| | | Page1 |
|----------|--------------------------------|---------------|
| NEW MEXI | CO OIL CONSERVATION COMMISSION | |
| | COMMISSION HEARING | |
| | SANTA FE, NEW MEXICO | |
| | JUNE 18, 1992 | Time:9:00 A.M |
| | | |
| | REPRESENTING | MIDLAND, TX |
| | MARATHON | MIDLAND, IX |
| | Marathon | Littleton, CO |
| 1 | Texaco | Midland, TX |
| .e_ | NMOGA | Santa F= |
| Ц | nmo &A | South Fe |
| remo | NMOGA | Santo Fe |
| 149 | Chevron U.S.A. | Midlard |
| | Conoco | M. Sland |
| ell | Monthon Oil Co. | Wanson, TX |
| | MARATON 01100. | MIDLAND |
| ima | Byran Co | |
| | N.M. Toxations Rou Dept | SE. |

| | SANTA FE, NEW MEXICO | |
|---------------------------------------|----------------------|-------------|
| Hearing Date | JUNE 18, 1992 | Time: |
| | | |
| NAME | REPRESENTING | I. |
| Craig TIA | MARATHON | M.0 |
| Ron Smith | Marathon | L;#1 |
| FRANK GRAY | Texaco | Mid |
| Berry & source | NMOGA | San |
| elian A. Day | NMOSA | Som |
| Leith andrews | NMOGA | Sa |
| Alan W. Bunling | Cheuron U.S.A. | 1 - |
| erry Hoover | Conoco | Mic |
| 11205eth Bush | ARCO | mid |
| lean H. Combell | Morathan Oil Co. | Ster |
| · · · · · · · · · · · · · · · · · · · | MARANON O1100. | M |
| aurice Trumma | Byran Co | 5 |
| and themen | 4 Y | 1 |

Margaret alcock Don 81 litales

| 1 | NEW MEXICO OIL CONSERVATION COMMISSION |
|-----|--|
| 2 | STATE OF NEW MEXICO |
| 3 | CASE NO. 10492 |
| 4 | |
| 5 | IN THE MATTER OF: |
| 6 | The Application of the Oil Conservation Division on its |
| 7 | own motion for an order adopting |
| 8 | rules to implement the Enhanced Oil Recovery Act. |
| 9 | |
| 10 | |
| 11 | BEFORE: |
| 12 | WILLIAM J. LEMAY, CHAIRMAN |
| 13 | WILLIAM WEISS, COMMISSIONER GARY CARLSON, COMMISSIONER |
| 14 | CART ORRESON, COMMISSIONER |
| 15 | State Land Office Building Morgan Hall |
| 16 | June 18, 1992 |
| 17 | |
| 18 | |
| 19 | |
| 20 | REPORTED BY: |
| 21 | DEBBIE VESTAL Certified Shorthand Reporter |
| 2 2 | for the State of New Mexico |
| 23 | |
| 2 4 | |
| 25 | ORIGINAL |

| 1 | APPEARANCES |
|-----|--|
| 2 | |
| 3 | FOR THE NEW MEXICO OIL CONSERVATION DIVISION: |
| 4 | ROBERT G. STOVALL, ESQ. General Counsel |
| 5 | State Land Office Building Santa Fe, New Mexico 87504 |
| 6 | Santa 10, New Mem190 Cross |
| 7 | FOR MARATHON OIL COMPANY: |
| 8 | KELLAHIN, KELLAHIN & AUBREY Post Office Box 2265 |
| 9 | Santa Fe, New Mexico 87504-2265 BY: KAREN AUBREY, ESQ. |
| 10 | |
| 11 | FOR NEW MEXICO OIL & GAS ASSOCIATION: |
| 12 | MONTGOMERY & ANDREWS, P.A. Post Office Box 2307 |
| 13 | Santa Fe, New Mexico 87504-2307 BY: W. PERRY PEARCE, ESQ. |
| 14 | |
| 15 | FOR NEW MEXICO TAXATION & REVENUE DEPARTMENT: |
| 16 | LEGAL SERVICES DIVISION Post Office Box 630 |
| 1 7 | Santa Fe, New Mexico 87509-0630 BY: MARGARET B. ALCOCK, ESQ. |
| 18 | |
| 19 | FOR CHEVRON, U.S.A., INC.: |
| 20 | MR. A.W. BOHLING |
| 2 1 | FOR YATES PETROLEUM CORPORATION: |
| 22 | MR. TOM BROWN |
| 23 | FOR TEXACO USA: |
| 2 4 | MR. R. FRANK GRAY |
| 25 | |

| 1 | INDEX | |
|-----|---|-------------|
| 2 | | Page Number |
| 3 | | |
| 4 | Appearances | 2 |
| 5 | WITNESS FOR THE APPLICANT: | |
| 6 | LAWRENCE O. VAN RYAN Examination by Mr. Stovall | 7 |
| 7 | Examination by Mr. Pearce Examination by Ms. Aubrey | 3 O 3 1 |
| 8 | Examination by Comm. Carlson Examination by Comm. Weiss | 36 |
| 9 | Examination by Chair. LeMay Further Ex. by Ms. Aubrey Further Ex. by Mr. Stovall | 3 8 4 0 |
| 10 | Further Ex. by Mr. Stovall | 40 |
| 11 | WITNESS FOR NMOGA: | |
| 12 | 1. WILLIAM F. CARR | 4 4 |
| 13 | Examination by Mr. Pearce Examination by Mr. Stovall | 64 |
| 14 | Examination by Mr. Stovall Examination by Comm. Carlson Examination by Chair. LeMay Examination by Ms. Aubrey | 77 |
| 15 | Examination by Ms. Addrey | 8 5 |
| 16 | WITNESSES FOR MARATHON OIL COMPANY: | |
| 17 | 1. RON SMITH Examination by Ms. Aubrey | 87 |
| | Examination by Ms. Aubrey Examination by Mr. Stovall | 100 |
| 18 | Examination by Comm. Weiss | 101 |
| | Examination by Chair. LeMay | 103 |
| 19 | O ODATO VOME | |
| 20 | CRAIG KENT Examination by Ms. Aubrey | 105 |
| 20 | Examination by Mr. Stovall | 124 |
| 21 | Examination by Comm. Carlson | |
| | Examination by Comm. Weiss | 132 |
| 22 | Examination by Chair. LeMay | 134 |
| 23 | Further Ex. by Ms. Aubrey | 135 |
| 2 4 | Certificate of Reporter | 139 |
| 25 | | |

EXHIBITS Page Identified Oil Conservation Division: Exhibit No. 1 Exhibit No. 2 New Mexico Oil & Gas Association: Exhibit No. 1 Marathon Oil Company: Exhibit No. 1-A Exhibit No. 1-B Exhibit No. 1-C Exhibit No. 1-E Exhibit No. 1-E Exhibit No. 1-F Exhibit No. 1-G Exhibit No. 1-H Exhibit No. 1-I Exhibit No. 1-J Exhibit No. 1-L Exhibit No. 1-M Exhibit No. 1-N

| 1 | CHAIRMAN LeMAY: Good morning. It's |
|-----|---|
| 2 | the Oil Conservation Commission meeting. My name |
| 3 | is Bill LeMay. On my left is Commissioner Bill |
| 4 | Weiss; on my right, Commissioner Gary Carlson |
| 5 | representing the Commissioner of Public Lands. |
| 6 | And I think we have one case today, |
| 7 | Case No. 10492, the application of the Oil |
| 8 | Conservation Division on its own motion for an |
| 9 | order adopting rules to implement the Enhanced |
| 10 | Oil Recovery Act. |
| 11 | I'd like appearances in Case 10492. |
| 1 2 | MR. STOVALL: Robert G. Stovall on |
| 13 | behalf of the Division. And fortunately my |
| 1 4 | witness just walked in, so I do have one. |
| 15 | CHAIRMAN LeMAY: Thank you, Mr. |
| 16 | Stovall. |
| 17 | MS. AUBREY: Karen Aubrey with |
| 18 | Kellahin, Kellahin & Aubrey representing Marathon |
| 19 | Oil Company. I have two witnesses. |
| 20 | CHAIRMAN LeMAY: Thank you, Ms. Aubrey. |
| 2 1 | MR. PEARCE: Perry Pearce representing |
| 22 | New Mexico Oil & Gas Association. I have one |
| 23 | witness. |
| 2 4 | CHAIRMAN LeMAY: Thank you, Mr. |
| 25 | Pearce. |

| 1 | Are there any other appearances in the |
|-----|---|
| 2 | Enhanced Oil Recovery case? |
| 3 | MR. BOHLING: Mr. Chairman, my name is |
| 4 | Alan Bohling. I'm with Chevron USA. |
| 5 | CHAIRMAN LeMAY: Do you have any |
| 6 | witnesses, Mr. Bohling? |
| 7 | MR. BOHLING: No, I don't. |
| 8 | CHAIRMAN LeMAY: Will you be testifying |
| 9 | or making a statement? |
| 10 | MR. BOHLING: Possibly a statement |
| 11 | towards the end. |
| 12 | MS. ALCOCK: I'm Margaret Alcock with |
| 13 | the New Mexico Taxation & Revenue Department. I |
| 14 | do not have any witnesses. I just have one |
| 15 | comment to make. |
| 16 | CHAIRMAN: Thank you, Ms. Alcock. |
| 17 | MR. GRAY: Frank Gray with Texaco from |
| 18 | Midland, Texas. |
| 19 | CHAIRMAN LeMAY: Will you be presenting |
| 20 | testimony, Mr. Gray? |
| 21 | MR. GRAY: No. |
| 22 | CHAIRMAN LeMAY: Will you be issuing a |
| 23 | comment? |
| 2 4 | MR. GRAY: No, sir. |
| 25 | MR. BROWN: Tom Brown, Mr. Chairman, |

with Yates Petroleum. I'll have a short comment 1 at the end of the testimony. CHAIRMAN LeMAY: Thank you, Mr. Brown. 3 Additional comments? We can certainly take comments at the end if you haven't stood up 5 and want to put something in the record. no reason to identify yourselves unless you'd 7 like to at this point. Will all those who will be giving 9 testimony, please, stand and be sworn in. 10 11 [The witnesses were duly sworn.] CHAIRMAN LeMAY: We'll start with Mr. 12 13 Stovall. MR. STOVALL: I'll ask Mr. Van Ryan to 14 come from the back of the room. 15 16 LAWRENCE O. VAN RYAN Having been duly sworn upon his oath, was 17 examined and testified as follows: 18 19 EXAMINATION BY MR. STOVALL: 20 Q. How are you this morning? 21 22 Α. Fine, sir. Thank you. 23 Q. Who are you this morning? 24 Α. I'm still Larry Van Ryan, Chief 25 Petroleum Engineer for the OCD.

- Q. Have you previously been qualified by this Commission as an expert in petroleum engineering?
 - A. Yes, I have.
- Q. Are you familiar with the purpose of this application?
 - A. Yes.

- Q. Are you familiar with the New Mexico Enhanced Oil Recovery Act?
- 10 A. That's correct.
 - Q. And the regulations which are proposed by the Division as it implements its part of carrying out the purposes of that act?
 - A. Yes.
 - Q. Will you state briefly for the Commission why we are here this morning? What is the purpose of this hearing?
 - A. The 1992 legislature passed the Enhanced Oil Recovery Act. In that act they directed the Oil Conservation Division to adopt rules to certify enhanced oil recovery projects and to verify by certification that these were valid projects under the law as it was enacted and subsequent to that then to provide our certification to the Taxation & Revenue

Department so that these projects could qualify for a reduced severance tax rate.

- Q. What is your understanding of the purpose of the Enhanced Oil Recovery Act?
- A. The act in itself is to encourage companies to make investments in the state of New Mexico in enhanced oil recovery projects because they would obtain a benefit in a reduced severance tax.
- Q. I'm going to pass out at this time -I'll pass to counsel here, and it can be passed
 back to anybody that wants -- a copy of a
 document. The front of that document is my
 prehearing statement, which is filed in this
 case, indicating what I'm presenting.

And attached to it is what is identified as the Proposed Rules and Procedures for Qualification of Enhanced Oil Recovery Projects and Certification for the Recovered Oil Tax Rate. Do you have that in front of you, and do you see that?

A. Yes.

MR. STOVALL: Now, this has not been marked as an exhibit, Mr. Chairman. We can identify it as Exhibit 1, if that makes it easier

for the record, as the proposed rules
themselves. I haven't necessarily marked it.

CHAIRMAN LEMAY: At your pleasure.

MR. STOVALL: I think the record can be clear if we know what it is, so I don't think that's a particular problem.

Also we'll pass out at this time at the request of one of the Commissioners -- requested the actual copy of the act. I had not originally planned to distribute this.

CHAIRMAN LeMAY: I'd like to have this part of the record.

MR. STOVALL: Yes, I am going to make it a part at this time.

- Q. You also now have in front of you a document with a legislative cover sheet. Would you describe what that document is?
- A. This is the House Bill 23, which is referred to as the Enhanced Oil Recovery Act passed by the 1992 Legislature, State of New Mexico.
 - Q. And its official citation, I believe, is Chapter 38 of the Laws of 1929, as adopted by the 1992 Legislature; is that correct?
- 25 A. That's how it reads.

- Q. And this is the statute upon which these regulations have been adopted --
 - A. That's correct.

2.5

- Q. -- in compliance with which. Let's turn now to the regulations themselves and start through and explain what the purpose is and how the regulations will work. Let's turn first to Section C called "Definitions." Where do the definitions under this regulation come from?
- A. The definitions, as in the proposed rules, are exactly as it was stated in the act that we have before us. We did not change those because we felt those were legislative intent.
- Q. Now, with respect to those definitions, I know we've had prior to this hearing comments submitted by operators who have recommended some changes, and I'm sure we'll have some testimony with respect to that today.

What is your opinion with respect to making any changes to the definitions in the rules?

A. Well, I think since this was part of the act itself, that I feel very uncomfortable with changing these definitions. I think we should use them as they were passed in the act.

There is some, even though we have some definitions here, I don't think that they are all encompassing.

In a number of cases they give you such statements as, "other than a primary recovery process including but not limited to," and then it goes on for the definition. I think that gives us leeway to look at other things other than what are listed here.

- Q. In other words, based upon some of the conversations you've had outside, and again I think the parties who have presented that information to you are here today and probably will testify, is it your opinion that, for example, Marathon is a party to this proceeding and has had some discussion with you; is that not correct?
 - A. That's correct.
- Q. And they have proposed or suggested some types of projects that they feel should qualify for treatment, reduced tax treatment under the EOR Act; is that correct?
 - A. Yes.

Q. Do you have an opinion as to whether or not the definitions as contained in the act are

the criteria the Division sets forth to qualify the projects?

- A. Yes, I would agree they are broad enough to consider any viable projects. For that reason I'd be very leery of changing the definitions.
- Q. Let's go through the rules now to part D, "Procedures." This is the real guts of the rules, isn't it, as far as what the Division is going to be doing with these projects?
- A. Yes. This sets forth the procedure for an operator to make application to the Division for an EOR project to be certified by the Division.
- Q. Why don't you go through and kind of describe, without reading the entire thing, how you would envision the process to work and how the rules would dictate that the process works?
- A. Well, at the present time, I think for the foreseeable future, we intend for every one of these applications to go to hearing, and these rules set out the procedure for that; that we would go to hearing with each one of these projects and that in each case we want the

operators to be very specific on what they're applying for and what area they're applying for. We want a very specific outline of the area that they think is going to be affected by the EOR, a list of the wells, both injectors and producers, that are in their project areas.

We want some information from them, as directed by the act, as far as the economic viability of these projects that these are significant projects which should earn, by their significance they should earn the severance tax credit.

- Q. By significance, what is that? Are you talking about significance of investment or significance of incremental recovery, for example?
- A. Combination. I think what we're looking for here is that the investment is a bona fide investment. It's not just some kind of a gimmick to get by a reasonable EOR project. But it is a real EOR project with significant investment and significantly more oil will be recovered by this.

I know "significant" is a very hard term to define, but each project will have to

stand on its own. We may be talking about projects that are millions of barrels or projects that are less than that depending on the size of the area.

- Q. When you say significant is difficult, you mean it's difficult to quantify?
 - A. Yes.

- Q. Is it the intent of the regulations that, if I understand what you've just said correctly, that there really has to be some action taken by an operator to do something new to a reservoir that will cause increased recovery of the --
 - A. Yes.
 - Q. -- product?
- A. Be it an expansion of an existing EOR project or a new EOR project.
- Q. Let me back up for a moment and make sure that there's some understanding as to the relationship between a proceeding under this proposed set of rules and under the current rules and regulations of the Division.

Is it your understanding that currently for the injection of fluids into a reservoir, which is the primary method of enhanced recovery,

that currently it must be approved by the Division?

A. Yes, that's correct.

- Q. And that doesn't change under this, does it?
- A. No. These are in addition to the existing rules. If you're applying -- or if an operator would be applying for a new project, it would still have to abide by all the existing rules in addition to these rules, this information required by this proposed rule.
- Q. Now, how would you anticipate that working? Say an operator has a new or an expansion project that they want to come in, would it be a combined process to receive the OCD, if you will, general approval plus the certification?
- A. Well, on a new project, yes. I would say that they would file the C-108 and all the information that we would normally require for a secondary recovery and tertiary recovery project for approval by the Commission.

In addition to that they would apply for the Enhanced Oil Recovery certification and provide the information as requested here. Some

of it would be the same, but this just gives us the means to certify this.

On an expanded project there would already be an approval that would have been done sometime in the past. And for the expansion area we would look for such things as justification:

Is this a real project? Is this something that was intended in legislative intent here to qualify?

- Q. Now, probably one of the critical things in this is: What is the project area? Is that not correct?
- A. We're going to be very specific on the project area. As an example, if we had an enhanced oil recovery project and the people were looking for a pilot to test a system, we would want them to be very specific on what area was going to be affected by the test procedures and provide us with detailed information on production in a given area so that we could later on certify the positive production response.
- Q. And it might not -- it probably would not be the entire -- again if it's an existing project, it would not be the entire project area unless there were this new technology or

methodology were applied throughout the project area?

- A. Right. It would have to affect the whole area. They would have to demonstrate to the Commission or to the Division that the whole area was going to be affected. In lieu of that, we're looking at just the project area or the expanded area.
- Q. I notice in paragraph 4 (b) we talk about a plat and a description of the project area by section, township, and range. What is the intent there again? It's not strictly an OCD -- let me back up and say it's not strictly an OCD process that we're talking about. We're part of a bigger picture; is that not correct?
- A. Yes, we are. We've tried not to put rules that Taxation & Revenue would have to abide by into our definitions or into our rules. But we do have to provide them with certification and some means of defining the area that would be affected so that when an operator applies at Taxation & Revenue they can identify that same area and make sure it's a certified EOR project.
- Q. So that land description area of the project area is pretty significant from the

Taxation & Revenue Department's perspective?

A. Most definitely. Right.

- Q. And this procedure goes on to describe the methods to be used. Do you anticipate any necessity to get information about investment?
- A. Yes. We've asked for information as far as the total project cost, the capital cost of additional facilities, and some estimated total values of the additional production that will be recovered as a result of the project.
- Q. Are there any changes which you'd like to make, recommendations for changes you'd like to make in this particular section at this time particularly with respect to the description of the project or any other information?
- A. Under item (e) on page 4, we would rather have the list of the producing wells under No. 1 and a list of the injection wells where we just ask for a number. We're not interested if it's five or ten wells. We want to know the wells that they're talking about.

In addition to our information, this is some of the same information that will help Taxation & Revenue identify the area of the wells.

Q. In other words, that's how Tax & Rev is going to know who gets the reduced tax rate; is that correct?

A. Exactly.

- Q. If you would just briefly go over and explain the certification process. It's kind of a bifurcated process, if I understand it; is that correct? One is the project and two is getting something out of the investment?
- A. The project itself can be certified and evidence and certification will be sent to

 Taxation & Revenue. But nothing happens until there's a positive production response from the project itself. At that time the operator is to notify the Oil Conservation Division that a positive production response has occurred.

We certify that. We can do that administratively. Or if we have a doubt, it can be called to hearing for the operator to prove that there's been a positive production response.

- Q. What are you going to look for, would you anticipate the Division is going to look for, as an indication of positive production response?
- A. Well, again what we're looking for here is we're looking for a bona fide response to the

EOR project. As in some cases when a new secondary recovery project is started, just due to additional attention to the project area, you have an increase in production because wells are taken better care of, pumps are changed out, everybody is getting ready for this anticipated investment.

1

2

3

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

We don't intend for that type of production increase to be a means for positive production response. So we're wanting to look again at a very specific area, the same one that we've certified to start off with. We want a production history that's been provided at the hearing for the certification. We want the same information to come in with the additional production that's been since the time of certification until the time of positive production response. And we want them to provide us with something that would be substantial, maybe two to three months of positive production response so that we can verify that it truly is a positive production response.

That should not hurt the operators because the tax credit will be applied back to the date that we've established that it did

occur. So the fact that they file it three or four months late is no detriment to the operator.

- Q. Now, again would you recommend any changes to the provision with respect to certification today to what has been proposed and what is in the proposed rules that I've distributed today?
- A. I don't recall that we've had much comment in regards to that as far as the certification. Now, as an additional part, if you've --
- Q. I'm referring to that section more than the process.
- A. Okay. Part of our requirements after certification is that we receive an annual report from the operators.
- Q. I'm sorry. You're moving on to the next section. Let me back you up here. The statute imposes some time limits with respect to when the positive production response must occur and an application for certification must occur; is that correct?
- A. Yes, that's correct. It was brought to our attention that we have an error in section C underneath the positive production response

certification. And where it says that "the certification and notice shall be set forth, the date the certification was made, and the date the positive production response occurred provided however," then it has Section 1 for a secondary recovery project and the positive production response must occur not later than five years from the date the Division issued the certification of approval.

That should read in effect that the application has to be made within five years. The positive production response could have occurred prior to that, but if they do not make the application for the positive production response, then it goes, prior to the five years, then we cannot -- it won't be accepted.

Again in item 2 where it says the same thing for tertiary recovery project and it gives a time limit of seven years, that should read that the application for certification has to be received within seven years.

- Q. Now, this recommended change is not really discretionary within the Division, is it?

 Actually that tracks the statutory requirement?
 - A. Exactly. That's as it's mentioned in

the Enhanced Oil Recovery Act.

- Q. So the operator not only has to be able to get a positive production response, they have an affirmative obligation to file an application for certification of that response within these time frames?
 - A. That's correct.
- Q. Let me go back to one thing again.

 It's a little bit of a rehash, but I want to make sure it's clear. The statute and the rules provide that this only applies to projects approved after I believe it's March 6 of 1992; is that correct?
- A. That's correct. That's the date that the bill was signed by the governor.
- Q. Therefore, any EOR secondary recovery or tertiary recovery project which has been approved by the Division as a project prior to that date cannot now be certified for tax credit subsequent to that date; is that correct?
- A. That's correct.
 - Q. Those projects, in order for any part of those projects to get the reduced tax rate, they must have some additional enhanced recovery process initiated or approved to be initiated

subsequent to that March 6 date; is that correct?

- A. Yes. That's in the definitions where it talks about the expansion of an existing project.
- Q. Now, you started a moment ago to talk about reporting requirements, section F of the rules. Would you now go ahead and go into kind of the intent and purpose what the Division will be looking for with respect to that?
- A. The intent is to have a means of verifying that we're still talking about viable projects here. And we're requesting that the operator file an annual report whereby they'll give us the production graph showing what production is going on, injection pressures, and graphs showing the total injected fluid.

And we're wanting them to certify to us basically that this is still a viable enhanced oil recovery project. What we have done is we would recommend that item D under Section 1 there would be stricken and would be put up in the requirements above where it says the operator of a certified EOR project shall report annually on the status of the project and certify that the project is still a viable EOR project as

approved.

Item D would be changed to the following paragraph, which is now item E, "In any additional data that the Director deems necessary for continued approval."

The second part of that we would call it item No. 2 to make it read that "The Director may set any such application for hearing, would it appear necessary," and if there's any question about the existence of a viable EOR, if there's any question that it still is ongoing, that the Director could call this to hearing and ask the operator to give us his reasons for that.

- Q. And then the statute provides for termination of a project. And at that point I assume the tax credit would no longer apply or the reduced tax rate would no longer apply to production from that project; is that correct?
- A. That's correct. And in the Taxation & Revenue part of these rules, there are some time frames on that and how long it would proceed.

 They're not in our rules because we didn't feel that it was appropriate for us to address

 Taxation & Revenue's rules.

- Q. In other words, you're recommending deletion of paragraph 2 under G; is that correct?
 - A. Yes. That is a Taxation & Revenue area, and we didn't feel that we ought to include that in our rules.
 - Q. Now, specifically these regulations have not addressed anything with respect to the revenue items that are contained in the Enhanced Oil Recovery Act; is that correct?
 - A. That's correct.
 - Q. Don't address tax rates and effective dates of tax rates and anything else; is that correct?
 - A. No.

- Q. The only intent is to codify in some way the process that the Division will use to certify a project to Taxation & Revenue, who is then responsible for taxing the product at the appropriate rate under the act?
- A. That's correct. And the operator, then his communications will be with Taxation & Revenue. They would be provided our certification of the project, certification of positive production response. And from that point on, their dealings are with Taxation &

Revenue until the termination of the project.

- Q. One question that's come up with respect to timing on these projects is, if I'm not mistaken, the act provides for the reduced tax rate for CO₂ projects effective immediately upon the positive production response from those projects. But for other types of enhanced oil recovery projects, the tax rate does not go into effect until January 1 of 1994; is that correct?
- A. Yes. That's in the Taxation

 Department's rules again, and we do not address
 that. But as it reads, I believe it says that
 any project that uses CO₂ could be classified as
 an enhanced oil recovery project prior to January
 1, 1994. Subsequent to that date it would be
 essentially the definitions that we've included
 in our rules -- would be subject to
 qualification.
- Q. Now, I'm going to ask you a question, and I would also like to ask Ms. Alcock, if she wouldn't mind, to express a preliminary opinion from Taxation & Revenue. But it's my understanding, and is it yours, that the Division may approve a non-CO₂ project? In other words, a waterflood or gas injection type project or

something else that doesn't immediately qualify prior to that January 1, 1994, date and can even certify a positive production response to that date, even though that production will not be allowed to receive the reduced tax rate until that date; is that correct?

A. That's my understanding. And the reason for that would be that the law went into effect on on March 6, and it doesn't give us any other determination that we can certify both the project and the positive production response.

From Taxation & Revenue it's our understanding that it wouldn't qualify, like you've said, for the reduced severance tax rate until 1/1/94.

- Q. But it's your opinion at this time it's not necessary for the Division to address that in its rules, that it's taken care of in the statute, and that an operator can go ahead and apply without risk of losing that benefit?
 - A. Yes.

- Q. Is there anything else you'd like to add to your testimony?
 - A. I think we've pretty well covered it.

 MR. STOVALL: I have no further

questions of this witness. 1 CHAIRMAN LeMAY: Would you like to 2 admit the Exhibits 1 and 2 for the record? 3 MR. STOVALL: I guess I should offer at 5 least the rules. I think the statute is self-certifying, but I will offer that for the 6 record. 7 CHAIRMAN LeMAY: Without objection that 8 evidence will be admitted into the record. 9 Questions of the witness? 10 Mr. Pearce? 11 MR. PEARCE: Thank you, Mr. Chairman. 12 EXAMINATION 13 BY MR. PEARCE: 14 15 Mr. Van Ryan, very quickly, you mentioned the C-108 application form for 16 injection and that's used also for disposal 17 18 projects. Do you envision an application form for an EOR application as well? 19 20 Α. Not at this time. We may eventually work into that, but since all these will be going 21 to hearing, we don't foresee that right now. 22 23 MR. PEARCE: I think we'd asked your 24 lawyer to pay some attention to that. We've had

several members of the association indicate that

| 1 | they think that would be helpful if the Division |
|----|--|
| 2 | could come up with some form for them to fill in |
| 3 | because the C-108 form is particularly helpful, |
| 4 | Mr. Chairman. |
| 5 | Q. Mr. Van Ryan, you mentioned several |
| 6 | times in your testimony Taxation & Revenue |
| 7 | Department rules and regulations on this. Are |
| 8 | there any yet? Do you know? |
| 9 | A. I'm not aware if they have anything |
| 10 | other than the directive from the act itself. |
| 11 | MR. PEARCE: I think that's all I've |
| 12 | got, Mr. Chairman. Thank you. |
| 13 | Thank you, Mr. Van Ryan. |
| 14 | CHAIRMAN LeMAY: Thank you, Mr. |
| 15 | Pearce. |
| 16 | Ms. Aubrey? |
| 17 | MS. AUBREY: Thank you. |
| 18 | EXAMINATION |
| 19 | BY MS. AUBREY: |
| 20 | Q. Mr. Van Ryan, you've met with Marathon |
| 21 | Oil Company representatives to discuss some of |
| 22 | the proposals that that company has suggested to |
| 23 | these rules; is that correct? |
| 24 | A. Yes, we have. |

And part of the topic or one of the

25

Q.

topics that you discussed were the additions of certain types of processes that Marathon wished to have included in the definitional section of the Enhanced Oil Recovery definition; is that correct?

A. Yes.

- Q. I understand your testimony to be that the Division intends that the definition contained in the rules, which has been marked as an exhibit, is sort of an all-inclusive definition and includes in fact processes that are not separately stated. Do I understand that correctly?
 - A. Yes, that's our interpretation.
- Q. So that I'm clear, Mr. Van Ryan, I'd like to take you very quickly through a couple of processes to make sure that we're talking about the same thing and in fact in your opinion those are included in the definition that the Division has proposed.

The first would be vertical areal conformance processes. In your opinion are those included in the general definition which is in the proposed rules?

A. Yes, I think that it could be included

1 in there.

- Q. What about cyclic injection processes?
- A. If they're a viable project, I think it could be, yes.
- Q. What do you mean by if they're a viable project?
- A. I think it depends on the testimony that the operator would present as to what they're talking about: Is it an enhanced oil recovery project?
- Q. So you wouldn't given that the broad inclusion, for instance, that you give vertical areal conformance processes?
- A. I think all of them have that same qualification. Their evidence has to be presented at hearing, and that's why we're going to request that all these go to hearing to give the operator the opportunity to justify whatever he requests.
- Q. In the opinion of the Division, are there any processes that you can articulate for me right now that would not in your opinion be included?
- A. I couldn't tell you exactly what would not be included. I think we want each operator

to feel that that he has the opportunity to justify those if something should be included.

- Q. In connection with your description of the necessity that the projects be significant, do you have an opinion as to whether or not there's any internal definition of either the amount of recovery or the number of dollars that would come up to meet the term "significant"?
- A. No. I think, as we stated earlier, some of these projects we may be looking at a 1 million barrel project, a 5 million barrel project, and it depends on the original size and the original project we're talking about.

Some of these projects may encompass one section of land. Some of them may encompass numerous sections of land. So each project has to stand on its own merits.

- Q. So there's no requirement that, as far as you know, in the Division in creating these rules, there's no intent to set a minimum number of dollars that have to be spent, a minimum number of sections that have to be covered, or a minimum amount of recovery?
 - A. No.

Q. Is the Division working with the

Department of Taxation & Revenue in coordinating with the text to not only your rules and regulations but the rules and regulations that that department would propose?

A. We have visited with members of Taxation & Revenue, given them a copy of these rules. One of the changes we suggested was the fact that their attorney had come across a discrepancy, and that's the reason we suggested this particular change.

That was the one about the deadline about filing for secondary recovery projects within five years or within seven years. So, yes, we have been working closely with them.

- Q. And have you seen any promulgated rules, any drafts of rules by that department?
 - A. No, I have not.

- Q. Mr. Van Ryan, on the last page of the proposed rules, the exhibit, there's a No. 3 under "Termination." Was there an intent to include another paragraph there that got left out?
- A. This is one that we were making notes on, and it got copied as a part of an exhibit and that was just a what if.

| 1 | MS. AUBREY: Okay. Thank you. |
|----|---|
| 2 | CHAIRMAN LeMAY: Thank you, Ms. |
| 3 | Aubrey. |
| 4 | Additional questions of the witness? |
| 5 | Commissioner Carlson? |
| 6 | EXAMINATION |
| 7 | BY COMMISSIONER CARLSON: |
| 8 | Q. Larry, is the only distinction between |
| 9 | a secondary and a tertiary project five and seven |
| 10 | years? Is that the only difference in the way |
| 11 | they're treated throughout this procedure? |
| 12 | A. Yes. I think both of them would be |
| 13 | called enhanced oil recovery projects. But the |
| 14 | only differentiation between them is the time |
| 15 | limit you have to apply for the tax |
| 16 | certification, positive production response. |
| 17 | That would be the only difference. |
| 18 | COMMISSIONER CARLSON: That's all I |
| 19 | have. |
| 20 | CHAIRMAN LeMAY: Commissioner Weiss? |
| 21 | EXAMINATION |
| 22 | BY COMMISSIONER WEISS: |
| 23 | Q. Your discussion about "significant" |
| 24 | there, I think in an effort to pin it down a bit |
| 25 | more, there may be room to add to the |

"description of the projection," (e) on page 4.

And perhaps there needs to be something in there
that describes the volume of the injector.

If it's chemical, pounds, and if it's CO₂, Mcf, in terms of not only units of that nature, but also in terms of pore volume. So this would in the past, back in the days of windfall profits tax, people would go out and whisper, for instance, "polymer" and say that was a legitimate project and they put 50 pounds or something in the well. Well, that has to be avoided.

A. Right.

- Q. And that may be then the Examiner would have access to that information, if it was in there.
 - A. [Nodded.]

COMMISSIONER WEISS: Another thing that has happened in the past and I'll share with you is by and large most of these projects are not put in, these tertiary oil recovery projects are not put in unless people are really expecting incremental oil, and that's what we want to promote.

But yet when they put them in, they

have to drill additional wells, as you mentioned, change pumps, upgrade equipment. And that's all a part of the project, and that's all part of the expense of the project. And I think any oil from that is due to that project, even though it's not a response to, say, CO₂ injection. It wouldn't have been done without it.

And then the third item that came to mind when you were reviewing this, and I don't know how you could possibly look at this. But I think that New Mexico CO₂ is a lot better than Colorado CO₂, especially if they're priced competitive. That's my only comments.

CHAIRMAN LeMAY: Thank you,

Commissioner Weiss. Just one.

EXAMINATION

17 BY CHAIRMAN LeMAY:

Q. What is the vertical areal? What was that? Can you define that for me? A question from Ms. Aubrey, she mentioned something about vertical areal something.

MR. STOVALL: Mr. Chairman, I bet Marathon would be just tickled pink to describe that for you when their time comes.

CHAIRMAN LeMAY: That would be fine.

THE WITNESS: What we talked about, which was outside the hearing, but we're talking about, my understanding, we have a flood where we have had water breakthrough already. And now water is following the same channels, and it's just coming right through the same channel and being produced. And we're really not pushing additional oil out.

What they had talked about to change this water flow pattern is a jell system that would go in and plug off this flow pattern and force the injected water then to either go up into additional zones or go out in an areal sweep to take into account oil that's been bypassed and would not normally ever be produced if the system continues to operate the way it is.

- Q. (BY CHAIRMAN LeMAY) So it's really a remedial action on an existing flood basically; is that right?
- A. Yes. And some of these processes are handled with different chemicals. They're talking about a jell system that would go in and set up to some degree and force the water out. There are other systems that use emulsions or polymers that go in and physically plug off the

| 1 | rocks in the same manner, just forcing the water |
|-----|---|
| 2 | to take different channels and increase the sweep |
| 3 | efficiency of the flood itself. |
| 4 | CHAIRMAN LeMAY: That's vertical areal |
| 5 | what? |
| 6 | MR. STOVALL: Conformance. |
| 7 | CHAIRMAN LeMAY: Performance? |
| 8 | MS. AUBREY: No. Conformance. |
| 9 | CHAIRMAN LeMAY: Conformance. Thank |
| 10 | you. |
| 11 | THE WITNESS: This has been around a |
| 12 | long time. There's been different means of |
| 13 | trying to do this from mechanical means to |
| 1 4 | chemical means. |
| 15 | CHAIRMAN LeMAY: Thank you. That |
| 16 | improves my understanding of the situation. |
| 17 | Any further questions of the witness? |
| 18 | Ms. Aubrey, you don't have any further |
| 19 | questions? |
| 20 | MS. AUBREY: I have one brief |
| 21 | question. I'd like to follow up on Commissioner |
| 2 2 | Weiss' comment regarding the response to the |
| 23 | project. |
| 2 4 | FURTHER EXAMINATION |
| 25 | BY MS. AUBREY: |

Q. Is it your understanding, Mr. Van Ryan, that it is the intent of these regulations and the intent of the legislature that oil which is recovered as a result of the drilling of new wells or the improvement in pumping equipment, that sort of thing, will also as part of the project, an EOR project, will qualify for the severance tax benefit?

A. The way the law is written, all oil from the project, once the positive production response is certified, qualifies. It's not an incremental type situation. So at the time that we have a positive production response, as defined by our rules, then all the oil from that project qualifies from that day forward for the search tax credit.

MR. STOVALL: Mr. Chairman.

CHAIRMAN LeMAY: Mr. Stovall.

MR. STOVALL: I do actually have one follow-up question just to make sure it's understood.

FURTHER EXAMINATION

BY MR. STOVALL:

Q. With respect to under the definition of the projects which qualify, I understood you to

say that just because something is not listed
doesn't mean it won't qualify; is that correct?

A. That's correct.

- Q. Conversely, however, it also means just because a process is identified doesn't mean that just simply saying you're going to use that process will qualify a project. An operator is really going to have to show what the benefits will be and how it's going to work and some substantive evidence to show why that process is being used and how it will be used; is that correct?
- A. Yes. And back to Mr. Pearce's comments, we have in effect the C-108, which does allow the operator the opportunity to know what information he does have to present from the project. We also -- that's not all definitive either in the C-108.

And what we're hoping that the operators will do, will take the hearing process, the opportunity for the hearing to justify the project. And we can't define all the methods or the means or the things that may come up here. But we will be making a judgment based on what they present at the hearings.

| 7 | Q. To touch on that since you've opened |
|-----|---|
| 2 | that up again, the C-108 may in fact be the forum |
| 3 | that's used since they have to apply for approval |
| 4 | of the project itself under the OCD rules anyway; |
| 5 | right? |
| 6 | A. That's correct, for new projects. I |
| 7 | guess the only question that would come up here |
| 8 | is what we call the expansion or pilot project or |
| 9 | something different, you still would abide by |
| 10 | almost the same rules. So if there's a doubt in |
| 11 | the operator's mind, I don't see any problem with |
| 12 | them using the C-108 as a guideline, although we |
| 13 | wouldn't require that they file that form. |
| 14 | MR. STOVALL: Nothing further. |
| 15 | CHAIRMAN LeMAY: Thank you, Mr. |
| 16 | Stovall. |
| 17 | Additional questions of the witness? |
| 18 | If none, he may be excused. Thank you, Mr. Van |
| 19 | Ryan. |
| 20 | Ms. Aubrey. Would you care to present |
| 21 | your |
| 2 2 | MS. AUBREY: Mr. LeMay, we coordinated |
| 23 | this, if it's all right with the Commission, that |
| 24 | NMOGA would put on its presentation first. |

CHAIRMAN LeMAY: Fine. I am very

impressed with the versatility of legal counsel. 1 MR. PEARCE: You haven't heard him yet, 2 Mr. Chairman. 3 CHAIRMAN LeMAY: You all get your shot at him right now. 5 MS. AUBREY: We are waiting for this. 6 MR. STOVALL: Mr. Chairman, before we 7 begin, I think we ought to take administrative 8 notice of the fact that the Chairman has 9 10 categorically stated that attorneys are not experts in anything. So we'll qualify the 11 witness initially. 12 13 CHAIRMAN LeMAY: I would be surprised if the witness would be qualified as an attorney 14 where he's sitting right now. 15 MR. PEARCE: It's good we have all been 16 17 present at the first time we have proven the 18 Chairman of this Commission absolutely wrong. WILLIAM F. CARR 19 Having been duly sworn upon his oath, was 20 21 examined and testified as follows: EXAMINATION 22 BY MR. PEARCE: 23 24 For the record, sir, would you, please, Q.

state your name and your employment?

A. My name is William F. Carr. I'm an attorney with the Santa Fe law firm, Campbell, Carr, Berge & Sheridan.

- Q. And in what capacity are you appearing before us?
- A. I'm appearing here today as a witness for the New Mexico Oil & Gas Association to propose certain amendments to the Enhanced Oil Recovery Act regulations.
- Q. Could you briefly describe for us the nature and extent of your involvement with those regulations?
- A. Well, for the past two years I've worked closely with Representative Whitaker, the bill's primary sponsor, Mr. Van de Graaff, and other industry representatives to twice secure legislative approval of this proposal.

I've also worked during the interim with legislative committees, the Department of Tax & Revenue, and the governor's office to finally also secure his approval of the bill.

I've responded to legislative inquiries, and I've testified numerous times in support of the legislation. I also worked with Jim Morrow, former Chief Engineer to the

Division, in preparing early draft regulations to implement the act.

- Q. Speaking generally, sir, do you believe that the regulations which are proposed today are in line with legislative intent and requirements as you understand them after your involvement with this process?
- A. I believe the rules as proposed and also the amendments which we are going to suggest are consistent with the act and the legislative intent as we understand it.
- Q. Thank you. You mentioned that you were appearing on behalf of the New Mexico Oil & Gas Association. Have a number of companies participated in this process with you?
- A. Tom Kellahin, Chairman of the Regulatory Practices Committee of NMOGA, circulated the proposed rules to the membership. We have received numerous comments. We also have met, reviewed proposals that were submitted by ten to fifteen companies, and have reached a consensus on the proposals which we are bringing to you today.
- Q. Mr. Carr, at this time I'd like you, please, to address your attention to what has

been marked as Exhibit 1 of the New Mexico Oil & Gas Association. First of all, generally could you describe what this exhibit represents and what information is highlighted on it?

A. What we have done is we have taken the proposed rules which were provided by the Division and in basically a legislative format have indicated certain changes which we believe clarify the rules consistent with legislative intent and would also provide guidance to operators in bringing applications to the Division.

I think it's important to note that, as we approached this, we recognize that the legislature had directed the Division to exercise its discretion in the administration of this act and develop rules consistent with it that would implement their intent.

We are before you proposing some changes even to definitions, but the changes we're proposing we contend are consistent with the legislation. And we think it's appropriate for you in developing rules to not only stay strictly with the language of the statute but also to clarify and provide guidance to the

operators who will be bringing applications to you.

One other thing is that Marathon will also be presenting testimony concerning some additional changes to the definitions. We would like it clearly understood that the New Mexico Oil & Gas Association endorses these proposals, thinks they are important, and will provide needed clarification.

- Q. All right. Let's look at the items that have been highlighted on this. And I believe the first suggested change to the proposed rule is found on page 2 in definition No. 8. Could you describe that change for us, please?
- A. What we have done here is we've made a minor wording change, which we believe clarifies the definitions to indicate that all crude oil produced from an improved enhanced oil recovery project will in fact qualify for the incentive tax rate.

There was some confusion on the part of actually a number of companies as to whether or not all production would qualify or only a percentage, the percentage that could be

attributed to the application of the enhanced recovery technique.

The changing is minor. We've inserted the word "all" before crude oil, and we've also then just expanded it, noting that this is the production from an improved project and it follows certification of the positive production response. It was simply to clarify that all production would qualify for the lower tax rate after certification.

- Q. And, Mr. Carr, were you present in the hearing this morning when Mr. Van Ryan testified?
- A. Yes. And we believe this proposal is consistent with Mr. Van Ryan's testimony.
- Q. Thank you, sir. Looking at definition No. 9 of "Secondary Recovery Project," there are a couple of proposed changes to that definition. Could you discuss those for us, please?
- A. In the second line of the definition, we have inserted the words, "the completion of." Actually including that language makes this first portion of this definition consistent with the statute. Somehow in drafting those words were omitted.

If you look at the definition of

"Tertiary Project," the second line contains

"subsequent to the completion of a secondary

recovery project." And somehow it just appears

to have been omitted. That's why we put that

back in on page 2 of the proposal.

The words, "subsequent to the completion of primary recovery," was troublesome to operators because it suggests that you could not come forward with an enhanced recovery proposal, say to implement a secondary recovery project, until you had recovered all primary production.

That clearly was not the intent of the legislation or the legislature. All evidence, all testimony showed that in fact there would be, for example, remaining primary production after a positive response was obtained and you were in the secondary phase.

For that reason, we have attempted to define "completion" with the last sentence of the definition. And we've proposed that a sentence be included in this definition and also in the definition of "Tertiary Recovery Project" that simply states, "Completion of a secondary recovery project means the date on which existing

enhanced recovery operations are supplemented or replaced by additional recovery enhancement operations as described in subpart (b) of this definition."

R

Now, if you look at just those words without referencing subpart (b), they don't say anything. But if you take it back to subpart (b), it recognizes that you're moving from one phase in the operation to another and that it qualifies, if it is consistent in accordance with sound engineering principles, a method accepted and approved by you, and can be reasonably expected to result in an increase in production and determined in light of all the facts.

Our problem is we're just trying to make it clear to an operator who will look to these rules that you don't have to have your project shut down and have exhausted your primary recovery efforts before you can go forward and bring a project to you certification. And the same basic principle applies when we look at moving from secondary to tertiary. That's the reason we've proposed this.

We further submit that it's consistent with the statute because one of the reasons for

only having a 50 percent reduction in the severance tax rate was the inherent recognition that when you're in a secondary phase, there might be some remaining primary. When you're in tertiary phase, there would be some recovery perhaps that could be obtained under only primary or secondary operations.

- Q. With regard to that, you mentioned the tertiary, that same --
 - A. It's basically the same amendment.
- Q. -- amendment is proposed for the definition No. 11; is that correct?
 - A. Yes.

- Q. All right, sir, let's turn now to page 4, please, and look at the proposed changes to D, subpart (e) as in "echo." Could you describe those for us, please?
- A. Basically this portion of the rules sets forth certain things that an application to this Division must contain. When we looked at subparts (3) and (4), capital costs of additional facilities and total project costs, it was our conclusion that this information would probably not be useful to you.

First of all, some companies may

consider it proprietary data. But aside from that, the amount invested in the project really isn't the test of whether or not you're going to have a viable project. We think the project should stand simply on the additional recovery to be obtained and not how much money is invested.

. 20

We go to the next paragraph. It is in the proposed rules, subparagraph (5). It required that an applicant submit the estimated total value of the additional production that would be recovered as a result of this project. We have proposed that you delete the words "total value of the." So it would read, "The estimated additional production that will be recovered as a result of this project."

The reason for this, I think, is simple. Again what we're talking about is trying to achieve a positive production response. This is a measurable real quantity. When you start talking about value, you get into something which is extremely speculative. To tell you or to estimate for you the total value of the additional production, one, we have to first estimate an increase in the recovery.

We then have the term "value," which is

subject to various interpretations. We wouldn't know what price to use, what escalators to apply, whether we use constant or real dollars, whether we look at a before-tax value or an after-tax value.

And the bottom line is, you would be getting -- there would be no standard way of bringing this data to you. And we would submit to you that it really would be of no value. And we believe if you amend that provision simply to require us to estimate what we believe will be the additional recovery, it gives you what is required to make your decision. And that will avoid putting together some information that would be, we submit, speculative at best.

- Q. Mr. Carr, during Mr. Van Ryan's testimony with regard to subparts (e) (1) and (2), he suggested that a list of producing wells and a list of injection wells be submitted instead. I know you have not met with the Oil & Gas Association committee. Do you see a problem with those suggested changes?
- A. No. I think that's clearly an appropriate change.
 - Q. Let me reemphasize. Do you believe

that if the list of producing wells, the list of injection wells and for a new injection project, the C-108 information is submitted along with the estimated additional production, do you believe the information necessary for the Division to make certification required under this act will be available to them without the cost information that you're suggesting be deleted?

A. Yes.

- Q. Thank you. Let's turn, please, to page No. 5, at least on your exhibit, item 5 at the top of the page. Would you describe that for us, please, sir?
- A. In that rule we've inserted after the word "technology," "or operation." Here we were hoping that the rule would suggest to an operator that they could bring all kinds of matters to you for consideration. This is not inconsistent with the statute.

Mr. Van Ryan in his testimony talked about expansion of existing projects, new methodologies. "Methodology" might be a word that could be used as well as "operation." But we believe that it signals to an operator that they could come in here with an application that

would, say, even involve a change in methodology or operation by going to an infill program. And if the program once before you stands on its merits and it can be reasonably qualified, then that's where the actual determination should be made.

The intent here simply is to clarify and let an operator know that those kinds of questions can be brought to you if the project is technically feasible and sound.

- Q. All right, sir, the next change, also subsection (5) immediately below that, will you discuss that for us, please?
- A. We think as things stand you can require anything to come to hearing. And we think that in view of the subsequent review by the Taxation & Revenue and the probable legislative review and interest in this subject, that it's appropriate that cases initially do come to hearing.

But we have suggested that wording be included that doesn't require every case forever be called to you for hearing, but would permit the Division Director to exercise discretion assuming that someday there may be a case or

perhaps many of them where they become routine in some regard and that you wouldn't need to bring the whole matter to a full-blown hearing.

- Q. Thank you, sir. There's a small change in item (e) (1) on that same page 5.
- A. When you read the statute, the words
 "approval" and "certification" and
 "qualification" are used just in a
 helter-skelter sort of way throughout the act.
 We were trying to make it easier to read, and for
 that reason we have made a couple of minor
 wording changes. That's what this is. The
 inclusion of the words "and certification" in E
 (1), and that's all that is.
 - Q. Looking at E (1), subpart (d), it appears you're suggesting the addition of a new subsection. Could you discuss that for us, please?
 - A. Under these rules an operator is required to come to you and prove that a proposal is economically reasonable. Certain members of the association were concerned that this might mean if they came to you with a pilot project that they knew up front was going to be operated at a loss, that it might be disqualified.

So what we were doing is proposing this language that provides, "If the application is for a pilot project to test the feasibility of the process in a particular reservoir, the applicant must demonstrate that upon completion of the successful pilot project, an economically reasonable expansion of the project can be expected to be implemented."

The idea there is we just wanted to be sure that we could come in to you and would be allowed to make a showing of what we would anticipate in terms of a full-scale project and that we would not be disqualified with a pilot project or with a proposal to qualify a pilot project just because the pilot alone might have questionable economics.

- Q. Thank you, sir. Again in subpart E (2) we've got some minor changes.
 - A. Again these are minor wording changes.
- Q. Okay. In that regard on the exhibit itself, it looks to me like we need to make a change in E (2). First line after the word produced, I believe that should be "from" rather than "for," in which case the "an" is correct rather than the suggested "a" where it's

grammatical?

- A. All right.
- Q. Looking at page 6, E (2), subpart (c), as in "Charles," could you discuss that proposed change with us, please.
- A. There was substantial confusion on the part of the operators who responded to NMOGA's inquiry concerning when the incentive tax rate would apply. In subpart (c) on page 6, we have proposed that the Division or the Commission delete the date the certification was made.

And so that last sentence reads, "This certification and notice shall set forth the date the positive production response occurred provided however," and it goes on. I believe what we're proposing here is consistent with Mr. Van Ryan's testimony. We think the statute is clear that the lower tax rate applies to the first day of the month following the date that this Division recognized the positive production response occurred. That's inherently a retroactive sort of a determination.

As Mr. Van Ryan noted, there may be -several months may pass before you actually are
satisfied that what you're seeing is a positive

production response. And that the operator of an approved project should not lose the benefit of the lower tax rate during those months.

2.5

This is consistent with the statute.

If you look at the statute, it's Section 5-B, it talks about getting a refund, and a refund would be for severance tax paid at full rate after the month in which the Division certifies the positive production response.

That language makes no sense if these determinations are not based on a sort of retroactive date on which you determine there was a positive production response. If the lower tax rate only applied the first day of the month following your action, the tax rate -- you'd get the determination, then the tax rate would go down and then the 25th day of the following month, or whatever it is, you would pay the tax, you would obviously be paying at the lower rate.

The refund provisions make no sense whatsoever unless, as Mr. Van Ryan indicated, you determine when the positive production response occurred the first day of the month following that -- the date you determined then triggers the lower tax rate and under the act as provided

there would be a credit for the full -- for the overpayment the refund would be in the nature of a credit.

So what we were doing in this proposed change in subsection C was trying to eliminate confusion. And the confusion was just whether or not the lower rate was after the date you found the production response occurred as opposed to the date on which you acted. So that's what that change is for.

Again on the last -- at the bottom of that page, there's just a wording change. We've just taken "certification" and changed that to "confirmation" because we have so many "certifications" in the act.

- Q. In the exhibit that's on the top of page 7, you're now referring to the proposed change in F-1 subpart (d)?
- A. Right. That's just to try not to have so many references to the word "certification."
- Q. Again you have stricken subpart (e) of that section. Could you describe that?
- A. We struck subpart (e). We think that it is unnecessary that the Oil Conservation Division has the authority do that anyway, and

1 for that reason we deleted it.

- Q. Do you have other suggested changes to the proposal?
- A. Those are the suggestions that the New Mexico Oil & Gas Association would propose to the Commission for its consideration in adopting these rules.
- Q. Once again for emphasis, other proposed changes are going to be submitted by Marathon subsequent to your testimony?
- A. And those are changes which the association endorses.
- Q. Mr. Carr, do you believe that the proposals you have made for amendment to the Division's proposed rules and procedures for qualifications of enhanced oil recovery projects and certification for recovered oil tax rate are consistent with legislative intent as set forth in the act that was submitted as Exhibit 2 to Mr. Van Ryan's testimony and consistent with Mr. Van Ryan's testimony as you understood it?
 - A. I do.
- Q. Do you request that the Division adopt the changes suggested by the Oil & Gas
 Association?

A. I do.

Q. Do you believe that ultimately approval of rules and regulations as we suggest they be amended will be in the best interests of the prevention of waste of New Mexico's natural resources and will act to protect the correlative rights of various interest owners?

A. I do.

MR. PEARCE: Mr. Chairman, at this time
I have no further questions of Mr. Carr. I would
ask the admission of New Mexico Oil & Gas
Association Exhibit No. 1.

CHAIRMAN LeMAY: Without objection Exhibit 1 will be entered into the record.

Questions of the witness? Ms. Aubrey?

I'm not sure how you're working this out.

MR. STOVALL: I'm going to let Ms.

Aubrey go first because I want Carr after she's finished with him.

MS. AUBREY: Well, I'll speed this up for all of you. It's with a great deal of regret that I say that I have no questions for Mr. Carr. I find that his presentation has been enormously helpful and, of course, Marathon supports the position of the New Mexico Oil & Gas

Association in the amendments it's proposed and will have some additional ones we'll discuss a little later.

Thank you, Mr. Carr.

CHAIRMAN LeMAY: Thank you, Ms.

Aubrey.

Your witness, Mr. Stovall.

MR. STOVALL: I think Ms. Aubrey set

Mr. Carr up by making him spend the night

worrying about the anticipated cross, but I can't

leave him alone.

EXAMINATION

BY MR. STOVALL:

- Q. Address some of your specific recommendations, Mr. Carr, on page 2, paragraph 8 of the definitions. Is it your opinion that a change to this definition by the OCD really will affect any difference in what oil qualifies?
- A. No. But I think the rules that you have been directed to develop are not just to regurgitate the statute. In another place in your rule book, by design to clarify and assist operators in bringing matters before you.

What we're proposing we think are amendments that clarify that. And if an operator

is reading the rule and wondering what oil really will qualify, we think amendment will help them understand what the intent of the rule is.

- Q. I guess my question would be: Suppose

 Tax & Rev doesn't agree and says something

 different; would our rule control?
- A. I think that's a matter would be taken up by an operator with Tax & Revenue. But I'm convinced that everything we've proposed to you is consistent with the act.
- Q. I don't disagree with your consistency. I'm not sure what good it does for the Division to tell Tax & Rev what oil qualifies. That's my concern with that.
- A. Well, I don't think you're telling Tax & Rev with your rule; the statute goes to the Taxation & Revenue Department. Your rule is pursuant to a statutory directive. You've been asked to exercise your discretion and come forward with rules that will assist in administering the act.

And there's no reason for rules if you're just going to reprint the statute. We think there's an opportunity here to provide guidance and instruction to operators who are

perhaps interested in bringing a case of this nature to you.

- Q. I've got a question with respect to your suggested changes on page 3. I understand your purpose is to recognize that it makes good sense in the oil field to start an enhanced recovery project before the prior recovery method has completely depleted its share of the oil, if you will.
 - A. Right.

Q. The first question is a real technical one as far as the definition that you've added. You've added the definition, talking about secondary recovery project, that talks about a completion of a secondary recovery project.

And I'm having a little trouble -- just seeing this for the first time, it would seem to me that that should actually mean completion of a primary project because that's what you talk about earlier in that rule.

- A. Uh-huh. Mr. Stovall, you're correct, it should say that. It should say -- well, let's see. You see, we're not keying this -- the word "completion" was a problem throughout.
 - Q. I understand.

A. We explained it at the legislature.

What we're trying to do is come up with language here that wouldn't discourage an operator from bringing a project that otherwise should be qualified under the statute.

All we're doing with this last sentence is saying that the completion of secondary recovery means --

Q. I don't have a problem with that. Let me interrupt you here because I think you're not answering the question that I'm concerned with in terms of your suggested language.

The rule talks about and the language you added at the part first of definition No. 9 --

A. Yes.

.3

- Q. -- "occurs subsequent to the completion of a primary recovery and is not a tertiary recovery."
- A. Oh, it should be "secondary." That's a drafting error.
- Q. Well, no. Secondary occurs at the completion of primary. I would think that the definition up here should be completion of a primary means the date on which --

| 1 | MR. PEARCE: May I approach the |
|-----|--|
| 2 | witness, Mr. Chairman? |
| 3 | THE WITNESS: I'm not seeing where you |
| 4 | are, Bob. |
| 5 | CHAIRMAN LeMAY: Fine. |
| 6 | MR. STOVALL: I think it's a language |
| 7 | thing. I want to make sure I understand. |
| 8 | THE WITNESS: There is a drafting error |
| 9 | in these, Bob. The error is in the sentence |
| 10 | we're proposing at the end. |
| 11 | Q. (BY MR. STOVALL) So in the No. 9 |
| 12 | A. It would be |
| 13 | Q completion of primary recovery? |
| 14 | A. That's right. |
| 15 | Q. Okay. |
| 16 | A. That's right. And the same thing |
| 17 | A. And then in No. 11 it should be |
| 18 | completion of a secondary project? |
| 19 | A. That's correct. That's correct. |
| 20 | Q. Would you have any objection if I'm |
| 21 | a little nervous about changing rules that the |
| 22 | statute has written, changing definitions. Would |
| 23 | you have any objection if those definitions were |
| 2 4 | include as a separate definitional paragraph |

within the rules?

A. No. And I'll tell you, Mr. Stovall, we had initially proposed do that. But we started looking at it, and we had a definition section.

And the first definition, if you do them alphabetically, is "completion."

And it is an odd word to be defining by statute because it's really trying to correct other definitions. And it just struck us as peculiar. And we look at the kinds of terms that are being defined: crude oil, Division, enhanced oil recovery project, and it just sort of jumped out as wrong.

Initially we had done it that way, and then we decided perhaps the best way to do it was to simply include a sentence in each of these and relate it back to subpart (b) of each of those definitions because that's where really we think the legislature told you to exercise your discretion and determine that these are valid engineering, you know, justifiable projects and there's going to be an increase.

And so that's why we placed it where we did. We think it would be helpful to have it somewhere in the rules. And if you're comfortable putting it as a separate definition,

we would be happy with that. It was just trying to address that one thing that seemed to be a source of confusion for a number of operators.

MR. STOVALL: I understand that and agree with the principles that you're asking.

Mr. Chairman, this is the first time
I've seen it. As I say, my only concern is I
always get nervous when I change a definition
that the legislature has handed me. And I would
like the opportunity either before the end of the
hearing or for a short time afterwards to review
how to accomplish what Mr. Carr seeks to do.

THE WITNESS: In that regard I would also indicate that we're not trying to change the legislature's definition.

MR. STOVALL: I understand that. I understand what you want, and I agree fully with it.

Q. I'm going over to page 4. The substantive changes are really the deletions of No. 3 and 4. Mr. Carr, isn't really one of the purposes of providing a tax incentive to encourage or to give -- if an operator has discretion as to where to spend money, to encourage the spending of that money in this

state to recover more product as opposed to spending it somewhere else?

And isn't the investment side of the project a part of the purpose of the tax incentive? The ultimate goal is to get the incentive -- is to spend money to get more oil out. But part of that incentive is to spend more money because if you don't need to spend money, you've probably got a built-in incentive to get more oil out, don't you?

A. It just seems to us that capital costs of additional facilities probably isn't going to mean much of anything to you. And it's also going to be something that is going to be subject to change.

You start implementing an enhanced oil recovery project, a waterflood project, you're not getting a response as quickly as possible or an offsetting waterflood that's been going for several years doesn't seem to be performing as hoped, and it's something you're constantly reviewing and changing.

You may want to change your injection pattern; you may want to add additional wells.

And there was real concern that this might not be

very useful to you and that what really we needed to show was not how much money we were going to invest in New Mexico, but how much additional recovery could be obtained within the state of New Mexico. And that was the reason we recommended those be deleted.

- Q. Would you have any -- perhaps you object to -- the association objects to the specific language. But given the opinion that the purpose is to encourage investment, would you be willing to submit some alternative language whereby the Division would look to ensure that in fact there was going to be some investment to do some additional recovery as opposed to -- as opposed to getting credit for something which a prudent operator would do to get additional recovery without investment?
- A. Well, we could do that. But in terms of the usefulness of that information, I don't know what it would be. You might also want us then to certify that we would be investing that money in facilities that we would purchase in San Juan County, or in the state of New Mexico as opposed to Archuleta County, Colorado.

And, you see, we get into a situation

that -- I mean we certainly will do whatever you ask us to do. But we were concerned that the information you are going to get is not going to be useful to you and that the real test here is the additional recovery, not how much a company spends to get to that point.

- Q. It's that a company spends. It's not uncommon now in secondary recovery or injection projects to come forth with some numbers and some economics; is that not correct?
- A. We could give you some general estimates.
- Q. That's all. I don't think it's a matter of requesting specific dollars and holding you to it, but rather defining that the operator is in fact making an investment.
 - A. Not just whispering polymers.
- Q. Right. That's with I'm looking for.

 Again that goes down -- when you get down to

 paragraph E in your suggested change in new

 paragraph D, you talk about economically

 reasonable expansion of the project. You do

 bring that issue up?
 - A. Yes, we do.

Q. With respect to your change in

paragraph 6 in the paragraph, first paragraph C under "Positive Production Response," you delete the language "the date the certification was made." Would you have any objection to leaving that in on the basis that that is just a simple way for the Division to ensure that the application is filed within the five- or seven-year time frame as required?

And that would be the only reason for the Division to leave it in. I understand you're trying to simplify the language, but I think there's a reason.

- A. What we're just trying to do is clarify what we understand the legislative intent to be and indicate that the tax rate, the lower tax rate keys off of the positive production response, not the date an administrative action is taken once the project has been certified.
- Q. Correct. But it's only in there for our convenience so we don't have to go look it up, I think, is what it amounts to.
- A. We prefer not to have it in, but we of course will live with whatever you tell us.

MR. PEARCE: May I jump in at this point?

MR. STOVALL: Please, Mr. Pearce.

MR. PEARCE: What you just explained about that date of certification is not what the people in the committee understood that certification date to mean. They were interpreting that to mean the date the order certifying the positive production response was issued. And you're saying that's the date the certification of an approval on the previous step.

I really at this point don't understand what certification you're talking about. The date --

MR. STOVALL: I don't understand that.

MR. PEARCE: Do you understand?

THE WITNESS: I understand we don't understand.

MR. STOVALL: I think my intent -well, there is some ambiguity here. And again,
Mr. Chairman, I think we're all in agreement on
what we're trying to do. I think the best way to
approach this perhaps would be to ask for a
little time afterwards to work out those details
because there's not a substantive disagreement.

CHAIRMAN LeMAY: We'll certainly leave

the record --

MR. STOVALL: There's some language in the statute that kind of drove this thing. I think we just need to clear it up because I think we're all in agreement.

CHAIRMAN LeMAY: We can leave the record open too for modified language changes once we get some testimony.

MR. STOVALL: Rather than beat up Mr. Carr any more about that.

MR. PEARCE: Aw, come on.

Q. (BY MR. STOVALL) Again, Mr. Carr, I assume your changes on page 7, the last changes there with respect to E, and the Division has proposed some changes in that whole area.

Obviously we've removed D, but your confirmation language would move up where we moved it.

Do you have any problem with leaving language in? I understand what you're saying about the hearing, and I don't want to get into that with you. But just adding a paragraph saying we can come back and ask for more if we don't feel you've provided us with adequate information?

A. Our only thought there is you certainly

have that authority in any event and it's
unnecessary.

MR. STOVALL: I don't have any other questions for Mr. Carr.

CHAIRMAN LeMAY: Thank you, Mr.

6 Stovall.

Additional questions of the witness?

Commissioner Carlson?

COMMISSIONER CARLSON: Yes, I have a couple.

EXAMINATION

BY COMMISSIONER CARLSON:

Q. Bill, on following up on Mr. Stovall's questions and your suggestions to delete (3) and (4) on page 4 and make some changes in (5), if you go back and read the statute and you go back to read -- well, look on page 5 on E-1 (c). The Commission is -- or the Division is required to look at least at some of the economics involved in these before they give the approval.

To me it seems it's hard to look at the economics involved if you don't have some numbers in front of you involving capital costs: Here's what we spend; here's what we're going to get back; it's economically feasible.

A. I think if the rule -- we'll come back with some alternative language if it is softened so that we can give you some general estimates, recognizing that, you know, these are our best estimates, is what we're looking at going in.

- Q. And I think that's all is asked for here in (3) and (4) and (5) also is that obviously the companies do that themselves before they get into any project. And I think all the Division is asking is that they get access to those same numbers.
- A. Recognizing that project by project the basis for generating those numbers are going to vary substantially.
- Q. Sure. Also I missed your explanation on page 5 up at the top where you added "or operation technology." Would you explain that again?
- A. We think that this is really focusing on expansion of projects. And if you take a narrow view of it, you could perhaps conclude that it is only a geographic expansion, that is, adding additional land.

The legislature also recognized, however, that a change in technology might

qualify. When Mr. Van Ryan was testifying, he said technology or methodology. The rule is not and this change is not designed to enlarge the statute. But the rule will be going to operators who will be trying to determine what kinds of projects they might be able to bring to you.

or, to use Mr. Van Ryan's words, "or methodology," it softens it up somewhat so that if an applicant has an infill program, something of that nature which on its own merits, after being reviewed by you that you might qualify, this sort of signals to them that they ought to bring it in and let you take a look at it.

So that's what we were attempting to do, Gary, was open this up and just -- not change the statute but suggest to an operator that if you've got a substantial change in operations that meets the test of the act, that you can at least bring them to the Division for consideration.

Q. I guess that's what concerned me about your statement. Are you inferring that an infill drilling program would qualify as an enhanced oil recovery project?

| 1 | A. No. I'm telling you that it shouldn't |
|----|--|
| 2 | on the face of the subject be disqualified. And |
| 3 | that if there is an appropriate case that at |
| 4 | least the operator could bring it in and you |
| 5 | could then tell them, looking at the particular |
| 6 | facts, whether you believe it fits or not. |
| 7 | Q. You're saying it might qualify? |
| 8 | A. I'm saying that there are circumstances |
| 9 | in which it might. |
| 10 | MR. PEARCE: Point of clarification. |
| 11 | Infilling a secondary or tertiary project, not |
| 12 | infilling primary project. |
| 13 | COMMISSIONER CARLSON: Not infilling |
| 14 | itself being an enhanced recovery project. |
| 15 | MS. AUBREY: If I may, Mr. Carlson, |
| 16 | Marathon is going to put on a presentation which |
| 17 | I think will clarify that distinction for you. |
| 18 | COMMISSIONER CARLSON: Okay. |
| 19 | THE WITNESS: One of the problems with |
| 20 | being a witness is your attorneys keep trying to |
| 21 | testify. |
| 22 | MR. STOVALL: Debbie, please save that |
| 23 | tape. |
| 24 | COMMISSIONER CARLSON: I don't have any |

more questions.

CHAIRMAN LeMAY: Commissioner Weiss?

COMMISSIONER WEISS: I have no

questions.

CHAIRMAN LeMAY: Maybe I have one, just clarification.

EXAMINATION

BY CHAIRMAN LeMAY:

Q. Mr. Carr, you were there, I think, at the hearing when Representative Max Coll asked me what's to prevent, I guess, the Division from qualifying projects that he felt probably shouldn't be qualified. He knew a little about oil and gas. And he was inferring, I think, that when you put a few bucks out there and expect a big tax credit what's going to prevent that?

I think my response was, of course, the integrity of the Division and things of that nature. But getting back to items (3) and (4) on page 4, I know you're going to submit some additional information, but I hope maybe in doing that, recognizing the Division probably has some problems or at least will have the duty of relating the degree of capital investment with the amount of production response they receive.

And you can visualize, or I think we

all can visualize situations where there would be some production response, maybe minor, by doing a very minor thing. Would that be something you think the legislature envisioned qualifying for a tax credit? Or was your impression they were looking for something in a more substantial nature? By substantial, I mean cost investment-wise.

A. I don't know if I can speak to what the intent of the legislature was on that point or if anyone could. I think the kinds of projects we were discussing with them were projects that involve substantial capital investment and substantial return.

And so I think that whether there was any overall legislative consensus, I believe in your comments and ours to Representative Coll and others we were talking about fairly substantial projects.

Q. I guess my only question or thought on that matter was, when you do supply additional information under item C, page 4, would it be possible to bring in that concept to some extent? My fear, as Commissioner Weiss' comment was earlier about whispering polymer. I mean, we

were involved, all of us I think, when we had tiers of prices for oil and the gimmicks that were used in the oil patch to get additional prices.

And if there could be qualifying language somehow that would -- you're not going to eliminate that, but at least show the intent not to have those types of projects qualifying.

- A. We can certainly work on additional language that adds to that point if you would like. And I am certain that the legislature was intending for you to stand there and prevent those projects that weren't really appropriate.
- Q. Right. And tying that to items (3) and (4), this has been brought up by everyone who's questioned you, I think the Examiners will need some costs, estimated costs. And somehow the costs, the cost benefit ratios, if possible. I think things like that are pretty important in qualifying enhanced projects that would be certified.

MR. STOVALL: Mr. Chairman, if I might jump in, and perhaps you've just hit on the word that will help with the language. If something like "projected costs" or "estimated costs" so it

gets you off that concern, it sounds like you have, about locking an operator into an investment level.

CHAIRMAN LeMAY: Again I'd like to stress somehow the cost benefit ratio, the idea if something is done, that the response should somehow just economically -- and we're charged with that responsibility -- somehow relate the response -- somehow relate to the costs that have been made and not used as a gimmick to get additional tax relief that isn't justified by the level of investment.

THE WITNESS: We'll work on some additional language.

CHAIRMAN LeMAY: Thank you, Mr. Carr.

CHAIRMAN LeMAY: Mr. Weiss?

COMMISSIONER WEISS: One more comment along those lines. I believe there's published information from the accounting firms as to operating costs and driling costs, which is public knowledge. There is no public knowledge on EOR costs, so it does have to be addressed.

THE WITNESS: Okay.

CHAIRMAN LeMAY: Additional questions of the witness?

Ms. Aubrey?

MS. AUBREY: Thank you, Mr. LeMay.

EXAMINATION

BY MS. AUBREY:

- Q. Mr. Carr, in talking about the inclusion of the completion language in the secondary recovery project portion on page 2, I wondered if given the problems that we're having with the word "completion," would it meet the intent of the association to use the words "subsequent to the conclusion of" as opposed to "completion of"?
- A. And actually that would be -- would have been preferable language. Unfortunately the word "completion" is in the act. And so to not be in the position of rewriting the statute, we thought it was appropriate to leave "completion" in and change it.

Certainly as the bill was presented, the conclusion of one phase before you moved into the other was what everyone was talking about.

Q. If, as Mr. Stovall suggested, it might be possible to move your language to a separate definitional section, would it meet the intent of the association to define completion in this

context as the conclusion of one phase prior to moving to the other?

- A. My understanding of the comments at our meetings, yes, that would meet the intent.
- Q. You were asked some questions by Mr. Carlson about the addition of the words "or operations" on page 5. And you were asked about the example of infill drilling.

Would the change in pattern alignment, of pattern realignment of an existing project, in your opinion be an example of the kind of operations that you were intending to cover here by the addition of those words?

A. That could be. And it depends on what the objective is. And I think the critical thing there is that the rule is just to open the door so that these things can be brought in on a case-by-case basis, and then it can be placed in the discretion of the Division to determine if looking at the statute if in fact this is a qualifying project.

MS. AUBREY: Thank you, Mr. Carr.

CHAIRMAN LeMAY: Additional questions

of the witness? Your last chance at this guy.

MR. STOVALL: We may recall him.

| 1 | CHAIRMAN LeMAY: He may be excused. |
|-----|---|
| 2 | Let's take about a 15-minute break. |
| 3 | [A recess was taken.] |
| 4 | CHAIRMAN LeMAY: We shall resume. |
| 5 | Ms. Aubrey. |
| 6 | MS. AUBREY: Thank you, Mr. LeMay. I'd |
| 7 | like to call my first witness, Mr. Ron Smith. |
| 8 | RON SMITH |
| 9 | Having been duly sworn upon his oath, was |
| 10 | examined and testified as follows: |
| 11 | EXAMINATION |
| 12 | BY MS. AUBREY: |
| 13 | Q. Would you state your name and your |
| 14 | employment for the record, sir? |
| 15 | A. My name is Ron Smith. I work for |
| 16 | Marathon Oil Company. |
| 17 | Q. What do you do for Marathon Oil |
| 18 | Company? |
| 19 | A. I am manager of oil recovery technology |
| 20 | in our petroleum technology center in Littleton, |
| 2 1 | Colorado. |
| 2 2 | Q. Mr. Smith, have you testified |
| 23 | previously before the New Mexico Oil Conservation |
| 2 4 | Commission? |
| 25 | A. I have not. |

| 1 | Q. Would you review your professional |
|-----|--|
| 2 | background for the Commissioners? |
| 3 | A. I have a BS degree in chemistry, an MBA |
| 4 | from the University of Colorado. I have worked |
| 5 | in the enhanced oil recovery area for |
| 6 | approximately 21 years. |
| 7 | Q. And specifically what kinds of duties |
| 8 | do you have in your job now with Marathon? |
| 9 | A. I direct a staff of about 20 people, |
| 10 | working on various aspects of enhanced oil |
| 1 1 | recovery and the implementation of those |
| 1 2 | projects, in-field operations. |
| 13 | Q. In what states do you direct those |
| 14 | operations? |
| 1 5 | A. I am the direct supervisor of these |
| 16 | people. |
| l 7 | Q. In what states does Marathon have these |
| 18 | operations ongoing? |
| 19 | A. All the way from Alaska to the North |
| 20 | Sea throughout the country. |
| 2 1 | Q. Approximately how many operations are |
| 2 2 | you talking about? |
| 23 | A. Oh, probably on the order of 15 to 20. |
| | |

Q. Mr. Smith, are you familiar with the

subject matter of today's hearing?

24

A. Yes, I am.

Q. And are you prepared to speak to

Marathon Oil Company's comments by way of

assistance to the Commission in drafting rules
and regulations?

A. Yes, I am.

MS. AUBREY: Mr. LeMay, I tender Mr. Smith as an expert in enhanced oil recovery.

CHAIRMAN LeMAY: His qualifications are acceptable.

MS. AUBREY: Thank you.

- Q. Mr. Smith, can you begin by describing Marathon Oil Company and its involvement in areas of improved oil recovery?
- A. Well, Marathon is a fully integrated oil company involved in all areas of petroleum business from exploration to marketing. We have been quite active in all areas of improved oil recovery from the inception of a project through completion. Our work involves an integrated effort of geologists, scientists, mathematicians, engineers.

We have a strong effort on reservoir management including reservoir characterization, an important part of any EOR project, reservoir

engineering, simulation of projects. We have been involved in all areas of EOR from chemical, thermal, gas injection, and conformance improvement.

We are also active in the areas of operations including well stimulation, improved well completions, and the use of horizontal wells. We do have a technology center in Littleton, Colorado. We employ 270 people at the center.

We are involved in the production, exploration, refining, and marketing areas. And the budget of this center is approximately \$30 million a year. I might make a point here that much of that \$30 million is used in developing technology which will be utilized in these EOR projects.

- Q. Let me have you help me with some definitions briefly. Mr. Smith, you spoke of conformance improvement. Could you tell me what that means?
- A. Conformance improvement is the use of a substance, perhaps an aqueous polymer solution or a foam, to improve the distribution of dry fluids within a reservoir.

- Q. And that's an area in which Marathon
 Oil Company has specific experience and
 expertise; is that correct?
 - A. That's correct.

- Q. Mr. Smith, you put together a booklet of exhibits for the Commission. Would you turn first to what is marked as your Exhibit 1-A and review that exhibit for the Commissioners.
- A. This exhibit was simply intended to point out that Marathon has been very active in chemical enhanced oil recovery. If you look at the total of the chemical EOR as of 1988, the most recent data we were able to acquire for the industry, Marathon produced roughly one-third of the total oil produced by chemical EOR in the US.
- Q. Let me have you look now at Exhibit 1-B, which is a pie graph entitled, "Remaining Oil Resource After Conventional Recovery." Can you explain the colors and the relationship of that figure for me?
- A. Yes. Quickly going over it, this is simply the present status of the US oil reserves. The green pie segment represents cumulative production to date. The pink and red

represent production that is expected before operations cease. And the remaining white and blue segments represent oil that will not be recovered under current operations.

The point I want to stress is that of that 66 percent of the oil in place that will not be recovered by current methods, 19 percent of that is mobile oil that is movable but is simply not produced because of conformance problems or confinement, compartment problems.

- Q. By that do you mean that the oil is physically trapped in some way?
- A. Yes. It's either trapped in compartments that are untapped by existing wells, or it is bypassed by the injection fluids that are used in the enhanced production project.
- Q. In terms of the mobile oil, what techniques in Marathon's experience are useful for recovering that oil?
- A. Of the mobile oil, a large part of it is contained in compartments within a reservoir. That type of oil can only be addressed through infill drilling or perhaps pattern realignment.
- Q. Mr. Smith, when you say infill drilling drilling, are you talking about infill drilling

for purposes of primary production or to assist with secondary production?

A. Because the compartment was prior to this operation untapped, it would be primary production from that compartment, although it may exist in a waterflood or some type of a secondary operation.

An example would be a lens that might be missed by existing wells within a waterflood.

- Q. And what do you mean by "pattern realignment"?
- A. We'll discuss that -- the next witness will discuss that in a little detail, but that would be infill drilling to shift the arrangement of a pattern oftentimes by 45 degrees.
- Q. Now, these are in your experience accepted methods of enhanced oil recovery?
- A. Yes. An example, infill drilling was studied in the Means Field in West Texas by another major oil company. And the statistical study they did indicated that by having their spacing, they increased oil recovery by 4 percent of the original oil in place. This was true incremental recovery, not just accelerated recovery.

Q. In your pie chart, which is Exhibit

1-B, you show 47 percent of this unrecovered oil

as being immobile oil. Can you explain what you

mean by that term and describe the techniques

that Marathon has found over the years are useful

and efficient in recovering that immobile oil?

A. The immobile oil, of course, exists because oil and driving fluid, being usually water or gas, are immiscible. Recovery could be improved therefor by reducing the surface forces, making the drive fluid appear immiscible with the oil by using heat to reduce viscosity and cause swelling of the oil and the use of solvents, such as the CO₂ injection process, which we are very familiar with.

These techniques are all well studied and presently being utilized by many people within the industry.

- Q. Are these techniques applicable to both producing and injecting wells, injection wells in your experience?
- A. No. I'm sorry. State the question again.
- Q. In your experience in using some of these techniques, are you talking about strictly

using them on injection wells, or are you also talking about treatments on producing wells?

- A. These last techniques, including surfactants heat and solvents, are typically used in a drive system where they're injected in an injection well and forced to a producing well. However, in some very small compartmentalized reservoirs, it is not only feasible, but has been demonstrated that cyclic processes can be effective in recovering incremental oil.
 - Q. What is a cyclic process, Mr. Smith?
- A. It's a process in which heat or gas is injected into a producing well, allowed to soak. Energy is thereby provided to the formation. The well is put back on production, and oil is displaced back into the well.
- Q. And in your experience, sir, is this an accepted method of enhanced oil recovery?
- A. It's a rather new technology but has been fairly widely used in the past five or six years.
- Q. Let me have you look now at your next exhibit, which is Exhibit 1-C. Can you explain the significance of that exhibit to the Commissioners?

A. 1-C demonstrates the concept of areally bypassed oil, areal conformance problems. The example here shows that either because of heterogeneities in the reservoir or viscosity differences between the drive fluids, oil left in corners of the pattern is left unproduced.

- Q. And what technique would you be speaking to in describing how you would recover this areally bypassed oil?
- A. Techniques such as mobility control using polymers in a waterflood operation, perhaps foam in a gas injection project. A technique that we have found quite efficient is the use of conformance treatments in which some of these channels are blocked by a rather permanent chemical solution.

And, lastly, infill drilling and pattern realignment. You can see in this example, if you drilled wells in the upper left corner and bottom right corner, you could tap that oil that is left unswept by this existing pattern.

Q. Let me have you look now at Exhibit

1-D, which is an exhibit which shows, graphically shows the vertically bypassed mobile oil. What

technique is useful for recovering that
particular type of oil?

- A. Again a commonly used technique is polymer injection for waterflooding operations. And more recently foams are in the process of being tested, in fact in New Mexico, for gas injection projects.
- Q. Mr. Smith, you participated in some meetings with the New Mexico Oil & Gas
 Association in connection with the comments that the association has made today on the language of the rules and regulations; is that correct?
 - A. That's correct.
- Q. And is Marathon generally in agreement with the comments made by the New Mexico Oil & Gas Association?
 - A. Yes.

- Q. So Marathon was part of that group?
- 19 A. That's correct.
 - Q. Is it correct, Mr. Smith, that because Marathon's substantial experience in enhanced oil recovery over the years, particularly in connection with some projects that Mr. Kent will be talking about, that you felt it would be helpful to the Commission to have a separate

presentation?

- A. That's correct.
- Q. Do you have anything you'd like to add to your testimony, Mr. Smith?
- A. One brief comment. The conformance treatments that I briefly mentioned in my discussions are the use of rather small slug sizes of chemicals. We will show some examples of the types and quantities of the chemicals involved. These have been quite effective, produced very significant amounts of oil.

I would say that our company and other companies have devoted a good deal of research costs to these projects with the goal being to make them very cost effective.

From prior comments, I worry a bit that we might be penalized for producing significant amounts of incremental oil without spending large sums of money on the front end. It all, I guess, boils back to what large amounts of money are considered, what the concept of large amounts of money are.

Q. Let me follow up on that a little bit,
Mr. Smith. As I understand what you're saying,
Marathon has spent a number of years doing

research and development in the area of enhanced oil recovery; is that correct?

A. That's correct.

- Q. And those years of research and development will necessarily be reflected, and the cost of doing that research and development will necessarily be reflected in the technology that Marathon is able to apply to a project today?
 - A. That's correct.
- Q. Do you believe that a company should be permitted and in fact encouraged to bring this technology to the State of New Mexico and apply for these projects even where the money has been spent over the years and will not necessarily be reflected in the actual capital outlay for a particular project?
- A. I think it should be taken under consideration.
- Q. In terms of your analysis of the proposed regulations and the statute enacted by the legislature, do you understand that it's consistent with the legislative intent to encourage efficient use of company resources in terms of not spending enormous sums of money to

recover oil which could be recovered by a company
who had performed that task efficiently and using
its prior experience?

A. Yes.

Q. Any other comments you'd like to make,
sir?

A. Just one additional comment in that
regard. The use of such technology that might be

regard. The use of such technology that might be quite cost-effective would have the additional benefit of rather expanded use throughout the state in which operators might be able to implement this technology; whereas, they might not be able to afford the large front-end costs associated with perhaps a CO₂ project.

MS. AUBREY: Thank you, Mr. Smith.

CHAIRMAN LeMAY: Questions of the

witness?

 $$\operatorname{MR.}$$ STOVALL: I assume Mr. Pearce doesn't have any. I've just got one.

EXAMINATION

21 BY MR. STOVALL:

Q. I assume that you and your company are prepared to come down and discuss the specific application of this process to a specific project at the time you seek certification and approval

| 1 | of that specific project; is that correct? |
|-----|---|
| 2 | A. Yes, we will. |
| 3 | MR. STOVALL: Thank you. |
| 4 | CHAIRMAN LeMAY: Additional questions? |
| 5 | Commissioner Carlson. |
| 6 | COMMISSIONER CARLSON: Is your next |
| 7 | witness going to address the specific language |
| 8 | changes you're talking about? |
| 9 | MS. AUBREY: Yes, Mr. Carlson, he will. |
| 10 | COMMISSIONER CARLSON: Thank you. No, |
| 11 | I don't. |
| 12 | CHAIRMAN LeMAY: Commissioner Weiss? |
| 13 | COMMISSIONER WEISS: Yes, I have a |
| 14 | couple. |
| 15 | EXAMINATION |
| 16 | BY COMMISSIONER WEISS: |
| 17 | Q. How do you determine compartments? How |
| 18 | do you locate them? |
| 19 | A. That is not an easy task, of course. |
| 20 | There are several techniques that are being |
| 21 | attempted to be used now, including some high |
| 2 2 | resolution seismic techniques, both downhole as |
| 23 | well as high resolution 3-D surface seismic. |
| 2 4 | Sometimes you can also determine |
| 25 | boundary effects in pressure transient tests. |

And sometimes a simple good geological model will give you a clue as to the areas where these compartments may be located.

Q. Do you envision this as a type of information that will be presented to an Examiner?

- A. If that information is available and for you to have reason to believe or for the department to believe that it would provide incremental recovery, I think that type of information would have to be provided, yes.
- Q. And another similar question, how do you determine areally or vertically bypassed oil?
- A. Well, we oftentimes infer it from production logs run on injection and producing wells. We see what zones the oil or the fluids are being produced from and thereby infer the zones that are not being swept. That's in the case of the vertical sweep efficiency.

Areally, one of the techniques that we commonly use is the use of tracers, chemical tracers. And by modeling the tracer response, you can at least estimate the areal sweep efficiency of the drive process.

Q. Is this the kind of thing again that

you envision being presented to an Examiner? 1 2 Α. Yes. And then, lastly, what are Marathon's Q. 3 EOR plans for New Mexico? I think the next witness will address 5 that in a little more detail. But the 6 conformance improvement treatments, we have some 7 definite plans in that area. I believe we have 8 some waterfloods that are planned. And we will 9 10 at least be participating in unit operations in almost all of the EOR techniques that I have 11 discussed today. 12 Thank you. And Marathon's expertise in 13 Q. EOR is certainly recognized, well-known. 14 15 Α. Thank you. 16 EXAMINATION BY CHAIRMAN LeMAY: 17 Mr. Smith, were you part of any 18 legislative hearings in the enactment of this 19 bill? Did you take part in any of the hearings, 20 or were you there? 21

A. I did not.

22

23

24

- Q. Do you feel qualified to comment on the legislative intent with the act, not being there?
 - A. I have studied the act, have reviewed

it both in the NMOGA deliberations and with our people that were involved in the hearings. And from that aspect, I do feel somewhat knowledgeable about the process.

Q. About legislative intent?

- A. No, probably not. Probably not.
- Q. Was your testimony that you felt -- I was confused. The R and D costs incurred by Marathon, the research and development, do you think that part of that should be recovered through the tax credit?
- A. No. What I was referring to in the conformance improvement treatments, for instance, that is, as you will see in the upcoming exhibits, it was a quite cost-effective process. It's cost effective based on the amount of chemicals injected and the cost of conducting the operations.

However, there was a significant amount, literally millions of dollars spent on the R and D and field testing of the process prior to that being instituted on a wide basis. So I would -- my intent was that these costs be considered when we look at the cost of the project being instituted, maybe not on a firm

dollar basis, but realizing that we have put a 1 great deal of investment into this technology. 2 CHAIRMAN LeMAY: Thank you. 3 Additional questions of the witness? If not, he may be excused. 5 Call your next witness, Ms. Aubrey. 6 MS. AUBREY: Call Craig Kent. 7 CRAIG KENT 8 Having been duly sworn upon his oath, was 9 examined and testified as follows: 10 EXAMINATION 11 BY MS. AUBREY: 12 Would you state your name and by whom 13 Q. you are employed? 14 My name is Craig Kent, and I'm employed 15 Α. by Marathon Oil Company in Midland, Texas. 16 17 Q. What's your occupation, sir? 18 I'm a reservoir engineer. Have you testified previously before 19 Q. the New Mexico Oil Conservation Commission or its 20 Division and had your qualifications accepted as 21 a matter of record? 22 23 Α. Yes, I have. 24 Have you reviewed the Enhanced Oil ο.

Recovery statute and the proposed regulations by

1 | the Division?

- A. Yes, I have.
- Q. Are you familiar with the subject matter of today's hearing?
 - A. Yes, I am.

6 MS. AUBREY: Mr. LeMay, I tender Mr. 7 Kent as an expert witness.

CHAIRMAN LeMAY: His qualifications are acceptable.

- Q. (BY MS. AUBREY) Mr. Kent, before we start with your exhibits, can you talk briefly about Marathon's enhanced oil recovery plans in the state of New Mexico specifically in connection with the rules and regulations and legislation we're discussing today?
- A. Yes, I can briefly address that.

 Marathon is currently active in implementing a number of waterflood operations in southeast New Mexico, as well as participating with other operators in unitized fields such as Arrowhead, North Monument, which have just recently come on line, as well as the vacuum field, which is scheduled to be on line or to be unitized in the near term.
 - Q. Mr. Kent, you prepared some exhibits

which are included in Marathon's booklet. In the first set, Exhibits E through I, refer to a project which Marathon conducted up in Wyoming; is that correct?

A. That's correct.

- Q. Could you review, very briefly review those exhibits for the Commissioners, and while you're doing that, relate your experience in that project to your comments on the proposed rules and regulations?
- A. Yes, I will. Exhibit E is basically a field data sheet or a summary of the Oregon Basin field in Park County, Wyoming, specifically the south dome of that field. It was discovered in 1928 and produces from primarily two formations, the Embar, which is of Permian age, and the Tensleep, which is Pennsylvanian.

The Embar would be somewhat similar in characteristics to the San Andres of the Permian Basin, being a fractured carbonate reservoir.

Originally the field was under solution gas drive with some edge water drive and is currently under waterflood operations.

As you can see, it's currently spaced on between 10 and 20 acres and occupies about

6,000 acres that are productive.

б

- Q. When you say, sir, that it's currently under waterflood, is that the only technique that's been applied to enhance the oil recovery?
- A. No. Prior to the waterflood operations, this field was under a polymer augmented waterflood to help improve sweep efficiencies.
- Q. Is that the operation in which Marathon was involved?
 - A. Yes, it is.
- Q. Let me have you look at Exhibit 1-F. We talked a little bit about the costs of enhanced oil recovery. And there have been some questions from the Commissioners. Can you use this exhibit to help explain Marathon's position on cost and the efficiency of some of its techniques?
- A. Yes. Basically this exhibit is a description of jell conformance treatments that we've performed in the Oregon Basin field since 1984. To date we've performed 39 such treatments at a cost of \$1.8 million, pumping almost half a million barrels of jell, and recovering approximately 4 million barrels of oil that would

1 have otherwise been left in the reservoir.

- Q. The 4 million barrels of oil, approximately 4 million that's shown on your exhibit, is that the incremental recovery?
 - A. That is the incremental recovery.
 - Q. The additional recovery?
 - A. That's correct.

2 1

- Q. There have been some questions about some problems in the past in terms of whispering polymer. Can you talk about how Marathon's injection of, I believe you said, half a million barrels of jell is a substantial project?
- A. Basically, if you break that down, we're pumping approximately 12,000 barrels of jell per job. So we're not -- we're trying to contact an area that's significantly out away from the wellbore, probably not on a reservoir type scale, but certainly more than just pumping in a couple of barrels of jell and calling it good.
- Q. Would this exhibit be typical, although not identical to, but typical of the type of project that Marathon is talking about particularly in terms of jell conformance treatments and its desire to add that type of

treatment to the definitional section of the regulations?

A. Yes, it is.

- Q. Do you have any other comments to make on Exhibit 1-F, Mr. Kent?
- A. I guess basically we believe that it is intended that the state is wanting us to come forth with projects that will recover more oil and also do that in an efficient manner, whether that may be by any type of low cost method or not necessarily low cost, but lower cost when compared to large scale CO, floods.
- Q. Do you know, sir, whether or not, for instance, the jell conformance treatment method is generally lower cost than a CO₂ flood?
 - A. Yes, it is.
- Q. Do you have any other comments about that exhibit, sir?
- A. No, I don't.
 - Q. Let's move on to your Exhibit 1-G. Can you explain that to the Commissioners?
 - A. Basically Exhibit 1-G is just a simple diagram of what is required to perform one of these jell conformance treatments. An aqueous polymer solution is mixed with a chromic

crosslink solution whose concentration is controlled by a metering pump and is then mixed in a static mixer and pumped downhole.

And generally these treatments take anywhere from several days to several weeks depending on the slug size as well as the reservoir characteristics.

- Q. Now, Mr. Kent, Exhibit 1-H graphically shows the Oregon Basin field in Wyoming that you were discussing earlier; is that correct?
 - A. That is correct.
- Q. What are the red squares on that exhibit?
- A. The red squares indicate five particular injection wells that we performed conformance treatments on to try to improve the sweep efficiency of a polymer flood. At this time when these conformance treatments were done, the field was under active polymer flood.

And what we had seen happening was we were having channels due to natural fracturing where our injected fluid was essentially going straight from an injection well to a producing well and not contacting very much reservoir area at all.

- Q. Now, the yellow area on that exhibit, is that -- what is that?
 - A. The yellow area is the area in which we saw a positive response from these jell conformance treatments.
 - Q. So that's not a unit boundary or some artificial designation?
 - A. No. This is just a portion. What you see in this map is just a portion of the northeast part of the south dome. As I said, the yellow portion is just the area that saw a positive response.
 - Q. And that's the area which saw a positive response from these five wells in which you treated?
 - A. That's correct.

- Q. Let me have you move on now to the next exhibit, Exhibit 1-I, which is a production graph. Can you review for the Commissioners what that exhibit shows in regards to the response to jell conformance treatments in the Oregon Basin?
- A. Yes, I can. Basically this is a production graph showing production and injection that was ongoing in the yellow highlighted area of the previous exhibit. As you can see, this

part of the field was under polymer flood, and it was down at about 600 barrels a day of production in late 1985 and proceeding on a decline of about 7-1/2 percent.

From a period from late 1985 through early 1988, five conformance treatments were done on the five wells I had indicated earlier. And initially production went from approximately 600 barrels a day to 1200 barrels a day between late 1985 and early 1896. And then as subsequent treatments were done in 1977 and again in 1988, there were similar responses seen.

Two interesting things to note that while our oil production increases, or increased, we were able to maintain injection rate and also see a dramatic decline in the water-oil ratio produced at the wells.

- Q. What does that tell you, sir, about whether or not the oil you were producing was in fact incremental oil which would not otherwise have been recovered?
- A. Basically it says that we were able to divert the water that was channeling from injector to producer to contact more of the reservoir area.

- Now, this is an area that was under a 1 Q. polymer flood --2 Α. That's correct. 3 -- when you started this jell conformance treatment; is that correct? 5 That's correct. Α. So the response that you received, you 7 Q. believe, was in addition to that which was 8 attributable simply to the polymer flood? 10 Α. That's correct. And basically to quantify that value, extrapolating some of these 11
 - quantify that value, extrapolating some of these numbers, we feel that the incremental oil due to these jell conformance treatments was approximately 2.6 million barrels of oil. And I know that shown on the graph, there's a drill well in 1989. And the effects of that well were excluded from the incremental oil.
 - Q. So you did not include that additional production in calculating the incremental oil shown on the exhibit; is that correct?
 - A. No, we did not.

12

13

14

15

16

17

18

19

20

21

22

23

24

- Q. Is there anything else you'd like to say about that exhibit, Mr. Kent?
- A. Basically I think that what we tried to show is this type of a process has merit. And

what we are asking for is clarification within
the rules to state that this is a process that
will be considered by the Division.

- Q. Now, your next exhibit, sir, is Exhibit J, which appears to be discussing again the Oregon Basin field in Wyoming. Is this the same part of the Oregon Basin that we just saw?
- A. No, it's not. This portion of the field is approximately two to three miles to the southwest of the previous exhibits.
- Q. And what did you do in this southwestern area that's different than what you did in the area we just discussed?
- A. Basically what we did was take and convert several irregular patterns to more tightly spaced regular patterns by drilling infill wells and converting active producing wells to injection wells.
- Q. Was this an area that was under a waterflood or polymer flood of some kind?
 - A. Yes, it was.

Q. And your Exhibit 1-J shows the number of wells you drilled, wells that were converted, and some wells that were recompleted; is that correct?

- A. That's correct. And it also shows, as a result of this work, we recovered approximately 1.7 million barrels of oil that wouldn't have been recovered under the existing operations.
- Q. Is this the type of infill drilling pattern realignment that Mr. Smith spoke about and we've referred to previously as being a technique for enhanced oil recovery?
 - A. Yes, it is.

2.5

- Q. Now, your next exhibit, sir, shows the old pattern before the pattern realignment?
- A. That's correct. And basically what you see is that there was a rather irregular seven-spot injection pattern where one injector was surrounded by six or in some cases five producing wells. And wells were at that time on about 20-acre spacing.
- Q. And then Exhibit 1-L shows the new pattern after the pattern realignment; is that right?
- A. That's correct. And what was done was wells were drilled at infill locations. Four wells were converted to injection. And the pattern was augmented from the irregular seven-spot to a more regular and tightly spaced

five-spot pattern.

- Q. Do you have any more specific comments you'd like to make about this second technique or the exhibits showing the second technique?
- A. Yes. I think that also again under the definitions of expansion or expanded use, I think this is a technique that applies when used in a field that's currently under some sort of enhanced oil recovery.
- Q. Now, your Exhibit 1-M is a written recap of Marathon's comments on both House Bill 23 and the proposed regulations; is that correct?
 - A. That's correct.
- Q. Without reading that, I'd like to take you briefly through the specific language changes which Marathon Oil Company recommends that the Commission adopt in promulgation of the new rules.
- A. Okay.
 - Q. Let me have you go, I believe, to page 3 of that sub-exhibit and talk about the changes that Marathon Oil Company has proposed in the definition of "Enhanced Oil Recovery Project."
 - A. I think the changes we proposed are more of a clarification rather than a change of

what was proposed in the original statute. And what we would have added would be a vertical areal conformance process, cyclic injection process.

And it goes on to state, "whether this process is applied on a single-well or multiple-well basis as part of an overall development plan."

We recognize that the Division doesn't want to go on endorsing some sort of sham where somebody whispers polymer at a well and expects to get the tax break. But this should apply where an overall plan of action is demonstrated during the hearing process.

- Q. Is your Oregon Basin project an example of a project in which there is more than one enhanced oil recovery technique being used?
- A. Yes, it is. Through our exhibits you can see that we've tried waterflooding, polymer flooding, infill drilling, and pattern realignment as well as jell conformance treatments to try to maximize the recovery from this reservoir.
- Q. What is it that affects your choice of particular technique or a particular portion of a

project?

- A. Basically it has to do with the reservoir description that we're able to come up with from geologic data.
- Q. So your choice of technique would be reservoir specific and even a portion of a reservoir specific; is that right?
 - A. That's correct.
- Q. What is the intent behind Marathon's suggestion that the rule specifically state that the process be approved whether applied on a single- or a multiple-well basis?
- A. Basically there are some small reservoirs where you may only have one, two, three producing wells where some sort of a cyclic injection process may be the only way that you can undergo some sort of enhanced oil recovery.
- Q. So is it Marathon's intent that the rules encompass projects which would not necessarily be physically large but which would be designed to produce oil which would not otherwise be produced?
 - A. That's correct.
- Q. Do you have anything else you'd like to say about the proposed additional language to the

definition of enhanced oil recovery project?

A. No, I don't.

- Q. Let's move to your comments on the proposed rule on expansion or expanded use. What are Marathon's proposed exchanges for that portion of the rule?
- A. Again at the end of the definition, we would ask to add the wording, "including but not limited to the addition of infill injection and producing wells and the change of injection patterns" to the definition.
- Q. And does that take us back, sir, to Mr. Smith's exhibit, No. 1-C, which shows the oil which is left in place that is areally bypassed?
- A. That's correct. By drilling infill injection and producing wells and/or by modifying injection patterns, it's possible to change the movement of the fluids through the reservoir to recover parts of that bypassed oil.
- Q. Now, the next comment that Marathon has is on the language concerning termination of a project. Could you explain what changes Marathon would propose and the justification for that change?
 - A. Basically what we're proposing is that

the method of determining the date of determination be discussed and set out during the hearing process. And our concerns there are that there are several EOR processes that involve the injection of a slug followed by a drive fluid.

And we wanted to make sure that the rules weren't misinterpreted by operators or the Division to mean that when the slug fluid injection ceased, that the project was terminated.

- Q. So it would be for purposes of clarity to make it apparent that where the slug is followed by injection of, say, water or some other fluid that that doesn't constitute a termination of a project?
 - A. That's correct.

- Q. What time period are we talking about in terms of how long these injections would go on, not only the slug injection, but following the injection of water following the slug?
- A. If you take, for example, the case history of the jell conformance treatments, those treatments took place over maybe a three- to four-week period while water injection followed up over several years and is continuing today.

- Q. Is that part of the Oregon Basin project --
 - A. That's correct.

- Q. -- on which you've provided some information? Is it Marathon's recommendation that this be a determination or an issue that is discussed and resolved in the application process when approval is sought for the project so that at the beginning of the project everyone agrees on what the determination event will be?
 - A. That's correct.
- Q. Let me have you discuss your next proposal, which is contained on page 4 of your Exhibit 1-N, regarding the date of January 1, 1994.
- A. Again this was -- we're suggesting some added language to provide more clarity in the regulations. We are asking that some wording be added to the effect that "Non-carbon dioxide EOR projects may be approved by the Division between March 6, 1992, and January 1, 1994, even though such projects would not be eligible for the recovered oil tax rate until January 1, 1994."

 We realize it's beyond the Division's

jurisdiction to tell Tax & Revenue how to apply

the tax. But we feel that it is necessary that operators know that they can come in and get a project approved and possibly even a positive production response certified prior to that January 1, 1994, date.

- Q. Even though they would not be liable for the tax relief until after that?
 - A. That's correct.

- Q. Any other comments you'd like to make on Exhibit 1-N, Mr. Kent?
 - A. No, there's not.
- Q. Now, the last document contained in your packet of paper on jell conformance treatments, can you tell the Commission a little bit about the background of that paper and why it's been included in your exhibits?
- A. That's correct. This paper was included to provide additional information about jell conformance treatments that we've undertaken in various fields in Wyoming. The case history that I showed you is a subset of the information that is contained in this paper.

It was written by one of our engineers in our Cody, Wyoming, office along with a researcher in our Littleton technology center.

And it goes into some more detail about the types
of fluids that we used, the types and amounts of
jell that was pumped in each job, and the types
of recoveries that were expected.

MS. AUBREY: Mr. LeMay, I offer
Marathon Exhibit No. 1, and I have no more

MS. AUBREY: Mr. Lemay, 1 offer Marathon Exhibit No. 1, and I have no more questions of the witness at this time.

CHAIRMAN LeMAY: Without objection to Exhibit 1 of Marathon's, the exhibit will be admitted into the record.

Questions of the witness?

MR. STOVALL: I just have a couple.

CHAIRMAN LeMAY: Mr. Stovall.

EXAMINATION

BY MR. STOVALL:

7

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

- Q. Did I understand you correctly on 1-F that the 4 million barrels of recovery is incremental after the commencement of the jell conformance process?
- A. That's correct. It's incremental over whatever we would have recovered over waterflood or polymer flood operations.
- Q. That was about \$1.8 million investment. If I just use the \$22 a barrel price and 1.75 percent credit, or 1.875 percent credit,

you get about 1-million-6 of that back in the tax credit just off the incremental oil; is that correct, assuming -- what's the expression? subject to check? Is that the expression we've used in the past?

- A. I haven't made those calculations, but I'll trust your mathmematics on that.
- Q. Is that type of incentive necessary to get Marathon to do this type of process?
- A. I believe in the environment we're in right now with the prices of oil, constraints on capital budgets, this type of incentive would indeed provide us with additional reasons to make investments in New Mexico over, say, Texas, Wyoming or any of the other places we have operations.
- Q. Does Wyoming have a tax credit for EOR right now?
 - A. I'm not sure whether they do or not.
- Q. Do you have any idea of what the costs were on your Exhibit 1-J on your new wells and conversions? What were the costs?
 - A. I don't have that information.
- Q. Now, you indicated that what you're showing here, you have different processes in the

1 same field. Now, is Oregon Basin a single
2 operation like a unit?

- A. Yes, it is.
- Q. How big is it?
- A. In the south dome it encompasses approximately 6,000 acres. The north dome is slightly smaller but along the same magnitude.
- Q. Now, is it your interpretation and suggestion that you should get credit for all of the oil produced from the entire basin --
- A. No.

- Q. -- based upon these limits?
- A. No. And I think what we tried to show, in particular with Exhibit 1-H, I think it would only be realistic to expect to get the tax break on the area that's shown in yellow.
- Q. Okay. I just wanted to make sure. I kind of thought that's what you meant, but I wanted to make sure.
- A. Right.
- Q. You were here for Mr. Van Ryan, weren't you, this morning?
 - A. Yes, I was.
- Q. And is it your understanding that even without the language you have suggested, that

this project might qualify depending on the specifics, as your previous witness indicated you would present in specific application?

- A. Yes. I believe that according to what Mr. Van Ryan said, this type of process would be considered. We're asking for these clarifications basically to provide, in essence, a comfort level or a base of knowledge for operators to be able to say this may be a type of process that the Division will consider rather than trying to go through the broad definition and come to a particular conclusion.
- Q. I guess my only comment to you would be -- my fear would be that the more you try to define specific processes, the more likely it is that something that's not on the list wouldn't be considered. By adding little pieces here and there, you may be leaving something else out.

Again, looking at the second part of your changes on the top of page 3 on the recommendations, when you say whether the process is applied on a single-well or a multiple-well basis, you understand that in this small-well, small-project situation, it would again only apply to the area affected by that process?

A. That's correct.

- Q. And you also understand just because it's on the list doesn't necessarily mean it's approved? You would have to go drill a well?
- A. That's correct. And I think we would be trying to bring forth only projects that were viable and not just something where we were trying to get a tax break.
- Q. With respect to the termination provision amendments that you've suggested, the way your language reads, it would say that "The termination method shall be mandatory." Would you have any concern if that were changed to a "may be" --
 - A. No, I wouldn't.
- Q. -- approach where you would address a specific situation but other better-known projects, such as pure waterflood or something --
- A. That is correct. And I think what we were trying to do here, the definition is quite vague and can be interpreted several different ways. And our feeling was that the best way to approach this may have been through the hearing process.
 - MR. STOVALL: I have no further

1 questions.

CHAIRMAN LeMAY: Thank you, Mr.

3 | Stovall.

Additional questions?

Commissioner Carlson?

COMMISSIONER CARLSON: Yes.

EXAMINATION

BY COMMISSIONER CARLSON:

Q. Following up on Bob's questions on your Exhibit 1-F, and I don't think Marathon should be faulted for producing oil at lower costs than most methods, but if you look at the costs that are involved, assuming oil is \$22 and you can get \$4 million -- or 4 million barrels of \$22 oil at a cost of \$1.8 million, you're getting \$88 million for an investment of \$1.8 million. I think that's good with or without a tax credit in whatever state you're talking about. That's a pretty good return.

Going through Bob's numbers, working it out on a per-barrel basis, basically you're spending \$.45 a barrel to get \$22 barrel oil.

And if the state gives you a tax credit -- I guess it's not a tax credit -- gives you a lower tax rate, the state is essentially paying for

\$.41 of your \$.45 cost.

I don't think that was the intent of this legislation. I realize, like any tax law that if you fall into it, you're certainly going to take it. I don't know, though, if we should expand the definitions to try to include those kind of things.

- A. I guess --
- Q. I guess that's more of a comment than a question. You don't have to respond unless you want to.
- A. I guess the one piece of information that is left out of here, as the previous person testified, our R and D costs are not included in these costs, and they are significant. And also just because we're being cost-effective, we don't feel we should be penalized for --
 - Q. And I think that's a good point.
- A. -- for recovering oil in a cost-effective way.
- Q. Now, let's get on to your definition on page 3 of your Exhibit 1-M. Have you read the statute, the passed Enhanced Oil Recovery Act?
 - A. Yes, I have.
 - Q. Are you familiar with the definition in

the statute of "expansion" or "expanded use"?

A. Yes, I am.

- Q. And it basically -- I think it's identical -- well, it's not identical, but it's basically the same as the proposed rule. What Marathon is proposing, is it not, is that you have an existing waterflood project and if you realign the injection wells or do an infill drilling program within that waterflood project, then you feel that you should qualify for the lower tax rate?
- A. That's correct. But only in the area -- if you only infilled a small area of the field, only that area of the field that was affected by this project, not the entire field.
- Q. If you read the statute, which is basically your definition there without your underlying language, and you're talking the technology or process used for the displacement of crude oil from the oil well or pool classified by the Division, do you think realigning injection wells is a change in the technology or process?
- A. It's a change in the process because you're actually changing the fluid flow in the

reservoir. You may not be using any different technology. You may not be switching from waterflood to polymer flood or waterflood to CO₂ flood, but you are changing the way that the fluids are moving in the reservoir to maximize the recovery of oil from the reservoir.

COMMISSIONER CARLSON: Again I question if that's what the legislature had in mind, but we'll leave that, I guess, to the Division.

I don't have any other questions.

CHAIRMAN LeMAY: Commissioner Weiss?

EXAMINATION

BY COMMISSIONER WEISS:

- Q. What were the results of the polymer flood?
- A. To date I think in the South Oregon
 Basin we're approaching approximately recovery of
 50 percent of the original oil in place. What
 that breaks out on the polymer flood, I don't
 have those numbers. But through the entire set
 of processes we've used, we have recovered a
 substantial amount of the oil that was there.
- Q. And then I notice that you characterize the Embar at least as a naturally fractured reservoir. And I take it that perhaps is where

these conformance treatments work the best?

A. That's correct.

- Q. How did you determine it was naturally fractured?
 - A. Core and log analysis.
- Q. Did you use these processes that were discussed earlier by Mr. Smith through the seismic and et cetera?
- A. I doubt that they used the 3-D seismic type processes. I was not involved personally with these and can't particularly answer that.

 But I do know that there was --
- Q. See, do you think this would be a problem: If a person applied these relatively small volume treatments and you didn't get the response that you got at Oregon Basin because it wasn't the proper application, yet it somehow or another qualified for the reduction in the severance tax on all of the oil produced off that lease, do you see that as a problem unless it's characterized properly?

From my viewpoint, from what you've said, you guys might have been real lucky, but I don't know how it was characterized.

A. I understand that. And I think we have

the same problem with putting in a large scale 1 waterflood and seeing a minor response and having 2 that tax apply, tax break apply to a full field. 3 That's right. That's in the future. Α. I think it's something that's inherent 5 in the legislation. 6 Just another question aside from this. Q. 7 Does Marathon have a lot of opportunities to 8 produce in other states incremental oil for \$.50 9 10 a barrel? I couldn't quantify that. I couldn't 11 Α. tell you exactly where and what types of 12 opportunities we have other than what I 13 personally deal with. 14 15 COMMISSIONER WEISS: That's all my 16 questions. Thank you. CHAIRMAN LeMAY: Just one, Mr. Kent. 17 EXAMINATION 18 BY CHAIRMAN LeMAY: 19 Do you see a difference between prudent 20 Q. operations and new processes? 21 Yeah, I think there is a difference 22 23 there. It may be prudent to do one thing that

may involve the same process you're currently

using. As we've shown with realigning waterflood

24

patterns in an active waterflood, that may be a prudent operation to undertake rather than going to a CO₂ or polymer flood, which would be a new process.

CHAIRMAN LeMAY: Thank you.

Any additional questions of the

vitness?

5

6

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

MS. AUBREY: Yes, Mr. LeMay.

FURTHER EXAMINATION

BY MS. AUBREY:

- Q. Mr. Kent, if you use a technique in a reservoir and there is no positive production response, then you won't get your project certified; is that right?
 - A. That's correct.
- Q. So the legislation has a built-in safeguard there for making sure that the technique that the operator uses is a successful technique?
- A. That's correct.
- Q. And when we talk about incremental oil, isn't it true, Mr. Kent, that that incremental oil is oil that would remain in the ground without the enhanced recovery project on which the state would receive no tax at all, not a

| 1 | reduced amount, but absolutely no tax because it |
|-----|--|
| 2 | would not be produced? |
| 3 | A. That's correct also. |
| 4 | MS. AUBREY: That's all I have. |
| 5 | CHAIRMAN LeMAY: Thank you. |
| 6 | Additional questions of the witness? |
| 7 | Thank you. You may be excused. Thank you, Mr. |
| 8 | Kent. |
| 9 | At this time we'll take some |
| 10 | statements. Mr. Bohling? |
| 11 | MR. BOHLING: We don't have anything to |
| 12 | say other than Chevron would like to express its |
| 13 | appreciation for the Commission's efforts and |
| 1 4 | involvement in establishing and getting us the |
| 15 | EOR severance tax relief. |
| 16 | Also that Chevron fully supports New |
| 17 | Mexico Oil & Gas Association's testimony as |
| 18 | presented here by an extremely qualified witness |
| 19 | today. Thank you. |
| 20 | CHAIRMAN LeMAY: Thank you. I'm sure |
| 21 | Mr. Carr appreciates that too. |
| 2 2 | Ms. Alcock, do you have anything you'd |
| 23 | like to add, state, comment on with Tax & |

MS. ALCOCK: Not really. Taxation &

24

25

Revenue's position?

Revenue has reviewed the proposed rules. We have one concern which was addressed in the testimony, which was the rule at E-2 (c), to just make sure there is a clarification that the five- and seven-year period applies to the time within which application must be made as opposed to when positive production response begins.

Other than that we just believe that the rules as proposed by the Division is consistent with the statute, and we would support its adoption.

CHAIRMAN Lemay: Thank you very much. You've noticed we've not addressed the \$28 ceiling either, but that would be in your jurisdiction because many of the items of legislation, of course, would be in your jurisdiction.

MS. ALCOCK: Right. Yes.

CHAIRMAN LeMAY: Thank you.

Mr. Gray for Texaco?

MR. GRAY: I don't have any particular comments.

CHAIRMAN LeMAY: Tom, Mr. Brown, Yates Petroleum?

MR. BROWN: Mr. Chairman, I would just

echo the comments made by the gentleman from Chevron. We do appreciate the Commission's indulgence and your fair hearing and the expertise of the expert witness for NMOGA, and we do support that position.

CHAIRMAN Lemay: Thank you, Mr. Brown.

Additional statements for the record?

If not, we'll leave the record open -- two weeks enough for you guys? Okay. We'll leave it open two weeks for additional comments and clarifications and additional statements. And we thank you very much for your input in this process.

We'll take this case under advisement.

[And the proceedings were concluded at the approximate hour of 12:00 p.m.]

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Debbie Vestal, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Commission was reported by me; that I caused my notes to be transcribed under my personal supervision; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL JUNE 27, 1992.

2 1

2 2

DEBBI'E VESTAL, RPR NEW MEXICO CSR NO. 3