

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date _____ AUGUST 20, 1986 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
W. Kellohin Chad Dickerson ARTHUR LUTHER ALFRED DELTA Albert Deschamps	Kellohin & Kellohin yates Navajo Nation NT- WINDOW ROCK, AZ The Navajo Nation	Santa Fe Arizona Window Rock, AZ Window Rock, AZ
Kenneth Haggren C. J. H.	N.T. W. R. Haggren N.T.	- -
ARTHUR LUTHER Kenneth Bateson	Cince, Ltd. White Rock Kelly, Inc.	Santa Fe, NM _____
DAVE BONEAU Steve Daniels	YATES PETROLEUM CORPORATION Marathon Oil Company	ARIZONA Midland
Lawrence A. Ham Robert Robertson	MARATHON OIL CO. Marathon Oil Co.	HOUSTON Midland
Les Clement Robert Robertson	N.M.O.C.D. more	27651A, Santa Fe
R. H. H. H. B. Stockton Ernest Busch	Byron SLO SLO O.C.D.	Santa Fe Santa Fe Atec

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date AUGUST 20, 1986 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
JOEST Ball	Campbell & Black	S.F.
FRANK GORHAM	Cinco Ltd	ABP P.O. Box 451
Dan Kutter	BASS Enterprises	87103 Sta Fe
Ray Graham	Independent	Santa Fe.
Joe A. Roney	Mobil	Santa Fe
Joe Huff Mabwin Consultants	Geo. J. Huff & Assoc. The Wharf, New York	Larkspur, NY
Kevin C. Hering	TENNECO	DENVER
TIMOTHY L. BOWER	TENNECO	DENVER
DARNELL C. McBRIDE	Chambers Operating	HOUSTON, TX
Michael K. Decker	Tenneco Oil	Denver, CO.
LES M. CARNES	FORAN OIL COMPANY	AMARILLO, TX
JOSEPH W. FORAN, Nancy FORAN	" "	" "
CLIFF DRESCHER	Estancia Producing Corp.	MIDLAND, TX

1

2

I N D E X

3

4

STEVE DANIELS

5

Direct Examination by Mr. Kellahin 5

6

Questions by Mr. Sabo 12

7

8

DAVID L. REBENSTORF

9

Direct Examination by Mr. Kellahin 13

10

Questions by Mr. Sabo 19

11

Cross Examination by Mr. Catanach 21

12

13

14

E X H I B I T S

15

16 Marathon Exhibit One, Land Plat 6

17 Marathon Exhibit Two, List 6

18 Marathon Exhibit Three, Letter 6

19 Marathon Exhibit Four, Correspondence 8

20 Marathon Exhibit Five, Correspondence 8

21 Marathon Exhibit Six, Correspondence 8

22 Marathon Exhibit Seven, Correspondence 8

23 Marathon Exhibit Eight, Correspondence 8

24 Marathon Exhibit Nine, Correspondence 8

25

E X H I B I T S CONT'D

1		
2		
3	Marathon Exhibit Ten, Correspondence	8
4	Marathon Exhibit Eleven, Letter	9
5	Marathon Exhibit Twelve, Letter	9
6	Marathon Exhibit Thirteen, Unit Agreement	9
7	Marathon Exhibit Fourteen, Structure Map	15
8	Marathon Exhibit Fifteen, Cross Section A-A'	14
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

MR. CATANACH: Good morning.

We'll call this hearing to order for Docket No. 26-86.

We'll call first Case 8969.

MR. TAYLOR: Application of Marathon Oil Company for a unit agreement, Chaves County, New Mexico.

MR. CATANACH: Are there appearances in this case?

MR. KELLAHIN: Yes, sir.

If the Examiner please, I'm Tom Kellahin of the Santa Fe law firm of Kellahin & Kellahin, appearing on behalf of the applicant and I have two witnesses to be sworn.

(Witnesses sworn.)

MR. HALL: Mr. Examiner, my name is Scott Hall from the Campbell & Black law firm in Santa Fe, on behalf of Amoco Production Company.

MR. CATANACH: Do you have any witnesses, Mr. Hall?

MR. HALL: No, I don't.

MR. CATANACH: You may proceed,

1 Mr. Kellahin.

2 MR. KELLAHIN: Thank you.

3

4 STEVE DANIELS,

5 being called as a witness and being duly sworn upon his
6 oath, testified as follows, to-wit:

7

8 DIRECT EXAMINATION

9 BY MR. KELLAHIN:

10 Q Would you please state your name and oc-
11 cupation?

12 A Steve Daniels, Landman for Marathon Oil
13 Company.

14 Q Mr. Daniels, have you previously testi-
15 fied before the Oil Conservation Division as a landman?

16 A Yes, sir.

17 Q With regards to the subject application
18 by Marathon for the approval of a voluntary exploratory
19 unit, have you been involved as a petroleum landman on be-
20 half of your company?

21 A Yes, sir.

22 Q Would you describe generally what Mara-
23 thon seeks to accomplish with this application?

24 A Marathon seeks to form a 6-section work-
25 ing interest unit in Chaves County, New Mexico. Three of

1 the sections are State-owned lands and three of the sections
2 are Federally-owned lands.

3 Q Are you familiar with the land title own-
4 ership and the working interest owners that you propose to
5 voluntarily join in this unit?

6 A Yes, sir.

7 MR. KELLAHIN: We tender Mr.
8 Daniels as an expert petroleum landman.

9 MR. CATANACH: Mr. Daniels is
10 considered qualified.

11 Q Mr. Daniels, let me direct your attention
12 to what is marked as Exhibit Number One and have you
13 identify that for me.

14 A What this is is a land plat of the pro-
15 posed 6-section unit area with the ownership of each sec-
16 tion, as well as the lease number and the termination date
17 of the lease.

18 Q What is the proposed name for the unit?

19 A The North Park Deep Unit Area.

20 Q And it's located in what portion of New
21 Mexico?

22 A Chaves County, New Mexico.

23 Q Let's turn also to Exhibit Number Two and
24 look at it in reference to Exhibit Number One, and have you
25 summarize for us what the current status is of the efforts

1 to get voluntary joinder in the unit.

2 A Okay. Marathon has presently -- present-
3 ly has attained approximately 72 percent approval of the
4 working interest owners.

5 As itemized, the E. A. Hanson Estate has
6 agreed to participate in the unit.

7 Amoco is presently evaluating our pro-
8 posal and we have no commitment from them as of yet.

9 Conoco is still evaluating the unit.

10 Marshall and Winston has agreed to parti-
11 cipate in the unit.

12 Union Texas Exploration has advised that
13 they do not wish to participate or farm out at this time.

14 Yates Petroleum Company has advised that
15 they will participate in the unit.

16 And Kaiser Francis, it is now known that
17 Kaiser Francis' interest is owned by ENI Exploration Company
18 and we have contacted the parties and they are presently
19 evaluating our proposal.

20 Q That's E-N-I.

21 A Right.

22 Q Let me direct your attention now, Mr.
23 Daniels, to Exhibit Number Three and ask you to identify Ex-
24 hibit Number Three.

25

1 A Exhibit Number Three is a letter to Mr.
2 Mike Stogner of the New Mexico Oil Conservation Division re-
3 questing approval of the development of the North Park Deep
4 Unit Area and at the same time we requested to be on the
5 hearing date -- hearing docket for August 20th, 1986.

6 Q Is there attached to that letter a list
7 of the working interest owners that would be involved in the
8 unit?

9 A Yes, sir.

10 Q And was notice sent to each of those
11 working interest owners by certified mail?

12 A Yes, sir.

13 Q And are those the letters and return re-
14 ceipt cards identified on Exhibits Four through Ten?

15 A Yes, sir.

16 Q All right, let's turn now to Exhibit Num-
17 ber Eleven.

18 What, if anything, have you done with re-
19 gards to contacting the Commissioner of Public Lands of the
20 State of New Mexico with regards to the commitment of the
21 State acreage involved in the unit?

22 A By letter dated August 11th, 1986, we re-
23 quested approval of the unit by the State of New Mexico. We
24 enclosed a check in the amount of \$180 to pay for the filing
25 fee for the unit agreement, and advised that we had sent the

1 unit agreement with attached Exhibits A and B, as well as a
2 geological report, to the Bureau of Land Management for ap-
3 proval, and we had been scheduled with the Oil Conservation
4 Division for a hearing of this date.

5 Q This acreage, this unit involves acreage
6 only involving State and Federal properties, is that cor-
7 rect?

8 A That is correct.

9 Q There are no fee tracts involved.

10 A That is correct.

11 Q All right, let's turn to Exhibit Number
12 Twelve and have you identify that exhibit for us.

13 A Exhibit Number Twelve is a letter dated
14 August 11th, 1986, to the Bureau of Land Management reques-
15 ting them to designate the North Park Deep Unit Area as a --
16 as a working interest unit, and that is what the letter
17 states.

18 Q All right. So with regards to the Com-
19 mission of Public Lands and the Bureau of Land Management,
20 you have made the applications for preliminary approval of
21 the unit and you're awaiting those approvals.

22 A That's correct.

23 Q Let's turn to Exhibit Number Thirteen,
24 Mr. Daniels, and have you identify that exhibit for us.

25 A Exhibit Number Thirteen is the proposed

1 unit agreement for the North Park Deep Unit. This unit
2 agreement was provided to Marathon by the State of New Mexi-
3 co and incorporates both the requirements of the State --
4 which the State of New Mexico has, as well as the Bureau of
5 Land Management.

6 Q Is this the proposed unit agreement that
7 Marathon will utilize for purposes of forming this unit?

8 A Yes, sir.

9 Q And it is a form that's been approved as
10 to form by the Bureau of Land Management and the
11 Commissioner of Public Lands?

12 A Yes.

13 Q And is this a unit agreement that has
14 been circulated to the other proposed working interest
15 owners?

16 A Not at this time.

17 Q Upon obtaining approval by the Oil
18 Conservation Division, then you would circulate it to the
19 working interest owners?

20 A That is correct.

21 Q Have you attached to that proposed unit
22 agreement an Exhibit A and an Exhibit B?

23 A Yes, sir.

24 Q All right. Would you identify Exhibit A
25 for us?

1 A Exhibit A details the 6-section unit area
2 with the ownership.

3 Exhibit B breaks down each individual
4 lease and describes each lease as well as the ownership of
5 each lease.

6 Q And both of those represent the current
7 state of Marathon's knowledge about both the plat and the
8 tabulation of ownership?

9 A That's correct.

10 MR. KELLAHIN: That concludes
11 my examination of Mr. Daniels, Mr. Catanach.

12 We'd move the introduction of
13 Exhibits One through Fourteen.

14 MR. CATANACH: Without
15 objection Exhibits One through Thirteen will --

16 MR. KELLAHIN: I'm sorry,
17 Thirteen.

18 MR. CATANACH: -- be admitted
19 into evidence.

20 Mr. Hall, do --

21 MR. HALL: I have nothing.

22 MR. CATANACH: -- you have
23 anything?

24

25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

QUESTIONS BY MR. SABO:

A In Paragraph 3 of the unit agreement it says "All oil and gas and all formations will be unitized."

There's shallow production in the area. Would that be worked into the unit?

A No, sir.

Q In other words, you would intend, really, to unitize below present production?

A That is correct. I believe on Page 6 of Exhibit Number Thirteen --

Q Yeah.

A -- it describes the unitized lands as being --

Q 1500 and below.

A -- 1500 foot to 7000 feet.

Q And yet you see in Paragraph 3 it says "All oil and gas and any and all formations of the unitized land are unitized under the terms of this agreement."

Now, to me that would appear to be somewhat all inclusive.

A Yes, sir.

Q So other than that we have no problem with the unit agreement itself but we reserve some question-

1 ing for geologic.

2 MR. CATANACH: I have no ques-
3 tions of Mr. Daniels. He may be excused.

4

5 DAVID L. REBENSTORF,

6 being called as a witness and being duly sworn upon his
7 oath, testified as follows, to-wit:

8

9 DIRECT EXAMINATION

10 BY MR. KELLAHIN:

11 Q All right, sir, would you please state
12 your name and occupation?

13 A David Rebenstorf, geophysicist for Mara-
14 thon Oil Company.

15 Q Mr. Rebenstorf, have you previously tes-
16 tified before the Oil Conservation Division.

17 A Yes, I have.

18 Q Pursuant to your employment by Marathon,
19 have you made a study of the geologic information with re-
20 gards to the proposed unit that Mr. Daniels discussed with
21 us awhile ago?

22 A Yes, I have.

23 Q In making your study have you prepared
24 certain exhibits?

25 A Yes, I have. I have two exhibits, a

1 stratigraphic cross section and structural map built from
2 seismic control in the area.

3 MR. KELLAHIN: We tender Mr.
4 Rebenstorf as an expert geophysicist.

5 MR. CATANACH: I'm sorry,
6 what's the last name?

7 A Rebenstorf, R-E-B-E-N-S-T-O-R-F.

8 MR. CATANACH: Mr. Rebenstorg
9 is considered qualified.

10 Q Mr. Rebenstorf, let me direct your atten-
11 tion to Exhibit Number Fifteen. Let's start with Fifteen
12 first, which is your cross section.

13 A A to A'.

14 Q Mr. Rebenstorf, let's look at the center
15 bottom of the display and have you orient the Examiner as to
16 where the proposed unit is located.

17 A Okay. The proposed unit is in Township
18 11 South, Range 27 East, and will include Sections 16 and
19 17, 20, 21, 28, and 29.

20 Q What is the principal formation that you
21 have targeted for development by the unit?

22 A We are attempting to drill a 6800-foot
23 Fusselman test, which is Silurian age.

24 Q Have you designated on the exhibit a pro-
25 posed location for the first unit well?

1 A Yes, sir. The location will be in Sec-
2 tion 20, 1980 from the east line and 1980 from the south
3 line.

4 Q Do you have a geologic opinion as to
5 whether the orientation of the proposed unit is one that has
6 a reasonable geologic basis?

7 A Yes, sir.

8 Q And what is that opinion?

9 A This opinion is based on the structure
10 that has been mapped up on our Exhibit Fifteen, and based on
11 seismic control through our area.

12 Q All right, let's look at the display here
13 at the bottom center and have you generally describe for the
14 examiner what geologic information you have that causes you
15 to conclude that the western boundary of the unit is a
16 reasonably logical one to draw for this unit?

17 A This is a stratigraphic trap of the Fus-
18 selman formation formed by the truncation of the Fusselman
19 porosity by the Woodford unconformity.

20 The Woodford unconformity acts to cut out
21 the formations as you go to the west excessively. We lose
22 the Fusselman in the well location in Section 18 on our in-
23 dex map, which is the well numbered three in the cross sec-
24 tion.

25 This well contained Pennsylvanian on Mon-

1 toya age rock, indicating the loss of the Fusselman poro-
2 sity, Fusselman zone altogether.

3 And then as we successfully go out to the
4 west we see the truncation of the Ellenburger formation as
5 seen in the first log on our cross section, the Phillips No.
6 1, where we actually have a Pennsylvanian on top of a
7 granite situation.

8 So we're looking at a regional truncation
9 of a series of lower Paleozoic rock as we prorate or as we
10 go westward through the area.

11 The wells down dip, number four on our
12 cross seciton, contained the Fusselman formation and is the
13 highest well near our are that had porosity in the zone.
14 The DST's from the Fusselman interval contained -- recovered
15 4000 feet of salt water indicating good porosity present for
16 that zone.

17 And then, of course, as we go to the west
18 that porosity interval is gone.

19 So we're seeking to drill a stratigraphic
20 trap based on the near the up-dip dip edge of this truncated
21 formation plus Fusselman porosity.

22 Q Let me direct your attention again to the
23 eastern boundary now of the proposed unit, and ask you to
24 again explain the geologic basis upon which you determine
25 that the eastern boundary is a logical, reasonable boundary

1 to the unit.

2 A Okay. On the eastern boundary we have
3 formed an oil/water contact based on our -- the structural
4 component.

5 There are two seismic lines through the
6 area which would indicate a structural nose coming across the
7 area; thus we have a structural component and a stratigraphic
8 component working, where on the western edge we have trunca-
9 tion due to the -- of the formation, being the seal there,
10 and on the eastern edge we're looking at the , actually the
11 oil/water contact being formed by the presence of the struc-
12 tural component in the area.

13 Q What are the proposed top and bottom ver-
14 tical limits for the proposed unit?

15 A We are going to unitize from the top of
16 the San Andres formation to Granite.

17 Q Let's turn now to Exhibit Number Fourteen
18 and have you demonstrate for us what the structure looks
19 like.

20 A Okay.

21 Q Again, would you identify Exhibit Number
22 Fourteen?

23 A Okay, this is a structural map built on
24 -- from seismic control in the area on the top of the Fus-
25 selman formation.

1 It shows approximately 400 feet of struc-
2 tural closure against a zero porosity line, being the up-dip
3 limit of our -- of our reservoir on the west.

4 To the east we indicate in a blue and
5 green line here the oil/water contact. This is formed and
6 postulated by the lowest closing contour against the zero
7 porosity line.

8 And once again I could -- this is con-
9 trolled from seismic showing a broad nose through the 6-sec-
10 tion unit.

11 Have you reached the geologic opinion
12 that the 6-section area is one that is suitable for develop-
13 ment on a unit basis?

14 A Yes, sir.

15 Q And is the unit configuration one that
16 corresponds to a reasonable geologic justification?

17 A Yes, sir.

18 Q And were Exhibits Fourteen and Fifteen
19 prepared by you or compiled under your direction and super-
20 vision?

21 A They were prepared by myself.

22 MR. KELLAHIN: We move the in-
23 troduction of Exhibits Fourteen and Fifteen, and that con-
24 cludes our examination of this witness.

25 MR. CATANACH: Exhibits Four-

1 teen and Fifteen will be admitted into evidence.

2 Mr. Hall?

3 MR. HALL: I have nothing.

4 MR. CATANACH: Mr. Sabo?

5 MR. SABO: Yes.

6

7 QUESTIONS BY MR. SABO:

8

9 Q The idea is a great one and we like it.
10 This thing we would have appreciated was some information of
11 where the seismic control was for this structure.

12 A Yes, sir.

13 Q And other than that --

14 A I can -- I can broaden -- I can basically
15 walk you through that.

16 If you put your finger on probably the
17 29, Section 29 --

18 Q Okay.

19 A -- and run it up through the PTD there,
20 the proposed location of 6800 feet --

21 Q Okay.

22 A -- we had one seismic line running to the
23 northeast/southwest at that angle, and then an east/west
24 line coming through the location and off towards the west
25 there.

1 Those were our two control points.

2 Q So you have essentially two cross lines
3 there.

4 A Yes, sir, and we tried to keep that in-
5 formation, of course, on a proprietary basis, but that is
6 what the available --

7 Q So you have an idea --

8 A -- control was, yes, sir.

9 Q The idea is something we'd like to see
10 more of and it tests a big area; hopefully, it's as big as
11 Gladiola, maybe bigger, but you see, the way it's presented
12 here seems to be very pat in the sense that it fits into a
13 political thing; either the forefathers were very --

14 A Well.

15 Q -- clairvoyant and fitted it into six
16 sections, or what have you, but the --

17 A Well, it is understood on our part that,
18 of course, there is probably room for this oil/water contact
19 line to move around. This is highly interpretive.

20 Q In other words --

21 A It could along --

22 Q -- actually it's along the wedge edge.

23 A Huh?

24 Q Any place along the wedge edge; there's
25 really no --

1 A Right.

2 Q -- defined limit on your part.

3 A As far as we, you know, if you look at
4 our other map, the closest test to the that tests the Fus-
5 selman is approximately a mile away, which still leaves room
6 for the oil water contact to move further down dip or still
7 to be further up dip there.

8 Q Okay, it's just that it would have been
9 convenient to zero in the amount of acreage that was tied up
10 to control of some kind here.

11 A Well, based --

12 Q We have no problem --

13 A -- based on our structural control in the
14 area, our seismic control, this -- this 6-section area seems
15 to be highly, most prospective along with their (not under-
16 stood) concept in mind.

17 Q Yeah.

18 A I'm sure that along trend there, that
19 perhaps there are other structural nosing that may present
20 itself later on as other suitable targets.

21 Q Okay, thank you.

22

23 CROSS EXAMINATION

24 BY MR. CATANACH:

25 Q Mr. Rebenstorf, the unitized interval is

1 again the top, from the top of the San Andres --

2 A Yes, sir.

3 Q -- to the base of the Ellenburger.

4 A To, yes, Granite to the base of the
5 Ellenburger.

6 The existing production in the unit at
7 this time is Queen production, which is shown on the type
8 log on our structure map there. We're -- we will start
9 unitization below the existing production.

10 Q Okay, this area has never been tested
11 below?

12 A In this 6-section area there is no test
13 below the Queen that -- well, I don't know if some of these
14 dry holes are below the Queen or not. All as I know is the
15 existing production is above the San Andres and that there
16 are no tests in this 6-section area to the -- our proposed
17 objective, the Fusselman.

18 Q Well, your (unclear) of geologic evidence
19 is based on seismic?

20 A We have seismic -- well, and, of course,
21 the porosity zones that are available in the nearby wells,
22 but the structural control is based on seismic, sir.

23 MR. CATANACH: I have no
24 further questions of the witness.

25 If there are no questions, you

1 may be excused.

2 Does anyone wish to make a
3 statement, closing statement?

4 Is there anything further in
5 Case 8969?

6 If not, it will be taken under
7 advisement.

8

9 (Hearing concluded.)

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division (Commission) was reported by me; that the said transcript is a full, true, and correct record of the hearing prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 8969 heard by me on August 20, 1986.

David L. Catron, Examiner
Oil Conservation Division