additional well to water injection in the Shenandoah Northeast Maljamar Waterflood Project pursuant to Rule 701-E-5 of the Rules and Regulations of the Commission, and in support thereof states:

(Case # 3486)

1. That by Order No. R-3155, the Commission authorized Applicant herein to institute a waterflood project in the Maljamar Pool by the injection of water into the Grayburg-San Andres formation and the Commission designated the waterflood project as the Northeast Maljamar Waterflood Project.

2. That the Applicant desires to convert its State "D" No. 2 Well, located on Unit D ($NW\frac{1}{4}NW\frac{1}{4}$ Section 8, Township 17 South, Range 33 East, N.M.P.M.), to a water injection well because some of the offsetting wells to this well have reacted to injection in the current injection wells and the current injection is considered inadequate to affect perimeter wells, such as the State "D" No. 2 Well.

3. That the State "D" No. 2 Well, located on Unit D ($NW\frac{1}{4}NW\frac{1}{4}$ Section 8, Township 17 South, Range 33 East, N.M.P.M.),

has not responded to injection, but the offsetting State "A" Well, located on Unit A (NE¼NE¼ Section 7, Township 17 South, Range 33 East, N.M.P.M.), has responded in that the monthly production from said well during the month of April was 25 barrels of oil and 38 barrels of water per day.

4. That due to permeability variations, the water injection has not affected the State "E" No. 1 Well located on Unit A (NE¼NE¼ Section 8, Township 17 South, Range 33 East, N.M.P.M.) nor the State "D" No. 2 Well.

5. That Applicant will inject fresh water and produced water into the Grayburg-San Andres formation, that the injection well will be completed in the same manner as other injection wells on the project, and that the Applicant will use plastic coated down hole tubing set on a tension type packer.

6. That Applicant proposes to shut in its State "A" No. 2 injection well located in Unit C (NE¼NW¼ Section 7, Township 17 South, Range 33 East, N.M.P.M.).

7. That in support of this application and in accordance with the provisions of Rule 701-B, Applicant has heretofore submitted in connection with its original Application for Waterflood Project a plat marked Exhibit "A" therein showing the location of Applicant's project relative to the ownership of all other leases within a two mile radius which are producing from one or more of the same geologic formations; and Applicant hereby adopts said exhibit and all other exhibits heretofore furnished in connection with the original hearing, and Applicant submits herewith the following exhibits:

B - Plat showing Applicant's project, the injection wells and the well which Applicant proposes to convert to water injection well and well which Applicant proposes to shut-in.

C - A diagramatic sketch of the proposed injection well showing tops of the cement, perforations and depths.

D - Log of the State "D" No. 2 Well (only one copy of log is available and it is attached to the original of the Application filed herein.)

8. Applicant submits the following production figures reflecting the production for the month of April, 1971:

	BOPD	BWPD
State "A" No. 7	25	38
State "C" No. 1	36	45
State "D" No. 2	2	4
State "E" No. 1	4	1
Vickers State No. 1	1	1

9. That Great Western Drilling Company is the Operator of the Maljamar Unit located to the Southwest of this project, and that Phillips Petroleum Company and Murphy Baxter are the Operators of the property to the South and East of the project, and that copies of this Application have been mailed to said Operators. That there is no production from the Grayburg-San Andres Zone offsetting the project to the North.

10. That the conversion of the State "D" No. 2 Well to a water injection well is necessary for a more efficient injection pattern and will insure the protection of correlative rights and result in increased ultimate recovery of oil and prevent waste.

WHEREFORE, Applicant requests that the Secretary-Director of the Commission approve the conversion of the State "D" No. 2

Well to a water injection well, and that Applicant be authorized to inject water into the Grayburg-San Andres formation in its State "D" No. 2 Well, located on Unit D ($NW\frac{1}{4}NW\frac{1}{4}$ Section 8, Township 17 South, Range 33 East, N.M.P.M.).

Respectfully submitted,

SHENANDOAH OIL CORPORATION

By _____
For Jennings, Christy & Copple
Attorneys for Applicant
P. O. Box 1180
Roswell, New Mexico 88201

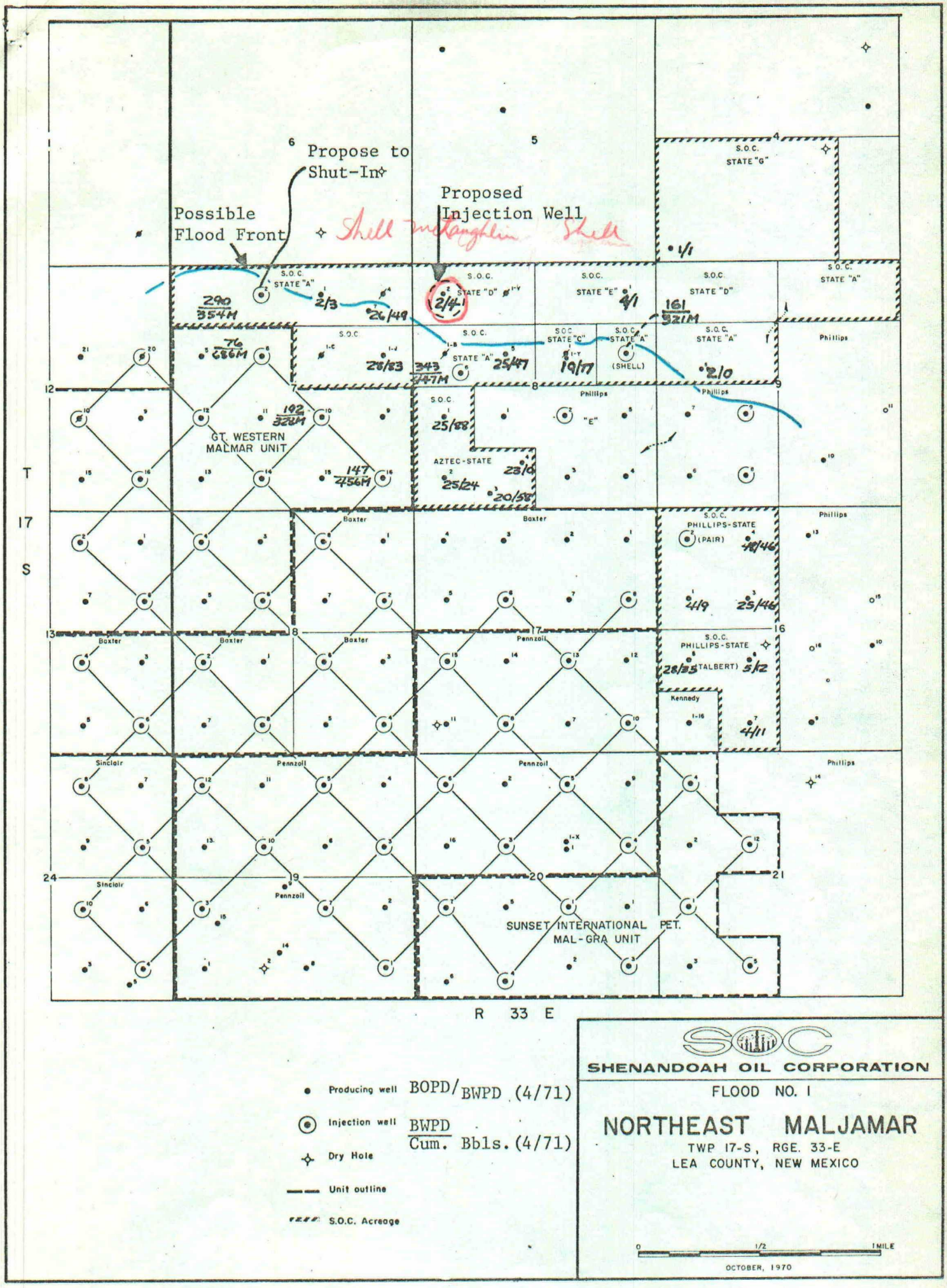

Propose to Shut-In
Possible Flood Front
Proposed Injection Well
Shell McLaughlin Shell
S.O.C. STATE "A"
S.O.C. STATE "D"
S.O.C. STATE "E"
S.O.C. STATE "G"
S.O.C. STATE "C"
(SHELL)
GT. WESTERN MALMAR UNIT
AZTEC-STATE
PHILLIPS-STATE
(PAIR)
(TALBERT)
SUNSET INTERNATIONAL PET. MAL-GRA UNIT
Phillips
Baxter
Pennzoil
Sinclair
Kennedy
T 17 S
R 33 E
Producing well BOPD/BWPD (4/71)
Injection well BWPD
Cum. Bbls. (4/71)
Dry Hole
Unit outline
S.O.C. Acreage
SHENANDOAH OIL CORPORATION
FLOOD NO. 1
NORTHEAST MALJAMAR
TWP 17-S, RGE. 33-E
LEA COUNTY, NEW MEXICO
0 1/2 1 MILE
OCTOBER, 1970

EXHIBIT B

SHENANDOAH OIL CORPORATION
Northeast Maljamar Waterflood Project

State "D" No. 2
Unit D, Section 8, T-17S, R-33E
660' FNL, 660' FWL of Section 8
Lea County, New Mexico

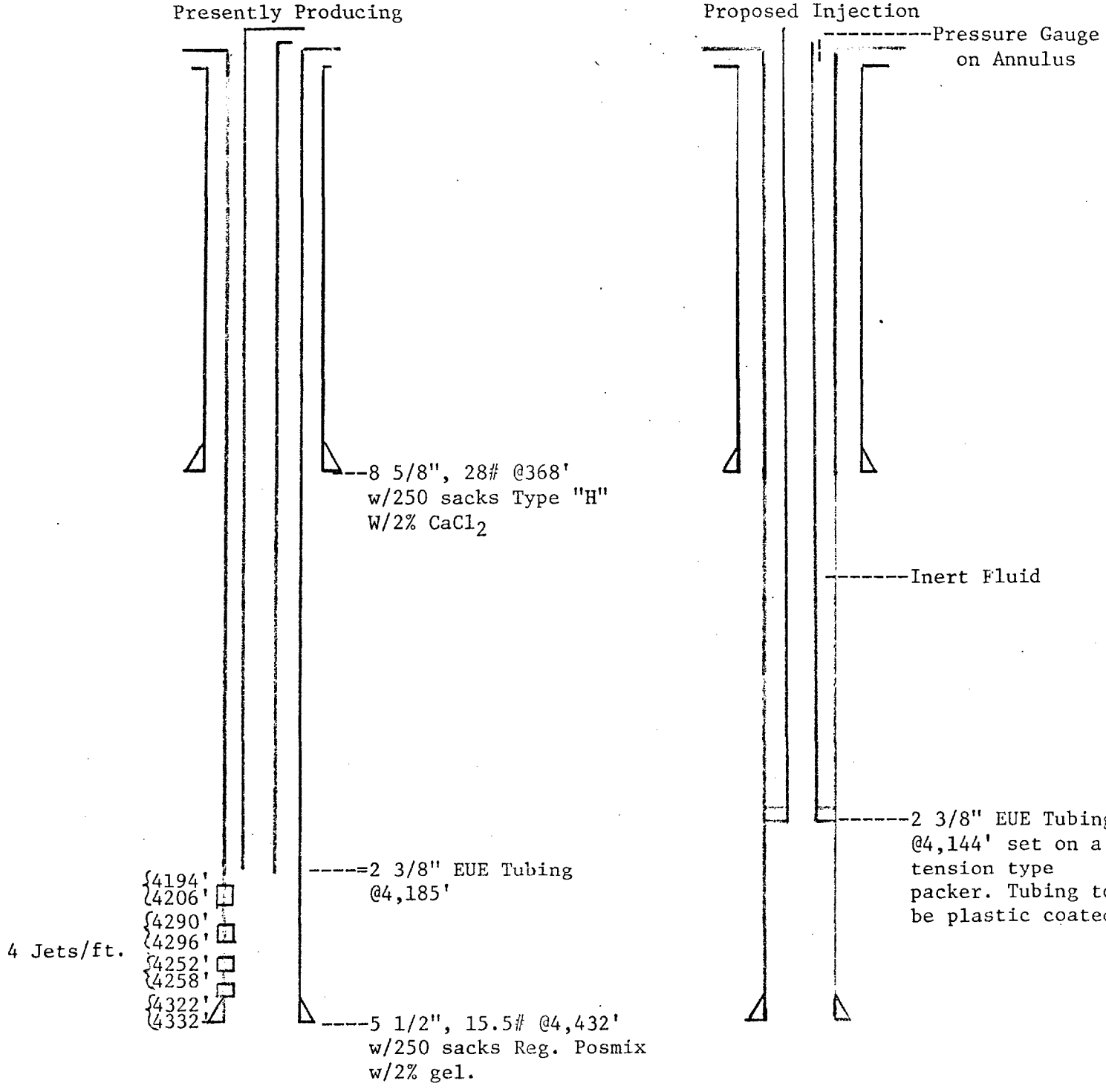


EXHIBIT C

DIETRICH
RESOURCES CORPORATION

410 SEVENTEENTH STREET · SUITE 2450 · DENVER, COLORADO 80202 · TELEPHONE (303) 534-6080

November 27, 1985

Mr. R. L. Stamets, Director
Oil Conservation Division
New Mexico Energy & Minerals
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

Re: APPLICATION FOR HARDSHIP
GAS WELL CLASSIFICATION
Jack A. Cole #1 Hugh Wash Federal
Unit "J", Section 23-T27N-R13W, NMPM
San Juan County, State of New Mexico

Dear Mr. Stamets:

Please be advised that Dietrich Resources Corporation has no objection to the classification of the well set forth in the caption hereof as a hardship gas well under the terms and conditions set forth in the application for such classification made by Walsh Engineering and Production Corporation on November 22, 1985.

This company considers the classification of such well as a hardship gas well appropriate under the circumstances stated.

Very truly yours,

DIETRICH RESOURCES CORPORATION

By Ray F. Dietrich
Ray F. Dietrich
President

RFD/pm

copy for: Mr. Ewell N. Walsh, President
Walsh Engineering & Production Corporation
Post Office Drawer 419
Farmington, New Mexico 87401

Mr. Jack A. Cole
Post Office Box 191
Farmington, New Mexico 87499

Dugan Production Corporation
Post Office Box 208
Farmington, New Mexico 87499
Attention: Mr. Thomas A. Dugan, President

Jerome P. McHugh & Associates
650 South Cherry Street, Suite 1225
Denver, Colorado 80222

Texaco, Inc.
Post Office Box 2100
Denver, Colorado 80201
Attention: Mr. John A. Schell, Manager-Operations

Northwest Pipeline Corporation
Post Office Box 8900
Salt Lake City, Utah 84108-8900

El Paso Natural Gas Company
Post Office Box 1492
El Paso, Texas 79978

WALSH ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping

3001 Northridge Drive
P.O. Drawer 419
Farmington, New Mexico 87401
(505) 327-4892

November 22, 1985

Mr. R. L. Stamets
Director
New Mexico Energy & Minerals
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

REF: Application for Hardship
Gas Well Classification
Jack A. Cole
Hugh Wash Federal No. 1
Unit J, Section 23-T27N-R13W
San Juan County

Dear Mr. Stamets:

On behalf of Jack A. Cole, enclosed you will find three (3) copies of the above-referred-to application.

It is requested that consideration be given to administrative approval of the application as set forth in Rule 410, Processing of Applications for Hardship Gas Wells.

The reason for requesting administrative approval is due to the fact that a pumping unit is required to remove the produced water from the well to produce formation gas and prevent formation damage. In my opinion, the utilization of a pumping unit to remove water could be considered the ultimate means to remove produced water from a gas well.

The owners of the offsetting acreage are being notified of this application. Copies of letters to the owners of the offsetting acreage are enclosed with this letter.

Thank you for your consideration and cooperation in this matter.

Very truly yours,

Ewell N. Walsh, P.E.
President

ENW:rr
cc: Frank Chavez, NMOCD, Aztec, N.M.
Jack A. Cole
Dietrich Resources Corp., Ray F. Dietrich
Dugan Production Corp., Tom Dugan
Jerome P. McHugh & Associates
Texaco, Inc., John A. Schell
Northwest Pipeline Company, Salt Lake City, Utah
El Paso Natural Gas Company

WALSH ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping

3001 Northridge Drive
P.O. Drawer 419
Farmington, New Mexico 87401
(505) 327-4892

November 22, 1985

CERTIFIED RETURN RECEIPT

Mr. Jerome P. McHugh, President
Jerome P. McHugh & Associates
c/o Nassau Resources, Inc.
650 South Cherry Street, Suite 1225
Denver, Colorado 80222

REF: Application for Hardship
Gas Well Classification
Jack A. Cole
Hugh Wash Federal No. 1
Unit J, Section 23-T27N-R13W
San Juan County, New Mexico

Dear Mr. McHugh:

Enclosed you will find a copy of the above-referred-to application.

Your advising Mr. Stamets of your approval, as soon as possible, of the application would be appreciated. Without your approval it will be necessary for the Oil Conservation Commission to wait twenty days (20) after date of hearing docket before an approval may be given. Although it has been requested that the application be approved administratively, it is still required to publish the application in a hearing docket.

Thank you for your cooperation and consideration in this matter.

Very truly yours,

ORIGINAL SIGNED BY
EWELL N. WALSH

Ewell N. Walsh, P.E.
President

ENW:rr
cc: R. L. Stamets, OCD, Santa Fe, N.M.
Frank Chavez, OCD, Aztec, N.M.
Jack A. Cole

WALSH ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping

3001 Northridge Drive
P.O. Drawer 419
Farmington, New Mexico 87401
(505) 327-4892

November 22, 1985

CERTIFIED RETURN RECEIPT

Ray F. Dietrich, President
Dietrich Resources Corporation
410 - 17th Street
Suite 2450
Denver, Colorado 80202

REF: Application for Hardship
Gas Well Classification
Jack A. Cole
Hugh Wash Federal No. 1
Unit J, Section 23-T27N-R13W
San Juan County, New Mexico

Dear Mr. Dietrich:

Enclosed you will find a copy of the above-referred-to application.

Your advising Mr. Stamets of your approval, as soon as possible, of the application would be appreciated. Without your approval it will be necessary for the Oil Conservation Commission to wait twenty days (20) after date of hearing docket before an approval may be given. Although it has been requested that the application be approved administratively, it is still required to publish the application in a hearing docket.

Thank you for your cooperation and consideration in this matter.

Very truly yours,

ORIGINAL SIGNED BY
EWELL N. WALSH

Ewell N. Walsh, P.E.
President

ENW:rr
cc: R. L. Stamets, OCD, Santa Fe, N.M.
Frank Chavez, OCD, Aztec, N.M.
Jack A. Cole

WALSH ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping

3001 Northridge Drive
P.O. Drawer 419
Farmington, New Mexico 87401
(505) 327-4892

November 22, 1985

CERTIFIED RETURN RECEIPT

Mr. Tom Dugan, President
Dugan Production Corporation
P. O. Box 208
Farmington, New Mexico 87499

REF: Application for Hardship
Gas Well Classification
Jack A. Cole
Hugh Wash Federal No. 1
Unit J, Section 23-T27N-R13W
San Juan County, New Mexico

Dear Mr. Dugan:

Enclosed you will find a copy of the above-referred-to application.

Your advising Mr. Stamets of your approval, as soon as possible, of the application would be appreciated. Without your approval it will be necessary for the Oil Conservation Commission to wait twenty days (20) after date of hearing docket before an approval may be given. Although it has been requested that the application be approved administratively, it is still required to publish the application in a hearing docket.

Thank you for your cooperation and consideration in this matter.

Very truly yours,
ORIGINAL SIGNED BY
EWELL N. WALSH

Ewell N. Walsh, P.E.
President

ENW:rr
cc: R. L. Stamets, OCD, Santa Fe, N.M.
Frank Chavez, OCD, Aztec, N.M.
Jack A. Cole

WALSH ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping

3001 Northridge Drive
P.O. Drawer 419
Farmington, New Mexico 87401
(505) 327-4892

November 22, 1985

CERTIFIED RETURN RECEIPT

Mr. John A. Schell, Manager of Operations
Texaco, Inc.
P. O. Box 2100
Denver, Colorado 80201

REF: Application for Hardship
Gas Well Classification
Jack A. Cole
Hugh Wash Federal No. 1
Unit J, Section 23-T27N-R13W
San Juan County, New Mexico

Dear Mr. Schell:

Enclosed you will find a copy of the above-referred-to application.

Your advising Mr. Stamets of your approval, as soon as possible, of the application would be appreciated. Without your approval it will be necessary for the Oil Conservation Commission to wait twenty days (20) after date of hearing docket before an approval may be given. Although it has been requested that the application be approved administratively, it is still required to publish the application in a hearing docket.

Thank you for your cooperation and consideration in this matter.

Very truly yours,

...AL SIGNED BY
EWELL N. WALSH

Ewell N. Walsh, P.E.
President

ENW:rr
cc: R. L. Stamets, OCD, Santa Fe, N.M.
Frank Chavez, OCD, Aztec, N.M.
Jack A. Cole

WALSH ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping

3001 Northridge Drive
P.O. Drawer 419
Farmington, New Mexico 87401
(505) 327-4892

November 22, 1985

EL PASO NATURAL GAS COMPANY
Attn: A. M. Derrick
Senior Vice President
P. O. Box 1492
El Paso, Texas 79978

REF: Application for Hardship
Gas Well Classification
Jack A. Cole
Hugh Wash Federal No. 1
Unit J, Section 23-T27N-R13W
San Juan County, New Mexico

Dear Mr. Derrick:

Enclosed you will find a copy of the above-referred-to application.

The copy of the application is being sent to you as per required by the New Mexico Oil Conservation Commission.

Very truly yours,

ORIGINAL SIGNED BY
EWELL N. WALSH

Ewell N. Walsh, P.E.
President

ENW:rr
cc: R. L. Stamets, OCD, Santa Fe, N.M.
Frank Chavez, OCD, Aztec, N.M.
Jack A. Cole

WALSH ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping

3001 Northridge Drive
P.O. Drawer 419
Farmington, New Mexico 87401
(505) 327-4892

November 22, 1985

Northwest Pipeline Corporation
Attn: James R. Herbster
Vice President - Administration
295 Chipeta Way
Salt Lake City, Utah 84108

REF: Application for Hardship
Gas Well Classification
Jack A. Cole
Hugh Wash Federal No. 1
Unit J, Section 23-T27N-R13W
San Juan County, New Mexico

Dear Mr. Herbster:

Enclosed you will find a copy of the above-referred-to application.

The copy of the application is being sent to you as per required by the New Mexico Oil Conservation Commission.

Very truly yours,

ORIGINAL SIGNED BY
EWELL N. WALSH

Ewell N. Walsh, P.E.
President

ENW:rr
cc: R. L. Stamets, OCD, Santa Fe, N.M.
Frank Chavez, OCD, Aztec, N.M.
Jack A. Cole

WALSH ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping

3001 Northridge Drive
P.O. Drawer 419
Farmington, New Mexico 87401
(505) 327-4892

APPLICATION FOR CLASSIFICATION AS HARDSHIP GAS WELL

JACK A. COLE
HUGH WASH FEDERAL NO. 1
UNIT J, SECTION 23-T27N-R13W
San Juan County, New Mexico

November 22, 1985

Ewell N. Walsh, P.E.
State of New Mexico
Registration No. 4324

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 JACK A. COLE Contact Party Ewell N. Walsh

Address P. O. Box 191 Farmington, N.M. 87499 Phone No. 505 327-4892

Lease Hugh Wash Federal Well No. 1 UT J Sec. 23 TWP 27N RGE 13W

Pool Name Basin Dakota Minimum Rate Requested 50 MCFPD

Transporter Name El Paso Natural Gas Company Purchaser (if different) Northwest Pipeline

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.

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.

SUPPLEMENT TO APPLICATION FOR
CLASSIFICATION AS HARDSHIP GAS WELL

JACK A. COLE
HUGH WASH FEDERAL NO. 1
UNIT J, SECTION 23-T27N-R13W
San Juan County, New Mexico

1. The well is currently producing water in sufficient quantities that affects gas producing conditions. Extended shut in periods at this time will affect the volume of gas that could ultimately be recovered from the well or reservoir.

   During shut in periods the produced water will enter the permeability and porosity, of the formation, creating a block and will prevent the gas in the porosity from flowing to the wellbore. Preventing the gas from flowing to the wellbore would cause "underground waste". The volume of gas that could be ultimately produced would be decreased.

   The decrease of flow of gas, due to blocking of the permeability, could affect the economics of continued production of the well and cause the early plugging and abandonment of the well. Due to an early abandonment "underground waste" would occur because of gas remaining in the reservoir would not be produced

2. (a) A. Well commenced producing in June 1984.
   B. Almost immediately water production affected the ability of the well to produce gas.
   C. An intermitter, stop cock operation, was installed in June 1984.
   D. The utilization of a piston, or plunger lift, was considered, however, due to low volume of gas being produced and depth of well, the utilization of a piston was considered to not be effective.
   E. A subsurface pump, sucker rods and pumping unit were installed in December 1984 to remove produced water and allow the well to produce a more continual flow of gas.

2. (b) See Exhibit No. 1 for wellbore sketch.

   1. See 2(a) for mechanical attempts to rectify problem of produced water.

      The installation of subsurface pump, sucker rods and pumping unit should be considered to be the ultimate, and most costly, method to remove produced water from a gas well.

3. See Exhibit No. 2, Production Data, and Exhibit No. 3, Production Decline Curve for historical production data.

3. (a) During shut in periods the produced water will enter the permeability and porosity, of the formation, creating a block and will prevent the gas in the porosity from flowing to the wellbore. Preventing the gas from flowing to the wellbore would cause "underground waste". The volume of gas that could be ultimately produced would be decreased.

The decrease of flow of gas, due to blocking of the permeability, could affect the economics of continued production of the well and cause the early plugging and abandonment of the well. Due to an early abandonment "underground waste" would occur because of gas remaining in the reservoir would not be produced.

3. (b) No swabbing of well was necessary, however, if pumping equipment had not been installed the well would probably have to be swabbed to remove water to allow gas to be produced.

3. (c) No swabbing required.

3. (d) Pumping equipment was installed on well at a cost of approximately $37,500.00.

Pumping equipment was installed to remove produced water, at considerable cost, and prevent damage to reservoir.

4. As previously stated in Item No. 1, formage damage due to produced water blocking permeability and decreasing gas flow, could result in premature abandonment.

Failure to obtain a hardship gas well classification could result in premature abandonment.

Exhibit No. 4 - Estimated Gas Reserves Produced Without Hardship Gas Well Classification.

Exhibit No. 5 - Estimated Gas Reserves Produced with Hardship Gas Well Classification.

Estimated Gas Reserves Produced with Hardship Gas Well Classification	158,276 MCF
Estimated Gas Reserves Produced without Hardship Gas Well Classification	84,933 MCF
Estimated Reserves not Produced	73,343 MCF

5. (a) No minimum flow or "log off" test was required due to necessity of having pumping equipment to remove produced water.

5. (b) For documentation of well production history see Exhibit No. 2 and Exhibit No. 3.

6. Exhibit No. 6 is a plat indicating the proration unit dedicated to the well and the ownership of offsetting acreage.

7. Exhibit No. 7. Affect on production due to shut in by gas purchaser.

8. Exhibit No. 8 indicates the current under-or over produced status in the prorated Basin Dakota Gas Pool.

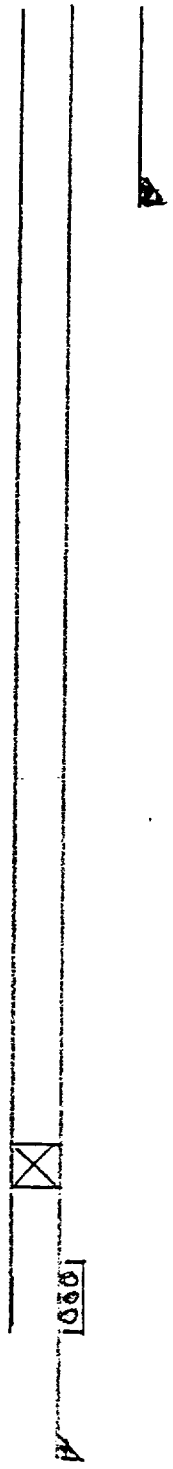
   It may be noted that the well, as of November 1985, has an over produced status. The over produced status is due to penalty for filing a late Deliverability Test for 1984.

   The over produced status would not have occurred if the test was properly filed on time. The producing capacity of the well would in all probability not cause such a status under normal conditions.

EXHIBIT NO. 1

JACK A. COLE
HUGH WASH FEDERAL NO. 1

WELLBORE SKETCH



8-5/8" casing set at 264'
Cemented to surface.

Tubing Anchor - catcher at 5600'

Perforations 5868'-5872'; 5899'-5904'; 5918'-5921' and 5924'-5944'
1 shot per foot

4-1/2" casing set at 5988'
Cemented to surface in 3 stages

EXHIBIT NO. 2

ILLEGIBLE

WALSH
ENGINEERING AND PRODUCTION CORPORATION
PRODUCTION DATA

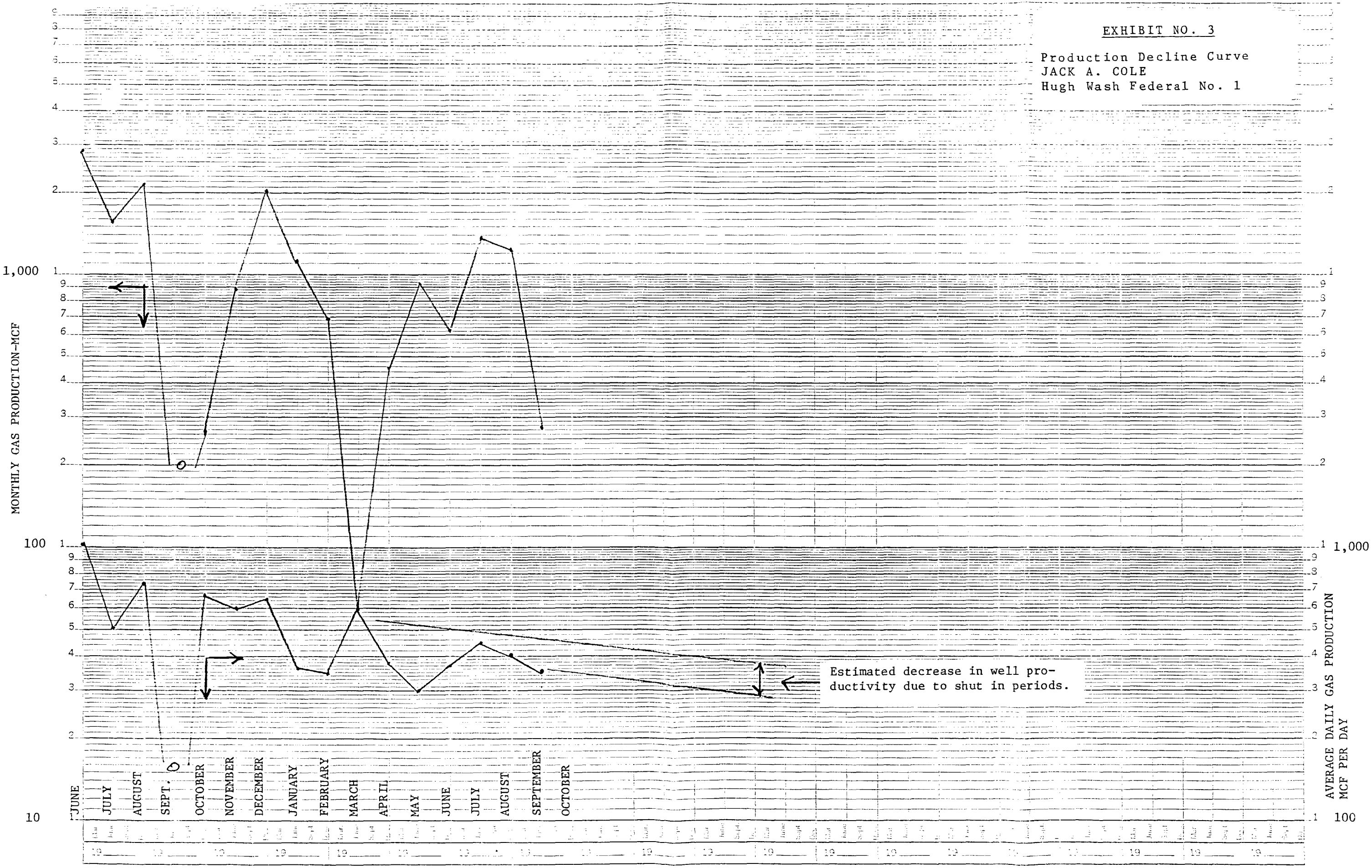
FIELD BASIN DAKOTA OPERATOR JACK A. COLE
COUNTY SJ STATE NM LEASE HUGH WASH FED
UNIT J SECTION 23 TWN 27N RNG 13W WELL NO. 1

FLOW/PMP-->PUMPING YEAR 1984 IF OIL WELL,1--->

MON. MONTH	DAYS PROD	TOTAL WATER & BS&W-Bbls. MONTHLY	TOTAL WATER & BS&W-Bbls. CUM.	DA AV	TOTAL OIL BARRELS MONTHLY	TOTAL OIL BARRELS CUM.	DA AV	TOTAL GAS MCF MONTHLY	TOTAL GAS MCF CUM.	DA. AVE.	G.O.R CU.-FT Per Bb.
PREV.A1..L60											
JAN			0	0		0	0		0	0	0
FEB			0	0		0	0		0	0	0
MAR			0	0		0	0		0	0	0
APR			0	0		0	0		0	0	0
MAY			0	0		0	0		0	0	0
JUN	28	112	112	4		0	0	2,840	2,840	101	0
JUL	31	124	236	4		0	0	1,593	4,433	51	0
AUG	29	116	352	4		0	0	2,147	6,580	74	0
SEP	0	0	352	0		0	0	0	6,580	0	0
OCT	4	16	368	4		0	0	267	6,847	67	0
NOV	15	60	428	4		0	0	896	7,743	60	0
DEC	31	124	552	4		0	0	2,016	9,759	65	0
TOTAL	138	552		4	0		0	9,759		71	0
YEAR 1985											
JAN	31	124	676	4		0	0	1,116	10,875	36	0
FEB	20	80	756	4		0	0	697	11,572	35	0
MAR	1	2	758	2		0	0	60	11,632	60	0
APR	12	48	806	4		0	0	459	12,091	38	0
MAY	31	124	930	4		0	0	931	13,022	30	0
JUN	17	68	998	4		0	0	621	13,643	37	0
JUL	31	124	1,122	4		0	0	1,396	15,039	45	0
AUG	31	124	1,246	4		0	0	1,250	16,289	40	0
SEP	8	32	1,278	4		0	0	277	16,566	35	0
OCT	0	0	1,278	0		0	0	0	16,566	0	0
NOV			1,278	0		0	0		16,566	0	0
DEC			1,278	0		0	0		16,566	0	0
TOTAL	182	726		4	0		0	6,807		37	0
YEAR											
JAN			1,278	0		0	0		16,566	0	0
FEB			1,278	0		0	0		16,566	0	0
MAR			1,278	0		0	0		16,566	0	0
APR			1,278	0		0	0		16,566	0	0
MAY			1,278	0		0	0		16,566	0	0
JUN			1,278	0		0	0		16,566	0	0
JUL			1,278	0		0	0		16,566	0	0
AUG			1,278	0		0	0		16,566	0	0
SEP			1,278	0		0	0		16,566	0	0
OCT			1,278	0		0	0		16,566	0	0
NOV			1,278	0		0	0		16,566	0	0
DEC			1,278	0		0	0		16,566	0	0
TOTAL	0	0		0	0		0	0			

EXHIBIT NO. 3

Production Decline Curve
JACK A. COLE
Hugh Wash Federal No. 1



JACK A. COLE
PRODUCTION RATE FORECAST AND EVALUATION
HARDSHIP GAS WELL CLASSIFICATION

11/22/85
14:50

YEAR	WELL CNT	GROSS PRODUCTION BBL OIL	GROSS PRODUCTION MCF GAS	NET PRODUCTION BBL OIL	NET PRODUCTION MCF GAS	PRICE OIL	PRICE GAS	SALES INCOME OIL $	SALES INCOME GAS $	SALES INCOME TOTAL $
1985	1	0	1,571	0	1,178	0.00	3.000	0	3,534	3,534
1986	1	0	8,303	0	6,227	0.00	3.000	0	18,681	18,681
1987	1	0	7,168	0	5,376	0.00	3.000	0	16,127	16,127
1988	1	0	6,680	0	5,010	0.00	3.000	0	15,031	15,031
1989	1	0	6,346	0	4,760	0.00	3.000	0	14,279	14,279
1990	1	0	6,029	0	4,522	0.00	3.000	0	13,565	13,565
1991	1	0	5,728	0	4,296	0.00	3.000	0	12,887	12,887
1992	1	0	5,441	0	4,081	0.00	3.000	0	12,243	12,243
1993	1	0	5,169	0	3,877	0.00	3.000	0	11,631	11,631
1994	1	0	4,911	0	3,683	0.00	3.000	0	11,049	11,049
1995	1	0	4,665	0	3,499	0.00	3.000	0	10,497	10,497
1996	1	0	4,432	0	3,324	0.00	3.000	0	9,972	9,972
1997	1	0	4,210	0	3,158	0.00	3.000	0	9,473	9,473
1998	1	0	4,000	0	3,000	0.00	3.000	0	8,999	8,999
1999	1	0	3,800	0	2,850	0.00	3.000	0	8,550	8,550
2001	1	0	6,480	0	4,860	0.00	3.000	0	14,579	14,579
TOT		0	84,933	0	63,701	0.00	3.000	0	191,097	191,097

YEAR	EXPENSES TAXES	EXPENSES WFP-TAX	EXPENSES OPER	EXPENSES TOTAL	NET OPER INCOME	OTHER COSTS	NET CASH FLOW ANNUAL	NET CASH FLOW CUMULATIVE	NET CASH FLOW 13.00 PCNT DISCOUNTED	NET CASH FLOW DISCOUNTED
1985	293	0	701	994	2,540	0	2,540	2,540	2,501	2,501
1986	1,551	0	4,278	5,829	12,852	0	12,852	15,392	11,829	14,330
1987	1,339	0	4,407	5,746	10,381	0	10,382	25,774	8,444	22,774
1988	1,248	0	4,539	5,787	9,244	0	9,244	35,018	6,649	29,423
1989	1,185	0	4,675	5,860	8,419	0	8,419	43,437	5,359	34,782
1990	1,126	0	4,815	5,941	7,624	0	7,624	51,061	4,295	39,077
1991	1,070	0	4,960	6,030	6,857	0	6,857	57,918	3,419	42,496
1992	1,016	0	5,109	6,125	6,118	0	6,118	64,036	2,700	45,196
1993	965	0	5,262	6,227	5,404	0	5,403	69,439	2,110	47,306
1994	917	0	5,420	6,337	4,712	0	4,712	74,151	1,629	48,935
1995	871	0	5,582	6,453	4,044	0	4,043	78,194	1,237	50,172
1996	828	0	5,750	6,578	3,394	0	3,394	81,588	919	51,091
1997	786	0	5,922	6,708	2,765	0	2,764	84,352	663	51,754
1998	747	0	6,100	6,847	2,152	0	2,152	86,504	457	52,211
1999	710	0	6,283	6,993	1,557	0	1,557	88,061	293	52,504
2001	1,210	0	12,013	13,223	1,356	0	1,357	89,418	220	52,724
TOT	15,862	0	85,816	101,678	89,419	0	89,418	89,418	52,724	52,724

PRESENT WORTH PROFILE

PCNT DSCNT	$ VALUE
0.00	89,418
10.00	58,334
15.00	49,555
20.00	43,135
25.00	38,277
30.00	34,496

	OIL (BBL)	GAS (MCF)
ULTIMATE GROSS	0	101,499
CUM PROD GROSS	0	16,566
FUTURE RES GROSS	0	84,933
FUTURE RES NET	0	63,701
GROSS WELL COUNT	0.000	1.000
NET WELL COUNT	0.000	1.000

YR MO	WORKINT	OIL REV INT	GAS REV INT
85 11	1.00000	0.750000	0.750000
	1.00000	0.807692	0.807692

WALSH ENGINEERING & PRODUCTION CORPORATION

EFFECTIVE DATE: NOVEMBER 1, 1985
LEASE ID: 39
LEASE NAME: HUGH WASH
WELL NAME: NO. 1
STATE: NEW MEXICO
COUNTY: SAN JUAN
FIELD: BASIN DAKOTA
OPERATOR: JACK A. COLE
RESRV CATG: 111

EXHIBIT NO. 4

JACK A. COLE
PRODUCTION RATE FORECAST AND EVALUATION
HARDSHIP GAS WELL CLASSIFICATION

11/22/85
14:29

YEAR	WELL CNT	GROSS PRODUCTION BBL OIL	GROSS PRODUCTION MCF GAS	NET PRODUCTION BBL OIL	NET PRODUCTION MCF GAS	PRICE OIL	PRICE GAS	SALES INCOME OIL $	SALES INCOME GAS $	SALES INCOME TOTAL $
1985	1	0	2,454	0	1,841	0.00	3.000	0	5,522	5,522
1986	1	0	12,973	0	9,730	0.00	3.000	0	29,189	29,189
1987	1	0	11,199	0	8,399	0.00	3.000	0	25,198	25,198
1988	1	0	10,438	0	7,829	0.00	3.000	0	23,486	23,486
1989	1	0	9,916	0	7,437	0.00	3.000	0	22,311	22,311
1990	1	0	9,420	0	7,065	0.00	3.000	0	21,196	21,196
1991	1	0	8,949	0	6,712	0.00	3.000	0	20,136	20,136
1992	1	0	8,502	0	6,376	0.00	3.000	0	19,129	19,129
1993	1	0	8,077	0	6,058	0.00	3.000	0	18,173	18,173
1994	1	0	7,673	0	5,755	0.00	3.000	0	17,264	17,264
1995	1	0	7,289	0	5,467	0.00	3.000	0	16,401	16,401
1996	1	0	6,925	0	5,194	0.00	3.000	0	15,581	15,581
1997	1	0	6,579	0	4,934	0.00	3.000	0	14,802	14,802
1998	1	0	6,250	0	4,687	0.00	3.000	0	14,062	14,062
1999	1	0	5,937	0	4,453	0.00	3.000	0	13,359	13,359
2007	1	0	35,695	0	26,771	0.00	3.000	0	80,314	80,314
TOT		0	158,276	0	118,708	0.00	3.000	0	356,123	356,123

YEAR	EXPENSES TAXES	EXPENSES WFP-TAX	EXPENSES OPER	EXPENSES TOTAL	NET OPER INCOME	OTHER COSTS	NET CASH FLOW ANNUAL	NET CASH FLOW CUMULATIVE	NET CASH FLOW 13.00 PCNT DISCOUNTED	NET CASH FLOW DISCOUNTED
1985	458	0	701	1,159	4,363	0	4,363	4,363	4,297	4,297
1986	2,423	0	4,278	6,701	22,488	0	22,488	26,851	20,690	24,987
1987	2,091	0	4,407	6,498	18,700	0	18,700	45,551	15,206	40,193
1988	1,949	0	4,539	6,488	16,998	0	16,997	62,548	12,224	52,417
1989	1,852	0	4,675	6,527	15,784	0	15,784	78,332	10,046	62,463
1990	1,759	0	4,815	6,574	14,622	0	14,621	92,953	8,235	70,698
1991	1,671	0	4,960	6,631	13,505	0	13,505	106,458	6,732	77,430
1992	1,588	0	5,109	6,697	12,432	0	12,433	118,891	5,485	82,915
1993	1,508	0	5,262	6,770	11,403	0	11,402	130,293	4,451	87,366
1994	1,433	0	5,420	6,853	10,411	0	10,411	140,704	3,597	90,963
1995	1,361	0	5,582	6,943	9,458	0	9,457	150,161	2,892	93,855
1996	1,293	0	5,750	7,043	8,538	0	8,538	158,699	2,310	96,165
1997	1,229	0	5,922	7,151	7,651	0	7,651	166,350	1,832	97,997
1998	1,167	0	6,100	7,267	6,795	0	6,794	173,144	1,440	99,437
1999	1,109	0	6,283	7,392	5,967	0	5,967	179,111	1,119	100,556
2007	3,666	0	52,876	59,542	20,772	0	20,771	199,882	2,748	103,304
TOT	29,557	0	126,679	156,236	199,887	0	199,882	199,882	103,304	103,304

PRESENT WORTH PROFILE

PCNT DSCNT	$ VALUE
0.00	199,882
10.00	116,570
15.00	96,048
20.00	81,859
25.00	71,564
30.00	63,796

	OIL (BBL)	GAS (MCF)
ULTIMATE GROSS	0	174,842
CUM PROD GROSS	0	16,566
FUTURE RES GROSS	0	158,276
FUTURE RES NET	0	118,708
GROSS WELL COUNT	0.000	1.000
NET WELL COUNT	0.000	1.000

YR MO	WORKINT	OIL REV INT	GAS REV INT
85 11	1.00000	0.750000	0.750000
	1.00000	0.807692	0.807692

WALSH ENGINEERING & PRODUCTION CORPORATION

EFFECTIVE DATE: NOVEMBER 1, 1985
LEASE ID: 38
LEASE NAME: HUGH WASH
WELL NAME: NO. 1
STATE: NEW MEXICO
COUNTY: SAN JUAN
FIELD: BASIN DAKOTA
OPERATOR: JACK A. COLE
RESRV CATG: 111

EXHIBIT NO. 5

T27N-R13W

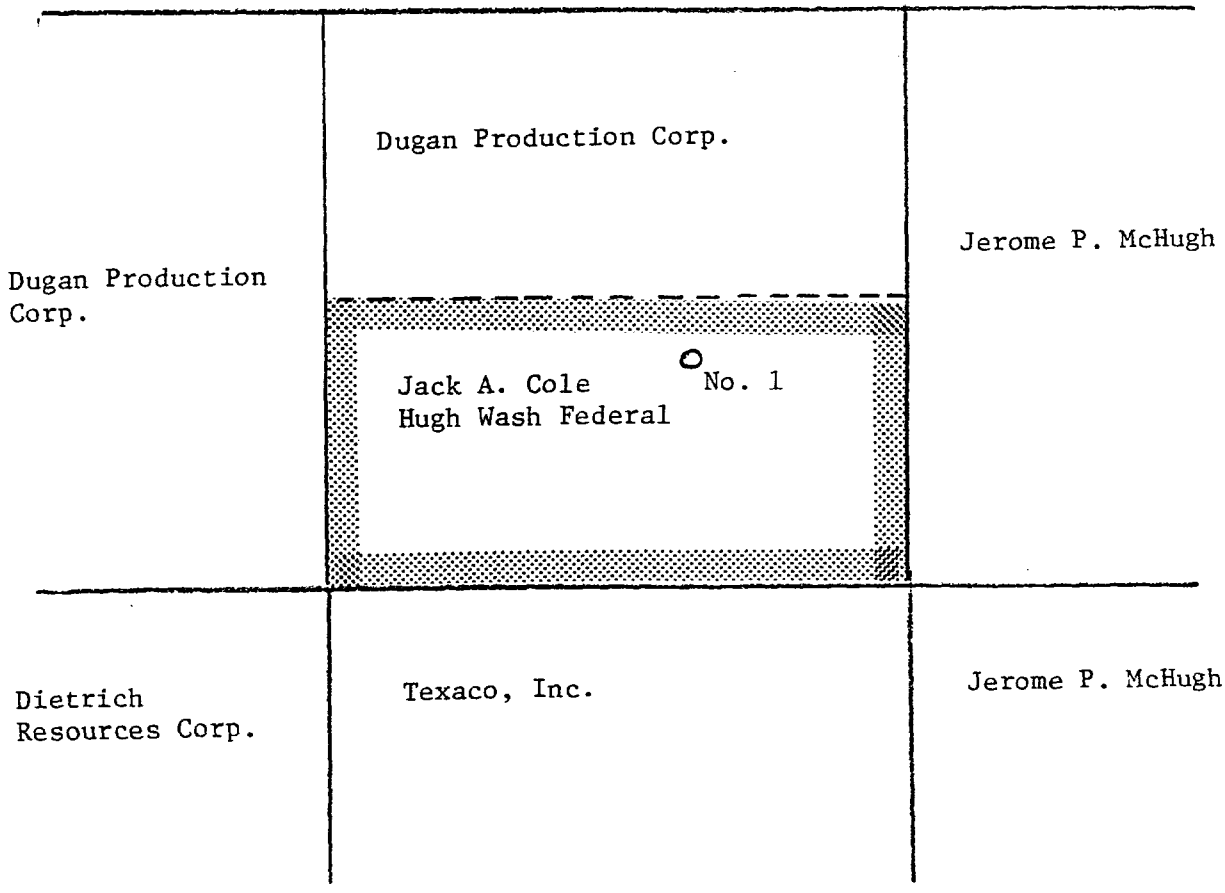


EXHIBIT NO. 6

JACK A. COLE
HUGH WASH FEDERAL NO. 1

OWNERSHIP OF OFFSETTING ACREAGE
AND PRORATION UNIT

EXHIBIT NO. 7

Curtailment, shut in by gas purchaser, has occurred for lengthly periods of time. The following are periods in which the purchaser required the well to be shut in although the producing capacity of the well was not extremely high.

YEAR	MONTH	DAYS SHUT IN
1985	February	8
	March	30
	April	18
	June	13
	September	22
	October	31

As indicated by the production decline curve, Exhibit No. 3, the producing capacity of the well, on a rate per producing day basis, after the shut in periods in February, March and April 1985, was considerably less than the producing capacity prior to the shut in periods in February, March and April 1985.

The decrease in producing capacity, in this case could occur due to formation damage.

State of New Mexico
Energy/Minerals Department

Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Gas Supplement Number: NW 1761

EXHIBIT NO. 8

Date November 4, 1985

NOTICE OF ASSIGNMENT OF ALLOWABLE TO A GAS WELL

The operator of the following well has complied with all the requirements of the Oil Conservation Division and the well is hereby assigned an allowable as shown below.

Date of Connection 5-31-84 Date of First Allowable ~~or Allowable Change~~ 8-2-85
Purchaser EPG Pool Basin Dakota
Operator Jack A. Cole Lease Hugh Wash Federal
Well No. 1 Unit Letter J Sec. 23 Twp. 27N Range 13W
Dedicated Acreage S/320 Revised Acreage Difference
Acreage Factor 1.00 Revised Acreage Factor Difference
Deliverability 85 Revised Deliverability Difference
A x D Factor Revised A x D Factor Difference

New Connection Annual Test
Delinquent 1984 Test N OCD District No. III

CALCULATION OF SUPPLEMENTAL ALLOWABLE

Previous Status Adjustments.....

MONTH	% OF MO.	PREV. ALLOW.	REV. ALLOW.	PREV. PROD.	REV. PROD.	REMARKS
April						
May						Penalty for late test from
June						5-31-84 to 8-2-85
July						
August						
September						
October						
November						
December						
January						
February						
March						
April						
May						
June						
July						
August			6857			
September			5908			
October			2083			
November			2453			
December						
January						
February						
March						
TOTALS			12765			

Allowable Production Difference..... 12765+
Nov. Schedule O/U Status..... 15213-
Revised Sept. O/U Status..... 2448-

Effective In Dec. Schedule
Current Classification NC To N

Note: All gas volumes are in MCF@15.025 psia.

R. L. Stamets, Division Director

By Richard L. Brown