

KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

TELEPHONE (505) 982-4285

TELEFAX (505) 982-2047

W. THOMAS KELLAHIN*

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

JASON KELLAHIN (RETIRED 1991)

August 21, 1997

HAND DELIVERED

Mr. Michael E. Stogner, Hearing Examiner
Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87504

*Re: NMOCD Case 11816
Application of Marathon Oil Company
to expand South Dagger Draw-Upper
Penn Associated Pool and contract
Indian Basin Gas Pool
Eddy County, New Mexico*


Dear Mr. Stogner:

In accordance with your direction at the conclusion of the hearing held on July 24, 1997 in the referenced case and on behalf of Marathon Oil Company, please find enclosed a proposed order for consideration in this case.

In addition and at your request during the hearing, Mr. Kloosterman, Marathon's petroleum engineer, prepared and I have enclosed the over-under gas production tabulation for the W/2 of Section 3. Exhibit 17 introduced at the hearing shows over-under gas production for all of Section 3.

Please call me if you have any questions.

Very truly yours,

A handwritten signature in black ink, appearing to read 'W. Thomas Kellahin', written over a horizontal line.

W. Thomas Kellahin

cc: Marathon Oil Company
Attn: Thomas C. Lowry, Esq.

**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. 11816
ORDER NO. R-_____

APPLICATION OF MARATHON OIL COMPANY
FOR THE EXPANSION OF THE SOUTH DAGGER
DRAW-UPPER PENNSYLVANIAN ASSOCIATED POOL
AND THE CONTRACTION OF THE INDIAN BASIN-
UPPER PENNSYLVANIAN GAS POOL, APPROVAL
OF THREE NON-STANDARD 320-ACRE GAS PRORATION
UNITS, AN UNORTHODOX GAS WELL LOCATION AND
APPORTIONMENT OF GAS ALLOWABLES,
EDDY COUNTY, NEW MEXICO

MARATHON OIL COMPANY'S
PROPOSED
ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on July 24, 1997, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this _____ day of August, 1997, the Division Director, having considered the testimony, the record and the recommendations 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) The applicant, Marathon Oil Company ("Marathon"), seeks an order expanding the South Dagger Draw-Upper Pennsylvanian Association Pool and contracting the Indian Basin-Upper Pennsylvanian Gas Pool, approval of three non-standard 320-acre gas proration units, an unorthodox gas well location and apportionment of gas allowables, Eddy County, New Mexico. Applicant, in the above styled cause, seeks an order expanding the South Dagger Draw-Upper Pennsylvanian Associated Pool to include the E/2 of Sections 3, 10, and 15, Township 21 South, Range 23 East, Eddy County, New Mexico and the corresponding contraction of the Indian Basin-Upper Pennsylvanian Gas Pool to delete said acreage from that pool. Applicant also seeks the approval of three non-standard 320-acre gas proration and spacing units being the W/2 of Section 3 to be dedicated to the NIBU Gas Com Well No. 3; the W/2 of Section 10 to be dedicated to the NIBU Well No 1; and the W/2 of Section 15 to be simultaneously dedicated to the NIBU Gas Com Well No. 32 and to the Federal IBA Gas Com Well No. 1, and the apportionment of gas allowables therefor. Applicant further seeks the approval of an unorthodox gas well location for its NIBU Gas Com Well No. 3 located 2310 feet from the west line and 1650 feet from the south line of Section 3, T21S, R23E.

(3) Marathon is the operator of the following three standard 640-acre gas proration and spacing units within the current boundaries of the Indian Basin-Upper Pennsylvanian Gas Pool:

(a) all of Section 3, T21S, R23E simultaneously dedicated to the MOC-Comanche Federal "3" Well No. 1 and to the NIBU Gas Com Well No. 3;

(b) all of Section 10 simultaneously dedicated to the NIBU Well No. 1 and to the NIBU Well No. 30; and

(c) all of Section 15 simultaneously dedicated to the NIBU Gas Com Well No. 32 and to the Federal IBA Gas Com Well No. 1.

(4) In the Indian Basin area, the Upper Pennsylvanian formations contain multiple compartmentalized reservoirs which are productive of oil, gas and water from several dolomitized horizons from the top of the Cisco formation to the base of the Canyon Two formation. The northeastern portion of Indian Basin has been established by the Division as the South Dagger Draw-Upper Pennsylvanian Associated Pool while the southwestern portion has been established by the Division as the Indian Basin-Upper Pennsylvanian Gas Pool.

(5) The areas described in paragraph (1) above are currently included within the current boundaries of the Indian Basin-Upper Pennsylvanian Gas Pool ("Indian Basin Gas Pool") which provides, among other things, for 640-acre proration and spacing units with well locations to be not closer than 1650 feet to the outer boundary of said units.

(6) The eastern boundary of each of these spacing units is also the current western boundary of the South Dagger Draw-Upper Pennsylvanian Associated Pool ("South Dagger Draw Pool").

(7) South Dagger Draw-Upper Pennsylvanian Associated Pool's principal productive formations are also the Cisco and Canyon formations but its pool rules provide, among other things, for 320-acre proration and spacing units with well locations to be not closer than 660 feet to the outer boundary of said units.

(8) Marathon presented geologic, geochemical and petroleum engineering evidence which determines that the E/2 of Sections 3, 10 and 15 should be subject to the rules for the South Dagger Draw Pool while the W/2 of Sections 3, 10 and 15 should subject to the rules for the Indian Basin Gas Pool and which is summarized as follows:

Geologic

(a) In the Indian Basin area, the Upper Pennsylvanian formations contain multiple compartmentalized reservoirs which are productive of oil, gas and water from several dolomitized horizons from the top of the Cisco formation to the base of the Canyon Two formation. Production from the Indian Basin Gas Pool is predominately gas production from the Cisco formation, while production from the South Dagger Draw Pool is predominately oil production with associated gas and water from the Canyon One and Canyon Two formations.

(b) The western boundary of oil production in Section 3, 10 and 15 can be described as follows:

(i) Oil can be produced from the Canyon One reservoir below -3850 feet which would be a surface location approximately along the current western boundary of the South Dagger Draw Pool (the eastern sections lines of Sections 3, 10 and 15).

(ii) Oil can be produced from the Canyon Two reservoir below -3850 feet which would be a surface location approximately one-half mile west of the current western boundary of the South Dagger Draw Pool (the vertical half section line of Sections 3, 10 and 15).

Geochemical

(c) Geochemical analysis of four (4) gas samples and eight (8) liquid samples demonstrate that Indian Basin is compartmentalized such that the types of hydrocarbon production from the Indian Basin Gas Pool are distinctly different from the types of hydrocarbons produced from the Canyon One and Canyon Two reservoirs in the South Dagger Draw Pool.

Petroleum Engineering

(d) pressure data demonstrates that the South Dagger Draw Pool is not in pressure communication with the Indian Basin Gas Pool;

(e) pressure data in Section 3, 10 and 15 demonstrate that the E/2 of each of these sections has a pressure related to the South Dagger Draw Pool while the W/2 of these sections is more closely associated with Indian Basin Gas Pool.

Division finds

(9) The Division **finds** that:

- (a) Sections 2, 11, and 14 and the E/2 of Sections 3, 10 and 15 should be subject to the same pool rules so that any oil and its associated gas produced from those lands will be subject to the same special rules and regulations.
- (b) at this time the W/2 of Sections 3, 10 and 15 should continue be subject to the same pool rules as apply in Indian Basin Gas Pool.

(10) Marathon presented production data from Sections 15 and 10 which demonstrate that the gas wells currently dedicated to the Indian Basin Gas Pool are all marginal and therefore the approval of 320-acre non-standard unit for the W/2 of each of those sections will not result in any overproduction being attributable to any GPU.

(11) Marathon presented production data from Section 3 which demonstrate that the existing 640-acre GPU consisting of all of Section 3 and dedicated to the Indian Basin Gas Pool became non-marginal as of February, 1996 and is currently overproduced.

(12) Therefore, Marathon, in accordance with the provisions of Rule No. (14)(b) of the General Rules for the Prorated Gas Pools of New Mexico, as promulgated by Division Order No. R-8170, as amended, seeks the approval of a 320-acre non-standard GPU for the W/2 of Section 3, T21S, R23E to be dedicated to NIBU Gas Com Well No. 3 located 2310 feet from the west line and 1650 feet from the south line of Section 3, T21S, R23E. which shall be reclassified from marginal to non-marginal effective as of December, 1995 and for the reinstatement of canceled underproduction for the gas proration periods ending March 31, 1996 and 1997 such that said GPU as of July 31, 1997 will be 340,625 MMCF underproduced in relation to the established allowable for a 320-acre non-standard GPU.

(13) Marathon demonstrated that prior to November, 1995, the NIBU Gas Com Well No. 3 was not capable of producing the non-marginal allowable for a 320-acre non-standard GPU but after it was recompleted on 13th day of November 1995, its productive capacity was substantially improved and it had the capacity to produce a 320-acre non standard GPU non-marginal allowable but did not only because of gas plant capacity constraints.

(14) Approval of this request made pursuant to Rule No. (14) (b) of Division Order R-8170, as amended, will not cause waste and will not violate correlative rights and should be approved as requested.

(15) That underproduction in the amount of 932,314 MMCF shall be credited against overproduction from the subject 320-acre GPU consisting of the W/2 of Section 3, T21S, R23E, during the gas proration periods from April 1, 1995 through March 31, 1998 such that as of August 1, 1997 the accumulated over-under production shall be 340,625 mmcf of underproduction credit.

(16) As a result of contracting the current boundary of the Indian Basin Gas Pool and the formation of a 320-acre nonstandard GPU consisting of the W/2 of Section 3, Marathon's NIBU Gas Com Well No. 3 is now located at an unorthodox gas well location 2310 feet from the west line and 1650 feet from the south line of Section 3, T21S, R23E which shall be approved as an unorthodox gas well.

(17) Marathon also provided evidence which demonstrates the granting of this Application will not impair correlative rights of any owner within any of these existing 640-acre GPUs because those owners will continue to share in production from the applicable new 320-acre spacing units on the same proportional basis as they shared in production from the original 640-acre unit.

(18) The Division **FINDS** that

(a) the Canyon formation underlying E/2 of Section 3, 10 and 15 and Sections 2, 11, and 14, of T21S, R23E, NMPM is a single reservoir (ie, one single common source of supply) the development of which has occurred such that wells in the Sections 2, 11, and 14 have been dedicated to the South Dagger Draw-Upper Penn Associated Pool while wells located or to be located in the E/2 of Sections 3, 10 and 15 have been or will be dedicated to the Indian Basin-Upper Penn Gas Pool.

(b) in order to afford an opportunity to drill a well to develop the Canyon Two formation of the South Dagger Draw-Upper Pennsylvanian Associated Pool, it is necessary to have the E/2 of Sections 3, 10 and 15 spaced on the same 320-acre spacing pattern as established for the South Dagger Draw-Upper Pennsylvanian Associated Pool.

(19) In order to prevent waste, to prevent the drilling of unnecessary wells, to protect correlative rights and provide for a more orderly development of the Cisco/Canyon formations, it is necessary to do the following:

(a) contract the Indian Basin-Upper Pennsylvanian Gas Pool to delete the E/2 of Sections 3, 10 and 15 from that pool;

(b) approve three non-standard 320-acre gas proration and spacing units ("GPU") being the W/2 of Section 3 to be dedicated to the NIBU Gas Com Well No. 3; the W/2 of Section 10 to be dedicated to the NIBU Well No.

1; and the W/2 of Section 15 to be simultaneously dedicated to the NIBU Gas Com Well No. 32 and to the Federal IBA Gas Com Well No. 1;

(c) treat the W/2 of Section 3, T21S, R23E as a marginal 320-acre non-standard GPU beginning on December 1, 1995 such that underproduction in the amount of 932,314 MMCF shall be credited against overproduction during the gas proration periods from April 1, 1995 through March 31, 1998 such that as of August 1, 1997 the accumulated over-under production shall be 340,625 mmcf of underproduction credit.

(d) the approval of an unorthodox gas well location for its NIBU Gas Com Well No. 3 located 2310 feet from the west line and 1650 feet from the south line of Section 3, T21S, R23E, NMPM.

(20) Marathon was the only interested party to appear and provide technical land, geologic and engineering testimony concerning the reservoir, these pools and its classification.

(21) The requested change in pool boundaries and the creation of the requested spacing units will not affect ownership of production from Sections 3, 10 and 15 thus no violation of correlative rights will occur.

(22) No other operator and/or interest owner appeared at the hearing in opposition to the application.

(23) Approval of Marathon's request will allow the interest owners the opportunity to economically recover their share of the oil and gas in the subject pool, will not reduce ultimate recovery from the subject pool, and will not violate correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The Indian Basin-Upper Pennsylvanian Gas Pool is hereby **contracted** by the deletion therefrom of the E/2 of Sections 3, 10 and 15, T21S, R23E.

(2) The South Dagger-Upper Pennsylvanian Associated Pool is hereby **expanded** by the inclusion therein of the E/2 of Sections 3, 10 and 15, T21S, R23E.

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(3) The special rules and regulations for the Indian Basin-Upper Penn Gas Pool rules shall not apply beyond that pool's common boundary with South Dagger Draw-Upper Pennsylvanian Associated Pool as amended by this order.

(4) Three non-standard 320-acre gas proration and spacing units ("GPU") being the W/2 of Section 3 to be dedicated to the NIBU Gas Com Well No. 3; the W/2 of Section 10 to be dedicated to the NIBU Well No. 1; and the W/2 of Section 15 to be simultaneously dedicated to the NIBU Gas Com Well No. 32 and to the Federal IBA Gas Com Well No. 1 are hereby **approved**.

(5) Underproduction in the amount of 932,314 MMCF shall be credited against overproduction from a 320-acre non-standard GPU consisting of the W/2 of Section 3, T21S, R23E during the gas proration periods from April 1, 1995 through March 31, 1998 such that as of August 1, 1997 the accumulated over-under production shall be 340,625 mmmcf of underproduction credit, including the retroactive adjustment to December 1, 1995 for the NIBU Gas Com Well No. 3 being the date that well would have been reclassified as non-marginal.

(6) an unorthodox gas well location for Marathon's NIBU Gas Com Well No. 3 located 2310 feet from the west line and 1650 feet from the south line of Section 3, T21S, R23E, NMPM. is hereby **approved**.

(7) Jurisdiction of this cause is retained for the entry of such further orders as 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

S E A L

West Half of Section 3

NIBU Gas Com # 3

	Monthly Gas	Monthly Half Allowable	Monthly Gas - Half Allowable	Accumulate Under Production from 12/1/95	Accumulate Under Production from 4/1/96	No Credit for Prior Under Production
Apr-95	18,844	100,000	(81,156)	-	-	-
May-95	22,541	100,000	(77,459)	-	-	-
Jun-95	20,391	100,000	(79,609)	-	-	-
Jul-95	20,859	100,000	(79,141)	-	-	-
Aug-95	20,377	100,000	(79,623)	-	-	-
Sep-95	20,640	100,000	(79,360)	-	-	-
Oct-95	19,014	100,000	(80,986)	-	-	-
Nov-95	3,292	100,000	(96,708)	-	-	-
Dec-95	-	100,000	(100,000)	(100,000)	-	-
Jan-96	-	100,000	(100,000)	(200,000)	-	-
Feb-96	-	100,000	(100,000)	(300,000)	-	-
Mar-96	-	100,000	(100,000)	(400,000)	-	-
Apr-96	-	100,000	(100,000)	(500,000)	(100,000)	-
May-96	-	100,000	(100,000)	(600,000)	(200,000)	-
Jun-96	-	100,000	(100,000)	(700,000)	(300,000)	-
Jul-96	56,552	100,000	(43,448)	(743,448)	(343,448)	-
Aug-96	17,288	100,000	(82,712)	(826,160)	(426,160)	-
Sep-96	14,198	100,000	(85,802)	(911,962)	(511,962)	-
Oct-96	79,648	100,000	(20,352)	(932,314)	(532,314)	-
Nov-96	165,583	100,000	65,583	(866,731)	(466,731)	65,583
Dec-96	137,291	100,000	37,291	(829,440)	(429,440)	102,874
Jan-97	129,343	100,000	29,343	(800,097)	(400,097)	132,217
Feb-97	179,930	100,000	79,930	(720,167)	(320,167)	212,147
Mar-97	203,727	100,000	103,727	(616,440)	(216,440)	315,874
Apr-97	174,297	100,000	74,297	(542,143)	(142,143)	390,171
May-97	174,179	100,000	74,179	(467,964)	(67,964)	464,350
Jun-97	165,144	100,000	65,144	(402,820)	(2,820)	529,494
Jul-97	162,195	100,000	62,195	(340,625)	59,375	591,689
Aug-97	-	100,000	(100,000)			
Sep-97	-	100,000	(100,000)			
Accumulated Over / (Under) Production Through July				(340,625)	59,375	591,689

Note : NIBU Gas Com # 3 tested at 3.4 mmcf/d with only 160 psi of drawdown on 11/26/95.
This is over half-allowable rate of approximately 3.25 mmcf/d.

BEFORE THE OIL CONSERVATION DIVISION
SANTA FE, NEW MEXICO
MARATHON OIL CO. EXHIBIT NO. _____
CASE NO. 11816
JULY 24, 1997

West Half of Section 3

NIBU Gas Com # 3

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Dec-95	-	100,000	(100,000)	(100,000)	-	-
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Feb-96	-	100,000	(100,000)	(300,000)	-	-
Mar-96	-	100,000	(100,000)	(400,000)	-	-
Apr-96	-	100,000	(100,000)	(500,000)	(100,000)	-
May-96	-	100,000	(100,000)	(600,000)	(200,000)	-
Jun-96	-	100,000	(100,000)	(700,000)	(300,000)	-
Jul-96	56,552	100,000	(43,448)	(743,448)	(343,448)	-
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BEFORE THE OIL CONSERVATION DIVISION
SANTA FE, NEW MEXICO
MARATHON OIL CO. EXHIBIT NO. ____
CASE NO. 11816
JULY 24, 1997