

B-216

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\*NEW MEXICO BOARD OF LEGAL SPECIALIZATION  
RECOGNIZED SPECIALIST IN THE AREA OF  
NATURAL RESOURCES-OIL AND GAS LAW

ALSO ADMITTED IN ARIZONA

JASON KELLAHIN (RETIRED 1991)

July 28, 1992

Mr. Michael E. Stogner  
Hearing Officer  
Oil Conservation Division  
310 Old Santa Fe Trail  
Santa Fe, New Mexico 87501

HAND DELIVERED

Re: NMOCD Case 10506  
Application of American Hunter  
Exploration, Ltd for an Exception to  
No-Flare Rule 306, and other relief,  
Rio Arriba County, New Mexico.

Dear Mr. Stogner:

I have a copy of Mr. Carr's letter to you dated  
July 24, 1992 in which he submitted his proposed order  
on behalf of American Hunter Exploration Inc.

Please find enclosed Benson-Montin-Greer Drilling  
Corp's proposed order. With the exception of the  
caption and the signature blank, there are substantial  
differences of opinion between Mr. Carr and me about  
the contents of the order. We urge your adoption of  
our order.

In addition, I have enclosed a copy of OCD-Aztec's  
letter dated July 10, 1992 in which modifications were  
made to the testing procedures for this project.

Very truly yours,



W. Thomas Kellahin

WTK/kkl  
ordt727.625

cc: B-M-G Drilling Corp  
cc: William F. Carr, Esq. (hand delivered)

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 10506  
Order No. R-

APPLICATION OF AMERICAN HUNTER  
EXPLORATION, LTD. FOR AN EXCEPTION  
TO NO-FLARE RULE 306; CANCELLATION  
OF OVERPRODUCTION OR, IN THE  
ALTERNATIVE, SPECIAL PROVISIONS  
GOVERNING OVERPRODUCTION; AND THE  
ADOPTION OF SPECIAL OPERATING PROCEDURES,  
RIO ARriba COUNTY, NEW MEXICO.

BENSON-MONTIN-GREER DRILLING CORP.'S  
PROPOSED ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on  
July 9, 1992, at Santa Fe, New Mexico, before Examiner  
Michael E. Stogner.

Now, on this \_\_\_\_ day of August, 1992, the  
Division Director, having considered the testimony, the  
record and the recommendation of the Examiner, and  
being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) American Hunter Exploration, Ltd. ("American Hunter") seeks an order permitting the Jicarilla "3F" Well No. 1 located 1845 feet from the North line and 1900 feet from the West line (Unit F) of Section 3, Township 27 North, Range 1 West, N.M.P.M., Rio Arriba County, New Mexico to continue to produce at a rate no higher than that which corresponds to the 800 barrels of oil per day and associated GOR of 2,000 to 1 which is established by the Special Pool Rules and Regulations for the West Puerto Chiquito-Mancos Oil Pool; granting an exception to the No-Flare Provisions of Division General Rule 306; canceling the current overproduction for the Jicarilla "3F" Well No. 1 or, in the alternative, adopting special provisions governing how this overproduction shall be calculated and made up; and adopting special operating procedures which will permit the Jicarilla "3F" Well No. 1 to be produced in accordance with a Division approved program

for the effective production and development of the Mancos Formation in this area.

(3) The Jicarilla "3F" Well No. 1 was drilled in late 1991 as a horizontal well in the West Puerto Chiquito-Mancos Oil Pool pursuant to the provisions of Division Order R-9606 and completed in early 1992 in the Mancos Formation.

(4) The West Puerto Chiquito-Mancos Oil Pool is governed by Special Pool Rules which establish an allowed producing rate of 800 barrels of oil per day and an associated GOR of 2,000 to 1.

(5) The 60-day testing exception to the No-Flare Provisions of Division General Rule 306 for the Jicarilla 3F Well No. 1 expired on April 24, 1992.

(6) Despite that expiration, American Hunter continued to vent the casinghead gas from the Jicarilla "3F" Well No. 1 in violation of Division General Rule 306.

(7) At no time prior to or after the hearing has American Hunter filed Division Form C-129 or complied with the exception procedures of Division General Rule 306.

(8) On June 5, 1992, OCD District-Aztec notified American Hunter that it was in violation of Division General Rule 306 and directed American Hunter to curtail production from the Jicarilla 3F Well to approximately 30 Mcf per day until alternative arrangements are made for use of the gas produced from the well.

(9) Rather than comply with the exception procedures set forth in Division General Rule 306, American Hunter sought informal meetings with OCD-Santa Fe and OCD-Aztec.

(10) By Letter dated June 26, 1992, the OCD-Aztec issued to American Hunter a special restricted test allowable subject to compliance with an approved test procedure which provided:

(a) approved the testing program for Jicarilla 3F Well thereby permitting it to produce certain specified volumes during a specific test period,

(b) advised American Hunter that the well would continue to accumulate overproduction during this test period, and

(c) advised American Hunter that any additional production authorization or allowable relief would require a hearing before the Division.

(11) That on the date of the hearing, American Hunter had overproduced the subject well by \_\_\_\_\_ MCF.

(12) At the hearing, American Hunter sought to have the OCD-Aztec allowable restrictions set aside while retaining test procedures set forth in the OCD-Aztec letter of June 26, 1992.

(13) Benson-Montin-Greer Drilling Corporation is the operator of Section 9, 10, 15, and 16 in T27N R1W, being the southern offset to the Jicarilla "3F" Well No. 1 and has production in the subject pool which may be adversely affected by this application.

(14) Benson-Montin-Greer Drilling Corporation participated at the hearing and sought modification of the test procedure, including but not limited to having a bottom hole pressure bomb installed in the Jicarilla "3F" Well No 1. and having the echometer eliminated.

(15) On July 10, 1992, the day after the hearing, OCD Aztec modified the test procedures requiring the bottom hole pressure bomb and other revisions to the test.

(16) The venting of casinghead gas for more than 60 days after completion of the Jicarilla "3F" Well No. 1 constitutes a waste of reservoir energy and should be allowed only in certain limited condition such as protection of correlative rights, prevention of waste, to prevent undue hardship, none of which were adequately presented in this case.

(17) American Hunter, now seeks to escape the restrictions to be placed upon its production for its unauthorized venting of gas by arguing that the venting will result in obtaining necessary reservoir data.

(18) The venting of casinghead gas to obtain necessary reservoir data is appropriate only where the testing procedures will in fact provide that data.

(19) The proposed American Hunter test as described in the OCD-Aztec June 26, 1992 letter has been objected to by Benson-Montin-Greer Drilling Corp. because it will not result in obtaining the appropriate

reservoir data necessary to evaluate the reservoir.

(20) There exists substantial disagreement concerning the testing procedures which should be resolved by appointing Commissioner William W. Weiss as Special Master to establish an appropriate testing procedure after consultation with OCD-Aztec, American Hunter, and Benson-Montin-Greer Drilling Corporation.

(21) In order to resolve the objections concerning the testing procedures, the Division Director should require that American Hunter and Benson-Montin-Greer Drilling Corporation submit their comments to Mr. William Weiss, Oil Conservation Commissioner, who shall provide the Division with his recommended testing procedures for this well.

(22) The application of American Hunter for an exception to the No-Flare Provisions of Division General Rule 306 for the Jicarilla 3F Well should be denied until such time as the Division, after notice and hearing, acts on the special master's report and recommendations.

(23) The Jicarilla 3F Well No. 1 should be shut in effective immediately until such time as it has made up



all overproduction or until otherwise directed by the Division.

**IT IS THEREFORE ORDERED:**

(1) The application of American Hunter Exploration, Ltd. is hereby temporarily DENIED.

(2) That the prior testing and allowables approved for the Jicarilla "3F" Well No. 1 are hereby canceled and withdrawn pending further order of the Division.

(3) That the Jicarilla "3F" Well No. 1 is hereby order shut-in effectively immediately.

(4) Commissioner William W. Weiss is hereby appointed special master to consult with American Hunter, Benson-Montin-Greer Drilling Corporation and the OCD-Aztec and to provide recommendations to the Division Director for an approved testing procedure for the Jicarilla "3F" Well No. 1.

(5) That the testing procedure submitted by Commissioner Weiss acting as special master shall be placed upon the OCD docket for hearing and after notice and hearing and in the absence of objection shall be approved.

Case 10506  
Order R-  
Page 10

(6) Jurisdiction of this cause is retained for the entry of such further Orders that the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY,  
Director

CAMPBELL, CARR, BERGE  
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July 24, 1992

**HAND-DELIVERED**

Mr. Michael E. Stogner  
Hearing Officer  
New Mexico Oil Conservation Division  
Department of Energy, Minerals  
and Natural Resources  
State Land Office Building  
Santa Fe, New Mexico 87503

Re: Oil Conservation Division Case No. 10506  
Application of American Hunter Exploration, Ltd. for an Exception to No-  
Flare Rule 306; Cancellation of Overproduction or, in the Alternative,  
Special Provisions Governing Overproduction; and the Adoption of Special  
Operating Procedures, Rio Arriba County, New Mexico

Dear Mr. Stogner:

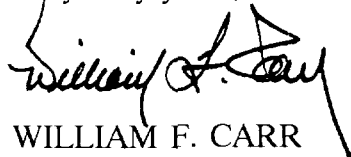
Pursuant to your request, I am enclosing a proposed Order in the above-referenced case for American Hunter Exploration, Ltd.

This draft does not include or incorporate any comments from Benson-Montin-Greer Drilling Corporation.

By copy of this letter, I am providing a copy of this proposed Order to Tom Kellahin and, pursuant to our conversation of July 23rd, it is my understanding that Mr. Kellahin will be afforded such time as is necessary to respond to this proposed Order.

If you need anything further from me to proceed with your decision in this matter, please advise.

Very truly yours,



WILLIAM F. CARR  
WFC:mlh

Enc.

cc w/enc.: W. Thomas Kellahin, Esq.  
Mr. Jim Lister  
Mr. Jim Artindale

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 10506  
Order No. R-

APPLICATION OF AMERICAN HUNTER  
EXPLORATION, LTD. FOR AN EXCEPTION  
TO NO-FLARE RULE 306; CANCELLATION  
OF OVERPRODUCTION OR, IN THE  
ALTERNATIVE, SPECIAL PROVISIONS  
GOVERNING OVERPRODUCTION; AND THE  
ADOPTION OF SPECIAL OPERATING PROCEDURES,  
RIO ARriba COUNTY, NEW MEXICO.

AMERICAN HUNTER'S  
PROPOSED ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on July 9, 1992, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

Now, on this \_\_\_\_ day of July, 1992, the Division Director, having considered the testimony, the record and the recommendation of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) American Hunter Exploration, Ltd. ("American Hunter") seeks an exception to the No-Flare Provisions of Division General Rule 306 for its Jicarilla "3F" Well No. 1 ("the Jicarilla 3F Well") located 1845 feet from the North line and 1900 feet from the West line (Unit F) of Section 3, Township 27 North, Range 1 West, N.M.P.M., Rio Arriba County, New Mexico to permit this well to continue to produce at a rate no higher than authorized by the pool rules applicable thereto. American Hunter also seeks cancellation of the current overproduction assigned to this well or, in the alternative, adoption of special procedures governing the make up of this overproduction and the adoption of special operating procedures for this well.

(3) The Jicarilla 3F Well was drilled in late 1991 as a horizontal well in the West Puerto Chiquito-Mancos Oil Pool pursuant to the provisions of Division Order R-9606 and completed in early 1992 in the Mancos Formation.

(4) The West Puerto Chiquito-Mancos Oil Pool is governed by Special Pool Rules which establish an allowed producing rate of 800 barrels of oil per day and an associated GOR of 2,000 to 1.

(5) Although the Jicarilla 3F Well initially did not produce, American Hunter has worked on the well and its ability to produce has so dramatically improved.

(6) The 60-day testing exception to the No-Flare Provisions of Division General Rule 306 for the Jicarilla 3F Well ended on April 24, 1992.

(7) There are no gas pipelines within seven miles of the Jicarilla 3F Well into which American Hunter can deliver the gas produced from the well.

(8) The only options available to American Hunter for handling the gas from the Jicarilla 3F Well other than seeking authority to flare the gas from appropriate governmental authorities are:

- (a) shut in the well,
- (b) extend a gas pipeline to the well, or
- (c) re-inject produced gas.

(9) Shutting in the well will prevent the acquisition of data necessary to efficiently develop the reservoir in the future, will impair the ability of the well to continue to clean up and is unnecessary because continued flaring of gas from this well during a temporary production period will not harm the reservoir or otherwise cause waste.

(10) Extension of a pipeline to this well is not feasible at this time for there may not be available sufficient volumes of gas to pay the costs of a pipeline and, furthermore, it would be imprudent to commit large volumes of gas to a pipeline at this time since efficient development of this reservoir may require re-injection of this gas.

(11) Re-injection of gas into this reservoir is feasible through American Hunter's Jicarilla 2A Well No. 1 which is a marginal well located up structure from the Jicarilla 3F Well in the NE/4 NE/4 of Section 2, Township 27 North, Range 1 West, N.M.P.M., Rio Arriba County, New Mexico.

(12) American Hunter should re-inject the gas produced from the Jicarilla 3F Well at the earliest practicable time.

(13) Both the Jicarilla 3F and 2A Wells are located on adjacent tracts on federal Indian lands within the Jicarilla Apache Reservation.

(14) On May 1, 1992, American Hunter sought the approval of the Bureau of Land Management and the Oil Conservation Division to continue to flare gas produced from this well. The Division accepted American Hunter's letter as an application for exception to General Rule 306 on May 1, 1992.

(15) On June 3, 1992, as confirmed by letter dated June 11, 1992, the BLM granted American Hunter a six-month testing period beginning April, 1992 and ending September, 1992 during which the gas from the Jicarilla 3F Well may be vented or flared.

(16) On June 4, 1992, the Division's Aztec District Office directed American Hunter to curtail production from the Jicarilla 3F Well to approximately 30 Mcf per day until alternative arrangements are made for use of the gas produced from the well, thereby effectively shutting it in.

(17) Following meetings between Division Staff and American Hunter, the Division:

- (a) approved the testing program for Jicarilla 3F Well thereby permitting it to produce certain specified volumes during a specific test period,
- (b) advised American Hunter that the well would continue to accumulate overproduction during this test period, and
- (c) advised American Hunter that any additional production authorization or allowable relief would require a hearing before the Division.

(18) At the hearing in this matter, Benson-Montin-Greer Drilling Corporation, another operator in the West Puerto Chiquito-Mancos Oil Pool, appeared and recommended certain changes to the Commission-approved testing program for the Jicarilla 3F Well.

(19) Changes in the approved testing procedures for this well should be made only by the District Office of the Division and after consultation with and concurrence in the proposed changes by the operator of the wells involved.

(20) If any amendment to the Commission-approved testing program for the Jicarilla 3F Well is approved by the District Office at the request of another operator in the pool, the costs associated with such amendment should be borne by the operator requesting the change in testing procedures.

(21) The application of American Hunter for an exception to the No-Flare Provisions of Division General Rule 306 for the Jicarilla 3F Well No. 1 should be granted.

(22) This exception should be effective for 120 days from July 9, 1992 during which time American Hunter should test its Jicarilla 3F Well and convert its Jicarilla 2A Well No. 1 to injection.

(23) During the period of this exception to the provisions of Division General Rule 306, no more than 600 Mcf of gas per day should be flared from the Jicarilla 3F Well unless authorized by a Division approved well test.

(24) The Jicarilla 3F Well should not be subject to shut in during the 120 day exception to Division General Rule 306 and should not be shut in after this exception period as long as the well's overproduction is retired at a rate of at least 200 barrels per day.

(25) If an operator accrues additional overproduction during a Commission-approved testing period for a well, there is less incentive for operators to proceed with Division-approved testing programs.

(26) American Hunter's Jicarilla 3F Well should not accrue additional overproduction during the period of time covered by this exception to Division General Rule 306 and any underproduction accrued during this time should be credited against the well's overproduced status.

(27) Nothing in this order shall prevent American Hunter from seeking cancellation of overproduction or other relief at the conclusion of the period covered by the exemption to Division General Rule 306 authorized by this Order.

**IT IS THEREFORE ORDERED:**

(1) The application of American Hunter Exploration, Ltd. for an exception to Division General Rule 306 which prohibits the flaring of natural gas is granted for 120 days commencing on July 9, 1992 for its Jicarilla 3F Well No. 1 located 1845 feet from the North line and 1900 feet from the West line of Section 3, Township 27 North, Range 1 West, N.M.P.M., Rio Arriba County, New Mexico.

PROVIDED, this exception shall be limited to 600 Mcf of gas per day unless otherwise authorized by a Division approved well test.

PROVIDED FURTHER, that during the time of this exception, American Hunter shall conduct the tests on this well which were approved by the Division on June 28, 1992, and such modifications or additions to this test or other data-gathering procedures which are agreed to by American Hunter and approved by the Division.

PROVIDED FURTHER, should any amendment to the Division-approved testing procedure be made at the request of another operator in the West Puerto-Chiquito-Mancos Oil Pool, the costs associated with such additional testing shall be paid for by the operator requesting such amendments.

PROVIDED FURTHER, the Jicarilla 3F Well will not be subject to shut in during the 120 day exception to Division General Rule 306 and this well should not be shut in to make up overproduction after this exception period as long as its production is low enough to retire the well's overproduction at a rate of at least 200 barrels per day.



PROVIDED FURTHER, at the conclusion of any testing or other data-gathering procedure conducted on the Jicarilla 3F Well, the Division may in its sole discretion reopen this case and require American Hunter to review the results of these tests and procedures.

(2) The Jicarilla 3F Well No. 1 shall not accrue additional overproduction during the period of time covered by this exception to Division General Rule 306 and any underproduction accrued during this time shall be credited against the well's overproduced status.

(3) Nothing in this Order shall prevent American Hunter from seeking cancellation of overproduction or other relief at the conclusion of the period covered by the exemption to Division General Rule 306 authorized by this Order.

(4) Jurisdiction of this cause is retained for the entry of such further Orders that the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY,  
Director

correlative rights will not be violated. The 20-day waiting period may be dispensed with upon receipt of waivers of objection from all parties mentioned in Section D, paragraph 10.

F. Upon such approval, the well shall be operated in accordance with the provisions of the administrative order which authorized the commingling, and allocation of the commingled production from the well to each of the producing zones shall be in accordance with the allocation formula set forth in the order. The production from a well with commingled oil zones shall be subject to the lower of the daily gas-oil ratio limitations applicable to the reservoirs. The production attributable to an oil zone commingled with a gas zone shall be subject to the daily gas-oil ratio limitation applicable to such oil zone or pool. Wells shall be tested on a commingled basis annually, except that a well penalized for a high gas-oil ratio shall be tested semi-annually.

G. The Division Director may rescind authority to commingle production in the wellbore and require both zones to be produced separately, if, in his opinion, waste or reservoir damage is resulting thereby or the efficiency of any secondary recovery project is being impaired, or if any change of conditions renders the installation no longer eligible for downhole commingling under the provision of Section (1)(a) or (1)(b).

RULE 304. - CONTROL OF MULTIPLE COMPLETED WELLS

(as of 3-1-91)

Multiple completed wells which have been authorized by the Division shall at all times be operated, produced, and maintained in a manner to ensure the complete segregation of the various common sources of supply. The Division may require such tests as it deems necessary to determine the effectiveness of segregation of the different common sources of supply.

RULE 305. - METERED CASINGHEAD GAS

(as of 3-1-91)

The owner of a lease shall not be required to measure the exact amount of casinghead gas produced and used by him for fuel purposes in the development and normal operation of the lease. All casinghead gas produced and sold or transported away from a lease, except small amounts of flare gas, shall be metered and reported in standard cubic feet monthly to the Division. The amount of casinghead gas sold in small quantities for use in the field may be calculated upon a basis generally acceptable in the industry, or upon a basis approved by the Division in lieu of meter measurements.

RULE 306. - CASINGHEAD GAS

(as of 3-1-91)

A. No casinghead gas produced from any well in this state shall be flared or vented after 60 days following completion of the well.

B. Any operator seeking an exception to the foregoing shall file an application therefor on Division Form C-129, Application for Exception to No-Flare Rule 306. Form C-129 shall be filed in TRIPLICATE with the appropriate district office of the Division. The district supervisor may grant an exception when the same appears reasonably necessary to protect correlative rights, prevent waste, or prevent undue hardships on the applicant. The district supervisor shall either grant the exception within ten days after receipt of the application or refer it to the Division Director who will advertise the matter for public hearing if a hearing is desired by the applicant.

C. The flaring or venting by an operator of gas from any well in violation of this rule will result in suspension of the allowable assigned to the well.

D. No extraction plant processing gas in the State of New Mexico shall flare or vent such gas unless such flaring or venting is made necessary by mechanical difficulty of a very limited temporary nature or unless the gas flared or vented is of no commercial value.

E. In the event of a more prolonged mechanical difficulty or in the event of plant shut-downs or curtailment because of scheduled or non-scheduled maintenance or testing operations or other reasons, or in the event a plant is unable to accept, process, and market all of the casinghead gas produced by wells connected to its system, the plant operator shall notify the Division as soon as possible of the full details of such shut-down or curtailment, following which the Division shall take such action as is necessary to reduce the total flow of gas to such plant.

F. Pending connection of a well to a gas-gathering facility, or when a well has been excepted from the provisions of Paragraph A. of this rule, all gas produced and not utilized shall be burned, and the estimated volume reported on the monthly production report, Form C-115.

G. The provisions of Paragraph A. of this rule shall not be applicable to wells completed prior to January 1, 1971, in pools which had no gas-gathering facilities on that date, provided however, said provisions shall be applicable to all wells in such a pool 60 days after the date of first casinghead gas connection in the pool.

RULE 307. - USE OF VACUUM PUMPS (as of 3-1-91)

Vacuum pumps or other devices shall not be used for the purpose of creating a partial vacuum in any stratum containing oil or gas.

RULE 308. - SALT OR SULPHUR WATER (as of 3-1-91)

Operators shall report monthly on Form C-115 the amount of water produced with the oil and gas from each well.

RULE 309.-A. - CENTRAL TANK BATTERIES - AUTOMATIC CUSTODY  
TRANSFER EQUIPMENT (as of 3-1-91)

A. Oil shall not be transported from a lease until it has been received and measured in a facility of an approved design located on the lease. Such facilities shall permit the testing of each well at reasonable intervals and may be comprised of manually gauged closed stock tanks for which proper strapping tables have been prepared, with a maximum of sixteen proration units producing into said tanks, or of automatic custody transfer (ACT) equipment. The use of such automatic custody transfer equipment shall be permitted only after compliance with the following:

(1) The operator shall file with the Division Form C-106, Notice of Intention to Utilize Automatic Custody Transfer Equipment, and shall receive approval thereof prior to transferring oil through the ACT system. The carrier shall not accept delivery of oil through the ACT system until Form C-106 has been approved.

B. Form C-106 shall be submitted in QUADRUPLICATE to the appropriate District Office of the Division and shall be accompanied (in QUADRUPLICATE) by the following:

(1) Plat of the lease showing thereon all wells which will be produced into the ACT system.

(2) Schematic diagram of the ACT equipment, showing thereon all major components such as surge tanks and their capacity, extra storage tanks and their capacity, transfer pumps, monitors, reroute valves, treaters, samplers, strainers, air and gas eliminators, back pressure valves, metering devices, (indicating type and capacity, i.e. whether automatic measuring tank, positive volume metering chamber, weir-type measuring vessel, or positive displacement meter). Schematic diagram shall also show means employed to prove accuracy of measuring device.

OIL CONSERVATION DIVISION  
RECEIVED

'92 JUN 17 PM 9 01

Jic 701-90-0001 (WC)  
3162.7-3 (019)

JUN. 11 1992

Mr. D.L. Bowman  
American Hunter Exploration Ltd.  
700, 435 - 4th Ave. S.W.  
Calgary, Alberta T2P 3A8

Dear Mr. Bowman:

By letters dated May 1 and 13, 1992, you requested approval for long term venting from the Jicarilla 3F-1, SE $\frac{1}{4}$ NW $\frac{1}{4}$  Sec. 3, T. 27 N., R. 1 W., which is a newly completed horizontal well in the Mancos Formation. The Jicarilla 3F-1 has been averaging 370 BOPD and venting an average of 162 MCFD for a producing GOR of 438 SCF/Bbl. As you stated, you are requesting approval for additional venting to both gather additional data on oil production rates and it's corresponding GOR.

Your request for additional testing time for this well is hereby approved for six (6) months. This six (6) month time period is to start from the end of the initial 30-day test period you were granted. Our records show that first production occurred in March 1992. The six (6) month test period will therefore run from April through September 1992. At the end of the test period, you are required to submit data on the average daily oil production rate and GOR on a weekly basis, economic data on building a sales pipeline, and economic data on gas reinjection into one of your other wells.

Under provisions of 43 CFR 3165.3, you may request an Administrative Review of the orders described above. Such request, including all supporting documents, must be filed in writing within 20 business days of receipt of this notice and must be filed with the State Director, Bureau of Land Management, P. O. Box 27115, Santa Fe, New Mexico 87502-7115. Such request shall not result in a suspension of the order(s) unless the reviewing official so determines. Procedures governing appeals from instructions, orders or decisions are contained in 43 CFR 3165.4 and 43 CFR 4.400 et. seq.

If you have any questions concerning this matter, please call Duane Spencer at (505) 599-8950.

Sincerely,

Duane S. Spencer

FOR Mike Pool  
Area Manager

cc:  
BIA, Dulce  
NMOCD, Santa Fe, NM

Canadian Hunter Exploration Ltd  
2000, 605 - 5th Ave. S.W.  
Calgary, Alberta T2P 3H5  
Tel: (403) 260-1000  
Fax: (403) 260-1899



**canadian hunter**

*mf*

**FAX COVER LETTER**

CANON 850 FAX # (403) 260-1779

DATE: July 16/92

TO: M. Stogner  
(case file # 10506)

FAX #: (505) 827-5766

FROM: Jim Artindale

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Number of pages INCLUDING cover letter 3

If there are any problems with this transmission, please call me at

(403) 260-1654 as soon as possible.

Canadian Hunter Exploration Ltd.  
2000, 605 - 5th Ave. S.W.  
Calgary, Alberta T2P 3H5  
Tel: (403) 260-1000  
Fax: (403) 260-1899



## canadian hunter

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NEW MEXICO OIL CONSERVATION DIVISION  
1000 Rio Brazos Road  
Aztec, New Mexico  
87410

July 16, 1992

Attention: Ernie Busch

### MANCOS JICARILLA 3F WELL TESTING PROGRAM UPDATE

On June 27, 1992 the rods were pulled from the 2A well. A static gradient was then run to 4500 feet. We were unable to run the bottom hole pump any lower into the wellbore due to a severe dogleg. The pump and rods were subsequently rerun and the well was placed back on production on June 30, 1992.

The 3F well was shut in on July 3, 1992 and has remained shut in since that date. An estimate of the bottom hole pressure was made after 2 days of shut in using a fluid level reading.

As planned, the 2A well will be shut in on July 17, 1992 after approximately 3 weeks of production. The 2A production test has confirmed that the 2A well will be at best a marginally commercial well. The stable oil rate is low, with correspondingly high water and gas ratios.

In order to maximize our ability to record any interference effects at the 2A location due to production from 3F, the 3F well is scheduled to be returned to production during (but very early on) the 2A shut in, as per Step #3 of the approved program.

It is our intention to remove the pump and rods at the 3F location however our field operator has informed us that in order to do so safely, it will be necessary to produce the 3F well for a few days in order to reduce the wellhead pressure. Therefore, a few days after production has commenced at the 3F location, the well will be temporarily shut down and the pump and rods will be removed. To minimize costs, the pump and rods will also be removed from the 2A location at this time. The 3F will then be returned to production.

During the first two weeks of the 2A shut in, several bottom hole static pressures or fluid levels will be recorded. Once it has been determined that the 2A pressure is relatively stable, then the GRC recorders (or equivalent) will be placed in the 2A wellbore. The interference program will then continue as per Steps 3,4 and 5 of the approved program (OCD letter dated June 26, 1992) with the following revisions.

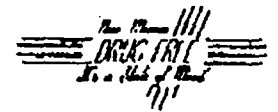
In order to accommodate the recent request from the OCD Aztec office (letter dated July 10, 1992) Amerada gauges will be run in the 3F well during the last week of production and the first week of buildup. In addition, because an effective interference test depends on volume as well as duration, the 3F well will be produced for 30 days at 800 bopd as per Step #3 or until the equivalent 24,000 stb of oil has been produced, should the 3F not be able to produce up to 800 bopd. This will insure that our chances of obtaining quality data are maximized. Once the GRC gauges have expired, they will be pulled and Step #5 will commence. It should also be understood that the production periods associated with Step #5 are only estimates. It may be necessary to adjust the flow durations in order to insure stabilized conditions.

Yours truly,



Jim Artindale

cc. Jim Lister (Denver)  
Brad Salzman (Fax# 505 326-2149)  
Case File #10506 c/o M. Stogner (Fax # 505 827-5766)  
Paris Hill



STATE OF NEW MEXICO

ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

AZTEC DISTRICT OFFICE

BRUCE KING  
GOVERNOR

ANITA LOCKWOOD  
CABINET SECRETARY

1000 RIO BRAZOS ROAD  
AZTEC, NEW MEXICO 87410  
(505) 334-6178

July 10, 1992

Mr. Jim Artindale  
Canadian Hunter Exploration Ltd.  
2000, 605 - 5th Ave. S. W.  
Calgary, Alberta T2P 3H5

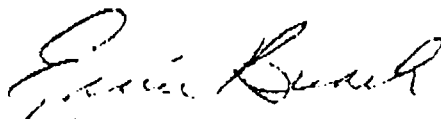
Re: Jicarilla 3F and 2A Well Testing Program, letter dated June, 26, 1992

Dear Jim:

Refer to step #3. We agree with Mr. Greer that the 3F well should not be returned to production until the 2A well has been shut in for 2-3 weeks and then GRC strain gauges should be placed in the 3F well for a bottom hole pressure reading. When you're ready to put the 3F on production, both bombs should be pulled and rerun in both wells. Following the shut in of the 2A and 3F wells, the 3F will be returned to production to establish an interference pulse as was in the testing approval letter of June 26, 1992. Step #4 should be revised to eliminate the echometer test.

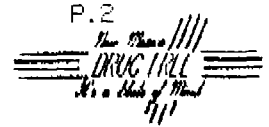
I will be out of town for two weeks, so if you have any questions please contact Mr. Frank Chavez.

Your's truly,

  
Ernie Busch

cc: Al Greer  
Larry Van Ryan  
Case File #10506-OCD Santa Fe  
Jeff Kirn  
Frank Chavez





STATE OF NEW MEXICO

ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
AZTEC DISTRICT OFFICE

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ANITA LOCKWOOD  
CABINET SECRETARY

1000 RIO BRAZOS ROAD  
AZTEC, NEW MEXICO 87410  
(505) 334-6178

July 10, 1992

*m. S.*

Mr. Jim Artindale  
Canadian Hunter Exploration Ltd.  
2000, 605 - 5th Ave. S. W.  
Calgary, Alberta T2P 3H5

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*Ernie Busch*  
Ernie Busch

cc: Al Greer  
Larry Van Ryan  
File #10506-OCD Santa Fe  
Jeff Kirn  
Frank Chavez



BRUCE KING  
GOVERNOR

STATE OF NEW MEXICO  
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION  
AZTEC DISTRICT OFFICE

ANITA LOCKWOOD  
CABINET SECRETARY

1000 RIO BRAZOS ROAD  
AZTEC, NEW MEXICO 87410  
(505) 334-6178

FAX TRANSMITTAL SHEET

DATE: 7-13-92

TO: Bob Stevall  
OGD

FROM: OGD Aztec

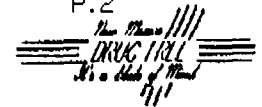
FAX: 505-334-6170

COMMENTS: Hard copy sent out today

NUMBER OF PAGES INCLUDING COVER: 2



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ANITA LOCKWOOD  
CABINET SECRETARY

1000 RIO BRAZOS ROAD  
AZTEC, NEW MEXICO 87410  
(505) 334-6178

July 10, 1992

*M. S.*

Mr. Jim Artindale  
Canadian Hunter Exploration Ltd.  
2000, 605 - 5th Ave. S. W.  
Calgary, Alberta T2P 3H5

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Your's truly,

*Ernie Busch*  
Ernie Busch

cc: Al Greer  
Larry Van Ryan  
~~Case File #10506-OCD Santa Fe~~  
Jeff Kirn  
Frank Chavez



STATE OF NEW MEXICO

ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
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1000 RIO BRAZOS ROAD  
AZTEC, NEW MEXICO 87410  
(505) 334-6178

## FAX TRANSMITTAL SHEET

DATE: 7-13-92

TO: Beth Maxwell  
OCD

FROM: OCD Aztec

FAX: 505-334-6170

COMMENTS: Hard copy sent out today

NUMBER OF PAGES INCLUDING COVER: 2



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AZTEC, NEW MEXICO 87410  
(505) 334-6178

July 10, 1992

Mr. Jim Artindale  
Canadian Hunter Exploration Ltd.  
2000, 605 - 5th Ave. S. W.  
Calgary, Alberta T2P 3H5

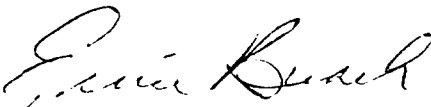
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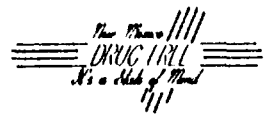
Your's truly,

  
Ernie Busch

cc: Al Greer  
Larry Van Ryan  
Case File #10506-OCD Santa Fe  
Jeff Kirn  
Frank Chavez



STATE OF NEW MEXICO



ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

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(505) 334-6178

July 10, 1992

Mr. Jim Artindale  
Canadian Hunter Exploration Ltd.  
2000, 605 - 5th Ave. S. W.  
Calgary, Alberta T2P 3H5

*M. S.*

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Yours truly,

*Ernie Busch*  
Ernie Busch

cc: Al Greer  
Larry Van Ryan  
Case File #10506-OCD Santa Fe  
Jeff Kirn  
Frank Chavez

BENSON-MONTIN-GREER DRILLING CORP.

221 PETROLEUM CENTER BUILDING, FARMINGTON, NM. 87401 505-325-8974

July 6, 1992

FAX TO JEFF KIRN, JIM LISTER,  
AND JIM ARTINDALE

Mr. Jeff Kirn 303-825-0534  
and Mr. Jim Lister  
American Hunter Exploration, Ltd.  
410 Seventeenth Street  
Suite 1220  
Denver, CO 80202

Mr. Jim Artindale 403-260-1779  
Canadian Hunter Exploration Ltd.  
#435 - 4th Avenue SW  
Calgary, Alberta T2P 3A8

Re: 3-F'S DECLINING PRODUCTIVITY:  
PARAFFIN ???  
IMPLICATIONS FOR TESTING

Gentlemen:

The decline in production rate of the 3-F, noted by Jeff last week, may be the consequence of paraffin build-up. After talking with Jeff I reviewed our files, and for your information I show below some statistics we found in Canada Ojitos wells:

PRODUCTION THROUGH 2-1/2" TUBING

At flow rates of about 400 BOPD and higher with near wellhead surface flow line temperatures of 70° and higher, there were no downhole paraffin problems.

PRODUCTION THROUGH ANNULUS OF 2" TUBING AND 5-1/2" CASING

Here, at flow rates of 900 BOPD and higher with near-wellhead surface flow line temperatures of 80° and higher, there were no down hole paraffin problems. At 700 to 800 BOPD and lower with near-wellhead surface flow line temperatures of 75° and lower,

*BENSON-MONTIN-GREER DRILLING CORP.*

Mr. Jeff Kirn  
Mr. Jim Lister  
Mr. Jim Artindale

July 6, 1992  
Page No. 2

paraffin would build up and restrict flow rates requiring treatment every month or so.

IMPLICATIONS FOR 3-F

We did not determine precise conditions controlling paraffin build-up in the flow string, nor do we know how it would project to your situation, but certainly it warrants your looking into.

We will be going by your 3-F Wednesday to pick an alternate location in Section 9, and unless you instruct us to the contrary we will measure your surface flow line temperature and advise you.

If paraffin has built up in the 30 or so days the 3-F has been flowing through the casing, it will probably eliminate use of echometer surveying to estimate bottom hole pressures, and I would think necessitate a change in the testing procedure set out in Ernie Busch's letter of June 26.

Regards,



ARG/tlp

cc: Ernie Busch, NMOCD, Aztec  
Larry Van Ryan, NMOCD, Santa Fe



**BENSON-MONTIN-GREER DRILLING CORP.**

221 PETROLEUM CENTER BUILDING, FARMINGTON, NM. 87401 505-325 8874

Please Deliver the Following Pages To:

Name: Larry Van Ryan  
Firm: NMOC-D  
City: Santa Fe  
Telecopy No: 827-5741

Number of Pages (Including Cover): 3

Date: 7/6/92 Time: 8:20 am

Message: \_\_\_\_\_  
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From: Al Greer

Telephone No. 505-325-8874

Telecopy No. 505-327-9207

Case No.  
10506

BENSON-MONTIN-GREER DRILLING CORP.

221 PETROLEUM CENTER BUILDING, FARMINGTON, NM. 87401 505 325 8874

July 2, 1992

FAX TO JIM ARTINDALE  
403-260-1779

Mr. Jim Artindale  
Canadian Hunter Exploration Ltd.  
#435 - 4th Avenue SW  
Calgary, Alberta T2P 3A8

Re: JICARILLA 3-F AND 2-A  
INTERFERENCE TEST

Dear Jim:

I have a copy of Ernie Busch's letter of June 22nd. I am not sure I understand when the 3-F well will be shut in at the beginning of the test; but since it has been producing at a high rate long enough to probably have reached the end of the initial transients set up when the well began to flow through the casing the first of June, it seems to me essential that you get a pressure build-up when you shut the well in. About all you can do here would be the continuous echometer survey - but that could be quite helpful.

As to the interference test itself I strongly recommend that you have a bomb in the 3-F as well as the 2-A: unless you know that the pressure is declining at the same rate in both wells at the end of the transient period you have no way of being assured that the information developed will be useful for estimating reservoir characteristics.

Regards,



ARG/tlp

cc: Ernie Busch, OCD, Aztec  
Jim Lister, AHSL, Denver  
Larry Van Ryan, OCD, Santa Fe



BRUCE KING  
GOVERNOR

STATE OF NEW MEXICO

ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

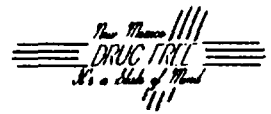
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1000 RIO BRAZOS ROAD  
AZTEC, NEW MEXICO 87410  
(505) 334-6178



June 24, 1992

Mr. Jim Artindale  
Canadian Hunter Exploration Ltd.  
2000, 605 - 5th Ave. S.W.  
Calgary, Alberta T2P 3H5

Re: Mancos Jicarilla 3F Well Testing Program

Dear Jim:

The nine step program is approvable for the most part. Step #1 is questionable as to whether or not it is necessary. You suggested to me that it is needed as a continuous pulse to verify interference, but we feel that the well should be shut in and a pressure buildup conducted on both wells at the same time you run the bomb in the 2A well in step #3. The next step would be to pulse the 3F well for not more than thirty days. If you use a continuous Echometer device, the well must be deadweight tested. Steps 6 through 9 look fine.

Your's truly,

Ernie Busch  
District Geologist/Deputy Oil & Gas Inspector

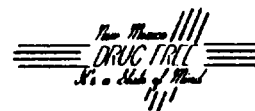
cc: Larry Van Ryan



STATE OF NEW MEXICO

ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

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AZTEC DISTRICT OFFICE



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GOVERNOR

ANITA LOCKWOOD  
CABINET SECRETARY

1000 RIO BRAZOS ROAD  
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(505) 334-6178

June 26, 1992

Jim Artindale  
Canadian Hunter Exploration Ltd.  
2000, 605 - 5th Ave. S.W.  
Calgary, Alberta T2P 3H5

Re: Jicarilla 3F and 2A Well Testing Program

Dear Jim:

The test commencement approval date is not June 12, but will be the day that you pull the rods out of the 2A well. The 3F well should have been shut-in due to allowable restrictions.

Step #1: Pull the rods on the 2A well and conduct a static gradient to provide an estimate of BHP.

Step #2: Install new rods and pump in the 2A well and lower the pump as far as possible. The 2A well will be produced for 2-4 weeks to evaluate its commerciality. Following this period the rods will be removed and the 2A shut-in for 2-3 weeks, and recorders equivalent to GRC strain gauges will be installed in the 2A well.

Step #3: During the 2-3 week shut-in of the 2A, the 3F will be returned to production for 30 days at a rate not exceeding 800 BOPD to initiate a single large interference pulse.

Step #4: The 3F well will then be shut-in for 20 days and a pressure buildup on the 3F well will be recorded using a continuous Echometer device. The 3F well must also be deadweight tested.

Step #5: The 3F well will be produced at a reduced rate of 600 BOPD for 7 days, GOR recorded and oil and gas samples taken. The 3F well will continue to produce for periods of 7 days each at rates of 400 and 200 BOPD using the same procedure as at 600 BOPD.

Until the start of step #3 the allowable for the 3F well will be 37 BOPD. At the start of step #3 the allowable will be 800 BOPD for 50 days, 600 BOPD for 7 days, 400 BOPD for 7 days and finally 200 BOPD for 7 more days. This will allow for the high rate of production and 20 days of shut-in at 800 BOPD allowable to make up over-production.

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1992

24,000

4,000

2,300

1,400

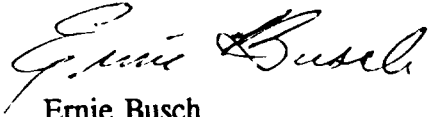
32,400

and 2A well testing

2.

At the end of the 71 days the allowable will revert back to 37 BOPD.

Your's truly,



Ernie Busch  
District Geologist/Deputy Oil & Gas Inspector

xc: Jim Lister - Fax (303) 825-0534

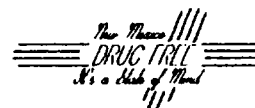
Larry Van Ryan

Al Greer

Al Greer

1. Recorder in prod. well & observation well.  
Rate of drop in each well?
2. 30 day block Prod. 30 & 30 30  
days days
3. Well SI for 90 days → BMG

ILLEGIBLE



STATE OF NEW MEXICO  
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION  
AZTEC DISTRICT OFFICE

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ANITA LOCKWOOD  
CABINET SECRETARY

1000 RIO BRAZOS ROAD  
AZTEC, NEW MEXICO 87410  
(505) 334-6178

June 24, 1992

Mr. Jim Artindale  
Canadian Hunter Exploration Ltd.  
2000, 605 - 5th Ave. S.W.  
Calgary, Alberta T2P 3H5

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District Geologist/Deputy Oil & Gas Inspector

cc: Larry Van Ryan



STATE OF NEW MEXICO

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AZTEC DISTRICT OFFICE



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GOVERNOR

ANITA LOCKWOOD  
CABINET SECRETARY

1000 RIO BRAZOS ROAD  
AZTEC, NEW MEXICO 87410  
(505) 334-6178

June 26, 1992

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Canadian Hunter Exploration Ltd.  
2000, 605 - 5th Ave. S.W.  
Calgary, Alberta T2P 3H5

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OIL CONSERVATION DIVISION  
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JUN 28 1992

800 BOPD

600 BOPD

400 BOPD

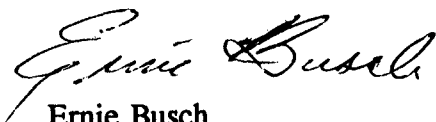
200 BOPD

37 BOPD

3F and 2A well testing  
P. 2.

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Ernie Busch  
District Geologist/Deputy Oil & Gas Inspector

xc: Jim Lister - Fax (303) 825-0534  
Larry Van Ryan  
Al Greer

Al Greer

1. Recorder in prod. well & observation well.  
Rate of drop in each well?
2. 40 day clock Prod. 30  $\frac{1}{2}$  BU 30  
days days
3. Well SI for 90 days  $\rightarrow$  BMG



**BENSON-MONTIN-GREER DRILLING CORP.**

221 PETROLEUM CENTER BUILDING, FARMINGTON, NM, 87401 505 325 8874

July 2, 1992

FAX TO JIM ARTINDALE  
403-260-1779

Mr. Jim Artindale  
Canadian Hunter Exploration Ltd.  
#435 - 4th Avenue SW  
Calgary, Alberta T2P 3A8

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ARG/tlp

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Jim Lister, AHSL, Denver  
Larry Van Ryan, OCD, Santa Fe

**BENSON-MONTIN-GREER DRILLING CORP.**

221 PETROLEUM CENTER BUILDING, FARMINGTON, NM. 87401 505-325-8874

Please Deliver the Following Pages To:

Name: Larry Van Ryan  
Firm: NM.OCD  
City: Santa Fe  
Telecopy No: 827-5741

Number of Pages (Including Cover): 2Date: 7/2/92 Time: 10:20 am

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From: Al Dyer

Telephone No. 505-325-8874

Telecopy No. 505-327-9207

OIL CONSERVATION DIVISION  
RECEIVED

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Jic 701-90-0001 (WC)  
3162.7-3 (019)

JUN. 11 1992

Mr. D.L. Bowman  
American Hunter Exploration Ltd.  
700, 435 - 4th Ave. S.W.  
Calgary, Alberta T2P 3A8

Dear Mr. Bowman:

By letters dated May 1 and 13, 1992, you requested approval for long term venting from the Jicarilla 3F-1, SE $\frac{1}{4}$ NW $\frac{1}{4}$  Sec. 3, T. 27 N., R. 1 W., which is a newly completed horizontal well in the Mancos Formation. The Jicarilla 3F-1 has been averaging 370 BOPD and venting an average of 162 MCFD for a producing GOR of 438 SCF/Bbl. As you stated, you are requesting approval for additional venting to both gather additional data on oil production rates and it's corresponding GOR.

Your request for additional testing time for this well is hereby approved for six (6) months. This six (6) month time period is to start from the end of the initial 30-day test period you were granted. Our records show that first production occurred in March 1992. The six (6) month test period will therefore run from April through September 1992. At the end of the test period, you are required to submit data on the average daily oil production rate and GOR on a weekly basis, economic data on building a sales pipeline, and economic data on gas reinjection into one of your other wells.

Under provisions of 43 CFR 3165.3, you may request an Administrative Review of the orders described above. Such request, including all supporting documents, must be filed in writing within 20 business days of receipt of this notice and must be filed with the State Director, Bureau of Land Management, P. O. Box 27115, Santa Fe, New Mexico 87502-7115. Such request shall not result in a suspension of the order(s) unless the reviewing official so determines. Procedures governing appeals from instructions, orders or decisions are contained in 43 CFR 3165.4 and 43 CFR 4.400 et. seq.

If you have any questions concerning this matter, please call Duane Spencer at (505) 599-8950.

Sincerely,

/s/ Duane Spencer

FOR Mike Pool  
Area Manager

cc:  
BIA, Dulce  
NMOCD, Santa Fe, NM

Canadian Hunter Exploration Ltd.  
335 - 4th Ave. S.W.  
Calgary, Alberta T2P 3A8  
Tel (403) 260-1000  
Fax (403) 260-1899



**canadian hunter**

**FAX COVER LETTER**

**CANON 850 FAX # (403) 260-1779**

**DATE:**

June 12, 1992

**TO:**

Larry Van Ryan

**FAX #:**

(505) 827-5766

**FROM:**

Jim Artindale

**COMMENTS:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**No. of pages INCLUDING cover letter** 6

**If there are any problems with this transmission, please call me at**

**(403) 260-1981 as soon as possible.**

Canadian Hunter Exploration Ltd.  
2000, 605 - 5th Ave. S.W.  
Calgary, Alberta T2P 3H5  
Tel: (403) 260-1000  
Fax: (403) 260-1899



**canadian hunter**

NEW MEXICO OIL CONSERVATION DIVISION  
1000 Rio Brazos Road  
Aztec, New Mexico  
87410

June 12, 1992

Attention: Frank Chavez  
District Supervisor

**MANCOS JICARILLA 3F WELL  
RESPONSE TO STATE DIRECTIVE TO SUSPEND PRODUCTION**

The Jicarilla 3F well was spudded on November 28, 1991 and was subsequently completed as a horizontal well in the Mancos formation early in 1992. Originally upon completion swabbing operations indicated that the well was not capable of production. It was discovered that a substantial amount of sludge ( a slurry of drilling fluid and ground up cuttings) had blocked the fractures. This sludge was able to be removed from the 3F well, however it is believed that this same problem has severely damaged the offsetting 2A well. Although the 3F well initially was capable of flowing following cleanup of the sludge, it appeared unable to sustain flow and subsequently a conventional pumping unit was installed. Evidence suggests the 3F well has very high permeability, and it had little problem producing at the capability of the pumping unit, which was approximately 350 - 390 bopd. Fluid levels taken while the 3F well was producing indicate the Jicarilla well has exceptional deliverability. The 3F well produced consistently at 380 - 400 bopd with associated gas of 170 - 180 mcf/d (GOR of 450) until May 29, 1992 at which time the well surged and began to flow again. Production was routed through the annulus in order to allow adequate control and has been restricted to 600 - 900 bopd since then. The GOR has risen to 830 scf/stb.

On May 1, 1992 a request was sent to the Bureau of Land Management, with a copy going to Mr. Ernie Busch of the New Mexico Oil Conservation Division requesting that American Hunter be allowed to continue to flare gas from the 3F location. At the request of the BLM, another letter dated May 13, 1992 was sent providing additional information. Once again a copy was sent to Mr. Ernie Busch. On June 3, 1992 American Hunter met with Mr. Al Greer to discuss his proposal to build a gas pipeline into the area. On June 4, 1992 American Hunter met with Mr. Duane Spencer of the BLM, who informed us that the

BLM was going to approve a 6 month testing period for the 3F well. On Friday, June 5, 1992 Mr. Ernie Busch informed American Hunter by telephone that the New Mexico Conservation Division was requesting that gas production be restricted to 30 mcf/d from the 3F well, which effectively shuts the well in. On Monday, June 8, 1992 I contacted Mr. Michael Stogner (Chief Engineer with the New Mexico Oil Conservation Commission) to review the situation. On Tuesday, June 9, 1992 Mr. Jeff Kim (American Hunter Denver Manager) met with Mr. Larry Van Ryan and Mr. Bill LeMay of the NMOCC. Following that meeting and subsequent to several other telephone conversations, Mr. Kim asked me to develop a recommendation relating to the continued production from the Jicarilla 3F well.

Having reviewed the history and performance of the Mancos wells within the Boulder, Puerto Chiquito and Gavilan fields in relation to the Jicarilla 3F well, the following observations seem appropriate.

There are 4 primary reasons why it is prudent to continue to produce the 3F location. First, continued production will provide critical additional information. The 3F well has certainly encountered the best fracture development within the Mancos north of the Puerto Chiquito fields. However the quantity of reserves associated with this fracture system is not known. In a letter dated June 11, 1992 Al Greer clearly cautioned us regarding this issue. Continued production in conjunction with appropriate testing will provide a great deal of critical information about the size of the reservoir. In addition, it should be noted that the 3F well is surrounded by wells which have produced significant amounts of water. Within the Boulder field, East Puerto Chiquito, the B-M-G wells directly to the south, as well as the American Hunter Jicarilla 2A well have all produced water. Currently the 3F well produces water free, but should it begin to cut water, its future deliverability and potential would be significantly reduced. We also know that the reservoir has been depleted, prior to the 3F well producing. The original reservoir pressure at 3F was 410 psi (23%) below the virgin pressure in the pool. We also know that a secondary gas cap was created by the Boulder production half way down the oil column. This was confirmed by the 2A well. In summary, there are many concerns associated with the future deliverability of the 3F well which justifies collecting as much production information as possible.

The second reason supporting continued production, is that the well is behaving like it's cleaning up and at this time every effort should be made to support this process. As mentioned previously, nearly 26 barrels of sludge were removed from this well before it would begin to produce. There is little doubt that it was severely damaged. Its recent

surge in production could be indicative of more of the fracture system opening up. Most completions engineers would agree that in order to maximize this natural process, production should not be suspended.

The third reason is that in the near term there are no adverse reservoir effects associated with producing the associated gas. In Mr. Greer's letter dated June 11, 1992 he reminded us that he produced the Canada Ojitos Unit wells for several years before commencing gas injection with no detriment. There really is no difference from a reservoir standpoint between venting the gas and selling the gas. I would like to point out however that American Hunter is very interested in the future possibility of gas injection, but this will require more wells, more information, and much more negotiation with the Tribe which still operates the odd numbered sections.

The fourth reason I would like to suggest is based on economics. Although we have begun working with Al Greer in earnest and haste to evaluate building a gas pipeline to the 3F well, we hope the State will appreciate the economics of the whole program. In order to find the one 3F well, it took a lot of seismic, 2 dry holes and one uneconomic well for a total cost of \$5 million. American Hunter plans on drilling 4-6 more wells this year in addition to shooting a significant amount of seismic. The production from the 3F well is critical in providing information and revenue necessary to the future program.

Knowing that there are several excellent reasons for continuing to produce the 3F wells, I also appreciate the States' position regarding its mandate to conserve gas. However the total amount of revenue that would be lost while a conservation plan is being developed and implemented is small compared to the lost revenue, information and momentum associated with severely restricting the 3F well. If it takes 6 months to implement a well thought out gas conservation scheme, the State, Tribe and American Hunter would lose only \$13,000, \$42,000, and \$71,000 respectively in revenue. However the equivalent loss of oil revenue for the 6 months would be \$288,000, \$950,000 and \$1,642,000 respectively.

In reviewing the progress of gas conservation, I would like to note the following. American Hunter is in active negotiations with Al Greer regarding building a gas line to our wells. This situation with the State certainly puts us at a great disadvantage in negotiations with Mr. Greer. American Hunter is also in the process of contacting other gas purchasers in the area. Although the Greer proposal seems convenient for the 3F well, it may turn out to be much more expensive in the long term because many of our future wells will be

drilled to the west. In addition, American Hunter has already contacted the Tribe about the Greer proposal. Their response thus far has been cautious and noncommittal. The economics of any gas line depend not only on the present gas rates, but fundamentally on the volume of reserves associated with the wells. At this time we don't have any reasonable idea as to this amount. But we do know that if the pipeline and compressor costs \$800,000 to \$1,000,000 to construct, at a solution GOR of 400 scf/stb there will have to be 2.5 million barrels of oil in contact with the wells in order to pay for the pipeline from the gas production. It should be remembered that 2 million barrels has already been produced updip from the Boulder field.

In conclusion, American Hunter believes it is responsible and prudent to allow the current level of production from the 3F well to continue but acknowledges that we need to work together with the State and BLM in order to optimize the information that can be obtained from this well. American Hunter would like to recommend the following proposal.

We will commit to evaluating the available options for gas conservation and will present that analysis to the State at a July hearing date.

If gas conservation is feasible and economic, American Hunter will commit to implementing it by September 1993. If possible, we will implement it by November 1992.

American Hunter will immediately initiate the following testing program. The pump and rods will be removed from the 2A well. Bottom hole pressure recorders will be run at 2A. We will ask BMG to remove the pump and rods at their O-16 location. Bottom hole pressure recorders will be run at the O-16 location.

The 3F well will be pulsed to establish interference in an east west direction with 2A and in a north south direction with the O-16 well. The 3F well will then be produced for 4-8 weeks while the pressure is recorded at 2A and O-16 to establish reservoir volumes between the locations. The production rate at 3F will then be varied to establish a relation between GOR and production rate. This issue was amply debated during the West Puerto Chiquito/Gavilan hearings in the 1980s and is of great significance to our reservoir development plans.

American Hunter, in turn, asks the State to grant us permission to continue producing the 3F well at a rate no higher than that which corresponds to 800 bopd



and an associated GOR of 2000 (which is equivalent to the base allowable and GOR for a standard proration unit in the West Puerto Chiquito field).

American Hunter will also notify the State in the event of any significant deviation or change in the production rate and associated GOR. If you have any questions please call either Mr. Jim Artindale at (403)260-1981 or Mr. Jim Lister at (303)825-5212.

Yours truly,



Jim Artindale  
Chief Reservoir Engineer

cc. Larry Van Ryan

# Memo

From

LARRY VAN RYAN  
Chief Petroleum Engineer

To

GARY Energy - Mark

American Hunter → need  
in  
James Hunter w/ Am. Hunter

Producing  $\frac{100 \text{ BOPD}}{738 \text{ BOPD}} \rightarrow$   
573 Mcf  
812 BOPD  
460 Mcf

(BLM approval to rent 140 Mcf/D)  
for 6 months  
2-24-92 Date of 1<sup>st</sup> production

Jim Ardendale : load oil to  $\Phi$   
with  
 $140(30)(6) = 28,800 \text{ Mcf}$

State of New Mexico  
 Energy, Minerals and Natural Resources Department  
**OIL CONSERVATION DIVISION**  
 P.O. Box 2088  
 Santa Fe, New Mexico 87504-2088  
 2000, 605 - 5 Avenue S.  
 Calgary, Alberta, Canada

P.O. Box 1980, Hobbs, NM 88240  
 DISTRICT II  
 P.O. Drawer DD, Artesia, NM 86210  
 DISTRICT III  
 1000 Rio Brazos Rd., Aztec, NM 87605  
 REC: YES  
 AMERICAN HOTTELL EXPLORATION CO.

For Month: 03/92  
 Year: 1 of 1

POOL NAME (Underline)		INJECTION		PRODUCTION		DISPOSITION OF GAS			DISPOSITION OF OIL		
WELL NO.	UNIT SEC. TWP RANG.	VOLUME	PRESS.	BARRELS OF WATER PRODUCED	GAS PRODUCED (MCF)	SALES	OTHER	BARRELS TO TRANS-PORTER	TRANSPOR-TER	OTHER	OIL ON HAND A END OF MONTH
<b>RECEIVED JUN - 3 1992</b> <b>OIL CON. DIV.</b> <b>DIST. 3</b>											
JICARILLA 2A-1	T27N-R1W SEC. 2: NENE			φ	φ				GEC		φ
JICARILLA 3F-1	T27N-R1W SEC. 3: SENE			φ	4095	31			GEC		1171
JICARILLA 2A-1	T27N-R1W SEC. 2: NENE			11272	4095						1171
JICARILLA 3F-1	T27N-R1W SEC. 3: SENE			11272	4095						1171
LEASE TOTAL											

I HEREBY CERTIFY THAT THE INFORMATION GIVEN IS TRUE A  
 COMPLETE TO THE BEST OF MY KNOWLEDGE  
 DALE FOX (403) 260-1793  
 TYPED NAME: SUPERVISOR, PRODUCTION ACCOUNTING  
 PHONE NUMBER: 403-260-1793  
 SIGNATURE: *Dale Fox* POSITION: SUPERVISOR, PRODUCTION ACCOUNTING  
 DATE: 06/03/92

OTHER GAS DISPOSITION CODE  
 1. USED OFF LEASE  
 2. USED FOR DRILLING  
 3. GAS LIFT  
 4. LOST MCF ESTIMATED  
 5. EXPLANATION ATTACHED  
 6. REPAIRS/REPAIRING OR  
 7. VENTED  
 8. USED ON LEASE

OTHER OIL DISPOSITION CODE  
 1. CIRCULATING OIL  
 2. LOST  
 3. SEDIMENTATION @ 54 W  
 4. EXPLANATION ATTACHED  
 5. REPAIRS/REPAIRING OR  
 6. VENTED  
 7. USED ON LEASE

STAR CODE  
 1. FLOWING  
 2. PLUMBING  
 3. GAS LIFT  
 4. SHUT IN  
 5. TEMP SHUT-IN  
 6. PLUGGED  
 7. DISCONTINUED

DISTRIBUTION  
 Original OGD Santa Fe  
 One Copy OGD Dist. Office  
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 One Copy to Transporter (s)  
 DATE DUE  
 To be postmarked by 24th day of next  
 succeeding month

Canadian Hunter Exploration Ltd.  
2000, 605 - 5th Ave. S.W.  
Calgary, Alberta T2P 3H5  
Tel: (403) 260-1000  
Fax: (403) 260-1899



**canadian hunter**

**FAX COVER LETTER**

CANON 850 FAX # (403) 260-1779

DATE: June 18, 1992  
TO: Larry Van Ryan  
FAX #: 505 827-5766  
FROM: Jim Artindale

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Number of pages INCLUDING cover letter 4

If there are any problems with this transmission, please call me at

(403) 260-1981 as soon as possible.

Canadian Hunter Exploration Ltd.  
2000, 605 - 5th Ave. S.W.  
Calgary, Alberta T2P 3H5  
Tel: (403) 260-1000  
Fax: (403) 260-1899



**canadian hunter**

NEW MEXICO OIL CONSERVATION DIVISION  
1000 Rio Brazos Road  
Aztec, New Mexico  
87410

June 18, 1992

Attention: Ernie Busch

**MANCOS JICARILLA 3F WELL  
TESTING PROGRAM**

As per our recent telephone conversations, I would like to provide the following details concerning the testing program I mentioned in my letter to Mr. Frank Chavez dated June 12, 1992. The testing program that I would like to propose is designed to provide the following reservoir parameters:

Current reservoir pressure at the 2A, 3F and O16 locations.

Evaluation of wellbore damage at the 3F location.

Average reservoir permeability near the 3F location.

Fracture permeability in the North-South direction between the 3F and O16 wells.

Anisotropic conjugate permeability in the East-West direction between the 3F and 2A locations.

Effective reserve volume.

Sensitivity of GOR to production rate.

In order to evaluate these parameters the following testing procedure is recommended:

- Step 1: Production from the 3F well will be stabilized and all meters and gauges checked.
- Step 2: The 2A well (operated by American Hunter) as well as the O16 well (operated by BMG) are currently shut in. They will remain shut in for the duration of this test.
- Step 3: The pump and rods will be removed from the 2A and O16 locations. Electronic recorders will then be run in both wells. The 3F well will continue to be produced for 10 days.
- Step 4: The first interference pulse will be initiated. The 3F well will be shut in for 5 days. The pressure buildup on 3F will be recorded using a continuous Echometer device.
- Step 5: The 3F well will be brought back on production for 5 days and then subsequently shut in for 5 days (no recorded buildup).
- Step 6: Again the 3F well will be produced for 5 days and then shut in for 5 days (no recorded buildup).
- Step 7: The 3F well will again be produced and will continue until the gauges have expired.
- Step 8: If capable, the well will be produced at 800 bopd for another 7 days. The GOR will be recorded. Oil and gas samples will be taken.
- Step 9: Production from the 3F well will be reduced to 600 bopd. The GOR will be recorded. Oil and gas samples will be taken.
- Step 10: Production from the 3F well will again be reduced to 400 bopd. The GOR will be recorded. Oil and gas samples will be taken.
- Step 11: Production from the 3F well will be finally reduced to 200 bopd. The GOR will be recorded. Oil and gas samples will be taken.

I will be overseeing this operation with the help of Mr. Paris Hill (403 260-1741) who is Canadian Hunters expert on pressure transient analysis. Paris will be preparing an estimate of the costs associated with test which I will send you when available. When you

06/19/92 09:30 ☎403 260 1779

CANADIAN HUNTER

004/004

are comfortable with the details of the test, we can then proceed with BLM and tribal approval as well as determining the appropriate start date. I have contacted Mr. Al Greer who appears to very supportive of this program. If you have any questions please call myself at (403) 260-1981 or Paris.

Yours truly'



Jim Artindale  
Chief Exploitation Engineer

cc. Jim Lister  
Paris Hill  
Al Greer  
Larry Van Ryan