STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:	CASE NO. 11,826
APPLICATION OF QUAY VALLEY, INC., TO REOPEN CASE NO. 11,826 AND FOR AMENDMENT OF DIVISION ORDER NOS. R-4629 AND R-4629-A TO AUTHORIZE A TERTIARY RECOVERY PROJECT BY THE INJECTION OF MICROEMULSION IN ITS NORTH EL MAR-DELAWARE UNIT WATERFLOOD PROJECT AREA, AND TO QUALIFY THIS PROJECT FOR THE RECOVERED OIL TAX RATE PURSUANT TO THE ENHANCED OIL RECOVERY ACT, LEA COUNTY, NEW MEXICO	

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

May 4th, 2000

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner, on Thursday, May 4th, 2000, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

May 4th, 2000
Examiner Hearing
CASE NO. 11,826

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E X H I B I T S

Applicant's	Identified	Admitted
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* * *

A P P E A R A N C E S

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By: WILLIAM F. CARR

* * *

WHEREUPON, the following proceedings were had at 11:15 a.m.:

EXAMINER CATANACH: We'll call Case 11,826, the Application of Quay Valley, Incorporated, to reopen Case No. 11,826 and for amendment of Division Order Numbers R-4629 and R-4629-A to authorize a tertiary recovery project by the injection of microemulsion in its North El Mar-Delaware Unit Waterflood Project Area, and to qualify this project for the recovered oil tax rate pursuant to the Enhanced Oil Recovery Act, Lea County, New Mexico.

Call for appearances in this case.

MR. CARR: May it please the Examiner, my name is William F. Carr with the Santa Fe law firm Campbell, Carr, Berge and Sheridan. We represent Quay Valley, Inc., in this matter, and I have three witnesses.

EXAMINER CATANACH: Any additional appearances? Okay, will the three witnesses please stand to be sworn in?

(Thereupon, the witnesses were sworn.)

MR. CARR: Mr. Catanach, initially we would request that you incorporate the record of Case Number 11,826. This case was presented to the Division on August the 7th and September the 4th, 1977 [*sic*]. In that case, the Division approved a carbon dioxide enhanced oil recovery project in the north El Mar Unit.

That application and this Application are based

on the same C-108 and the data contained therein. We will not re-present the C-108 but ask that the record from the prior case be incorporated, and then with our testimony we will supplement the record to show why a microemulsion flood is appropriate for this reservoir.

EXAMINER CATANACH: Okay, at your request, Case 11,826, the record in that case will be incorporated into this case.

MR. CARR: At this time we call Mr. David Rose.

DAVID G. ROSE,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CARR:

Q. Would you state your full name for the record, please?

A. David G. Rose.

Q. And where do you reside?

A. Midland, Texas.

Q. By whom are you employed?

A. I am self-employed.

Q. What is your relationship with Quay Valley, Inc.?

A. I am a consulting landman with Quay Valley, Inc.

Q. Have you previously testified before this Division?

A. No, I have not.

Q. Would you summarize for Mr. Catanach your educational background?

A. 1971 BA graduate from New Mexico State University and an additional 18 hours of business from the University of Tennessee in Nashville.

Q. Could you review for the Examiner your work experience in the oil and gas industry?

A. Since 1979 I've been a self-employed landman. I have been also an in-house contract landman for several companies, including Exxon and Texaco, Pogo Producing, Inc.

Q. Are you familiar with the Application filed in this case on behalf of Quay Valley?

A. Yes, I am.

Q. Are you familiar with the North El Mar Unit in Quay Valley's plans to utilize microemulsion flooding in this waterflood project area?

A. Yes, I am.

Q. Are you familiar with the status of the lands in the subject area?

A. Yes.

Q. And have you prepared exhibits for presentation here today?

A. Yes, we have.

MR. CARR: We tender Mr. Rose as an expert

witness in petroleum land matters.

EXAMINER CATANACH: Mr. Rose is so qualified.

Q. (By Mr. Carr) Mr. Rose, would you briefly summarize for Mr. Catanach the history of the North El Mar Unit?

A. The North El Mar Unit was originally a voluntary waterflood unit, authorized under Division Order R-4629, dated September 13th of 1973 as to the Delaware formation.

In November of 1997, pursuant to Division Order R-4629-A, the Division order approved the institution of a tertiary recovery project in the North El Mar Unit waterflood project area by the injection of combined water, carbon dioxide and produced gas into the Delaware formation.

Q. What does Quay Valley seek with this Application today?

A. Quay Valley seeks amendment of Orders Numbers 4629 and 4629-A to authorize Tertiary recovery by the injection of microemulsion into the Delaware formation in this North El Mar waterflood project area.

Also, we seek qualification of the project for the recovered oil tax rate authorized by the New Mexico Enhanced Oil Recovery Act.

Q. Will Quay Valley, in terms of injecting the microemulsion, use the same injection wells as were

approved for the CO_2 project in 1997?

A. Yes, sir.

Q. Would you just briefly summarize the benefits that will result from the proposed microemulsion flood?

A. Primarily, it will be increased recovery from improved efficiency, and we will provide some additional witnesses with supplemental testimony as to other details of benefits.

Q. Could you summarize for Mr. Catanach initially the production history of this project?

A. Since 1973, the waterflood operations have been conducted. The total number of injection wells is 31. Presently there are 29 shut in and two active. There has been a cumulative 16.6 million barrels of water injected into the formation. The current injection rate from the two wells is 650 barrels of water per day.

There are 19 producing oil wells on the unit, 12 shut-in wells, and since the commencement of the waterflood operation in 1973, there's been 1.3 million barrels of oil recovered.

Q. Could you identify what has been marked as Quay Valley Exhibit Number 1?

A. This is the same C-108 that was presented in the 1997 hearing. To avoid confusion, we have not changed any of the data presented, the data that's presented that's

related to the CO project.

We have updated the well sheets in every well. Every updated revision has been signified with a purple tab. We will later explain, through our testimony, the differences between the CO_2 Application and what is required for implementation of the microemulsion flood.

Q. Mr. Rose, if we look at this exhibit and we go to any one of the purple tabs and take any one of the sheets, what we have done is not only placed the tab on the page, but there is sticker that has been added that actually identifies the change; is that correct?

A. That is correct.

MR. CARR: And these are more in the nature, Mr. Examiner, of clerical changes. Some of them were matters discovered by the Division during the prior review of this C-108, corrections in perforated intervals, things of that nature.

But other than that, this is the original Application, and we will explain to you now changes that are necessary for the microemulsion flood.

Q. (By Mr. Carr) Let's go to the base map of the project, which is Exhibit 1A in the exhibit book. Would you just basically identify what this is?

A. Okay, Exhibit 1A is an identification of the injection wells located throughout the unit area.

It also indicates the offsetting tracts and the offsetting operators around the unit, and it shows all wells.

Q. And this is the identical base map that was presented before; is that right?

A. Yes, that is correct.

Q. Let's go to what is behind Exhibit Tab 1B. Would you identify that, please?

A. This identifies the project area, which is the same as the unit boundary. The number of acres in the project area is 2361.16 acres.

All the injection wells are identified, whether they be shut-in injectors or active injectors. All the producing wells are likewise identified.

Q. And then the planned status for those wells in the project is also indicated; is that right?

A. That's right.

Q. What is the character of the land in the North El Mar Unit area?

A. The make-up of the land is 90 percent federal acreage and 10 percent state lands.

Q. Could you tell us who is Quay Valley? What kind of a company is Quay Valley?

A. Quay Valley is an operating company that operates numerous wells in New Mexico and Texas, west Texas.

Q. For whom does it operate?

A. They operate exclusively for the owners, Childress Royalty Company and Pansam Trust.

Q. So they're actually the operating arm for these two entities?

A. That's correct.

Q. Do they operate for any other interest owners?

A. No, sir.

Q. What percent of the working interest do they represent and have they committed to this particular project?

A. Yes, they represent 98.4 percent of the ownership in the unit, and it has been verbally committed to this microemulsion flood.

Q. Is Quay Valley Exhibit 2 an affidavit confirming that notice of this Application has been provided in accordance with Division rules?

A. Yes, it is.

Q. And to whom was notice provided?

A. All offsetting leasehold operators within one-half mile of any proposed injection well, which includes all of the unit and the boundaries of that unit, and the Bureau of Land Management and the State of New Mexico, as owners of the surface of the land.

Q. So if we take all the one-half mile areas of

review for each injection well, we actually cover the entire unit area and some acreage outside; is that right?

A. That's correct.

Q. And all those interest owners have been notified of this particular Application?

A. That's correct.

Q. Does Quay Valley also seek approval of an administrative procedure whereby additional injection and producing wells could be added to the project without the necessity of an additional hearing?

A. Yes, sir, we do.

Q. Will Quay Valley call additional witnesses to review the technical portions of this case?

A. Yes.

Q. Have you reviewed Quay Valley Exhibits 1 and 2?

A. Yes, I have.

Q. And can you testify as to their accuracy?

A. Yes, they are accurate.

MR. CARR: At this time, Mr. Catanach, we would move the admission into evidence of Quay Valley Exhibits 1 and 2.

EXAMINER CATANACH: Exhibits 1 and 2 will be admitted as evidence.

MR. CARR: And that concludes my direct examination of Mr. Rose.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Rose, this was initially unitized a long time ago; is that correct?

A. Yes, it was in 1973.

Q. And at that time, was it 100-percent participation?

A. It is a 100-percent participation unit, a voluntary participation unit.

Q. Well, you cited a number, 98.4 percent. That was the interest that was -- Tell me what that is again.

A. Those are the interests that are owned by Childress Royalty Company and Pansam Trust within the unit.

Q. Pansam? And who is the additional interest owned by?

A. The additional 1.6-percent is owned by numerous other parties, including Burlington Resources and others that I cannot recall.

MR. CARR: Mr. Examiner, the other interest owners are set out on Exhibit A. The percentages aren't there, but they are identified on Exhibit A to Quay Valley Exhibit Number 2, and it's the notice affidavit.

Mr. Catanach, it's the notice affidavit.

EXAMINER CATANACH: Exhibit A to the notice affidavit, okay.

Q. (By Examiner Catanach) Well, are those interest owners -- They're effectively committed to the unit also?

A. They will be notified pending the results of this particular hearing and order, what our plans are.

MR. CARR: They have been notified of the Application, and they will be participating in the microemulsion flood by virtue of their role in the unit.

EXAMINER CATANACH: I'm sorry, by virtue of what, Mr. Carr?

MR. CARR: Their interest in the unit, they will be in the project.

EXAMINER CATANACH: Okay, there is a --

MR. CARR: They have a hundred percent in the unit, and they will be participating as an interest owner in the unit.

Q. (By Examiner Catanach) There is an operating agreement in place for this unit?

A. Yes, sir.

Q. Okay. What happened to the CO_2 flood? Was it never instituted?

A. The CO_2 flood was not instituted within the time parameters of the original order, that's correct.

Q. Do you know why that didn't occur?

A. I think that Mr. Atnipp will be willing to explain the economic reasons of that. Primarily, I believe

it was the downturn of the oil prices, immediately after the order was granted.

EXAMINER CATANACH: Okay, I believe that's all I have of this witness.

MR. CARR: At this time, Mr. Catanach, we would call Mr. Stan Atnipp.

STANLEY L. ATNIPP,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CARR:

Q. Will you state your name for the record, please?

A. Stanley L. Atnipp.

Q. Would you spell your last name, please?

A. It's A-t-n-i-p-p.

Q. And where do you reside?

A. Midland, Texas.

Q. By whom are you employed?

A. I'm self-employed.

Q. What is your relationship with Quay Valley, Inc.?

A. I'm the co-owner of the company which will be providing the naturally occurring micro-organisms for this project.

Q. Have you previously testified before this Division?

A. No, I have not.

Q. Could you summarize your educational background for Mr. Catanach?

A. I have a bachelor's of science in petroleum engineering from Colorado School of Mines, Golden, Colorado, 1977.

Q. And since graduation, for whom have you worked?

A. I worked from 1977 to 1979 for Aminoil, USA, 1979 through 1994 for Marathon Oil, and from 1994 to current as a consulting engineer.

Q. Are you familiar with the Application filed in this case on behalf of Quay Valley?

A. Yes, I am.

Q. Are you familiar with the implementation of microemulsion projects in reservoirs like the Delaware formation in the North El Mar Unit area?

A. Yes.

Q. Are you prepared to review this proposed microemulsion project with Mr. Catanach?

A. Yes.

MR. CARR: We tender Mr. Atnipp as an expert witness in petroleum engineering.

EXAMINER CATANACH: He is so qualified.

Q. (By Mr. Carr) Mr. Atnipp, what are your responsibilities in regard to this proposed microemulsion

flood?

A. There are two of them. I reviewed the data for this project to determine both the slug size and the volume of naturally occurring micro-organisms required for an effective microemulsion flood; and the second is, I'll be responsible for maintaining the microemulsion systems as pertains to the microbes until that slug is put in the ground.

Q. Are you familiar with Quay Valley Exhibit Number 1, Form C-108?

A. Yes.

Q. And is this the same exhibit, to your understanding, that was previously presented in this case?

A. Yes.

Q. Let's take a look at what is marked as Exhibit 4 in the exhibit book, which is marked as Exhibit 1.

Would you identify that and just explain what this shows?

A. That is a typical log showing the subject Delaware interval that's going to be flooded.

And this happens to be the same interval which Quay Valley proposed to use in its waterflood and CO_2 project.

Q. And what is the current status of Quay Valley's efforts to implement a microemulsion flood in the unit

area?

A. They should be ready to begin as soon as regulatory approvals are obtained.

Q. And how long will it be until you will have a fully operational project?

A. I think it should be four to six months after receiving regulatory approvals, we anticipate to be completely operational with a full microemulsion flood, utilizing the naturally occurring micro-organisms.

Q. With a microemulsion flood, you not only have the natural-occurring micro-organisms, but you inject those with water?

A. Yes.

Q. And what is the source of the water you're going to be using in this project?

A. There will be two. One will be the Rustler formation, along with the produced water out of the unit.

Q. And what volumes does Quay Valley propose to inject?

A. On an average, around 2500 barrels of water injected per day.

Q. And the maximum daily injection rate?

A. They anticipate 3500 barrels of water injected per day.

Q. Will this be an open or a closed system?

A. Closed system.

Q. In 1997, the Division approved certain pressure limitations for the CO_2 project. What were those?

A. For the CO_2 portion it was 1160 p.s.i. surface pressure, and for the water phase of that it was 530 p.s.i.

Q. In this case, will Quay Valley need to increase the injection pressure for the project?

A. No. In fact, the 530 p.s.i. should be sufficient for initial operations for the water phase, since we will not be doing CO_2.

Q. If in fact you need to at some subsequent time increase the injection pressure, does Quay Valley propose that this increase be established by Division-witnessed step-rate tests?

A. Yes.

Q. Has there been any change in the data previously presented to this Division concerning the injection of water into these reservoirs?

A. No, not that I'm aware of.

Q. Will Quay Valley also call another witness to review the Application for qualification of this project as an enhanced oil recovery project?

A. Yes.

MR. CARR: Mr. Catanach, that concludes my examination of this witness.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Atnipp, what kind of volumes of your microemulsion are you talking about mixing with the water?

A. 150 parts per million on 1.5 million barrels of water.

Q. I'm sorry, on 1- --

A. 1.5 million barrels of water will be the slug size, and it will be 150 parts per million involved with that.

Q. What does that translate to in a volume of the actual microemulsion?

A. 9000 gallons.

Q. 9000 gallons. And will this be injected over a period of time, or what's the process?

A. Yes, the -- It should take about 15, 16 months, more than likely, to get the full slug size in. That 1.5 million will be treated with the microbes at that rate, and that will be injected into the system until that 1.5-million-barrel slug is put in the ground.

Q. And at that point there will be no more put in the ground?

A. That will be depending upon the system. As far as the slug size goes for the microemulsion, there will not be any further required for that. Bur accordingly, if we

have any scale problems or treater problems in our water, we can use that to -- at a lower rate, part per million, to continue to inject, if it's needed.

Q. Now, this isn't the first project that you guys have done in New Mexico; is that right?

A. That's correct.

Q. I believe you've worked with Devon?

A. No, Triumph and also Shahara out of Loco Hills here in New Mexico. We have several that have been approved in Texas also.

Q. Have you seen any results from these yet?

A. As far as increased oil production, no; the projects are in the early stages of that. What we have seen is a reduction in injection pressures, which indicates that we're moving more fluid at a lower pressure into the ground, which is an indication that we should be doing that in the formation as well.

Q. And again, can you just briefly explain the process, what happens in the formation to aid in the recovery?

A. What we're doing, we're doing two things. One, we're creating a surfactant in the formation itself, and so we're surfactant-flooding the formation. And that process requires that we use some of the scale in the formation as a food source.

And so we're actually removing the scale and allowing the sweep efficiency to increase, as well as producing the surfactant to help move the oil out of the formation.

Q. Have you had some successes in other states with this type of project?

A. I've got one currently going up in Garza County, and we've seen a reduction in pressure, which means we're removing the scale.

I have another one over at Mentone, Texas, that they are now currently starting to get a response, but it's only been about a year and a half since the project has initiated.

So the ultimate recovery will be determined at some later date.

EXAMINER CATANACH: Okay, I have nothing further.

H.L. ATNIPP,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CARR:

Q. Would you state your name for the record?

A. H.L. Atnipp.

Q. Do you spell your last name like the preceding witness spells his?

A. Yes, I do.

Q. Where do you reside?

A. Midland, Texas.

Q. By whom are you employed?

A. Self-employed.

Q. And what is the name of your company?

A. Just H.L. Atnipp.

Q. What is your relationship with Quay Valley?

A. We will provide the naturally occurring micro-organisms to create the microemulsion flood.

Q. Have you previously testified before this Division and had your credentials accepted --

A. Yes, I have.

Q. -- as a matter of record?

A. Yes, sir.

Q. And were you qualified as a petroleum engineer at that time?

A. Yes.

Q. Are you familiar with the Application filed in this case on behalf of Quay Valley?

A. Yes, I am.

Q. And you're familiar with their proposed microemulsion flood?

A. Yes.

MR. CARR: Are Mr. Atnipp's qualifications

acceptable?

EXAMINER CATANACH: They are.

Q. (By Mr. Carr) Initially, Mr. Atnipp, would you summarize for the Examiner the benefits that you anticipate being obtained by the microemulsion flood?

A. Yes, I can. We anticipate -- and if I may answer one of the questions that you asked, why the micro-emulsion flood in relation to the CO_2 project?

The capital expenditures, exclusive of the CO_2, for the CO_2 project was $3.5 million. The proposed capital expenditures for the microemulsion flood, exclusive of the cost of the microbes, was $3.5 million. The estimated cost of the CO_2, $20 million. The cost of the naturally occurring micro-organisms, less than a million dollars.

The additional recovery anticipated, as shown with the CO_2 project, 3.7 million barrels. The anticipated additional recovery by the naturally occurring micro-organisms, 3.7 million barrels.

Dollars relating to that, $74 million for the CO_2 project, $74 million for the microemulsion project.

Time framework, essentially the same, anticipated.

One other thing for the microemulsion flood, because those are naturally occurring micro-organisms, there are no restraints or not negatives, if you get it in

the water system, because many of the naturally occurring micro-organisms are actually utilized in water purification. There are no adverse problems if you spill it on the ground, because certain micro-organisms are used for bioremediation.

So what translates is that there are no negatives in relation ecologically by the use of the naturally occurring micro-organisms. And we specify naturally occurring, not generic [*sic*] engineered. All of ours are naturally occurring.

Q. Now, Mr. Atnipp, Exhibit Number 3, is this a copy of the formal Application of Quay Valley for qualification under the Enhanced Oil Recovery Act?

A. Yes, it is.

Q. And does this exhibit contain all the information required by the rules that implement that statute?

A. Yes, it does.

Q. And the figures and the numbers that you have just presented, are they contained and set forth in this exhibit?

A. Yes, they are.

Q. Does this exhibit also set out a production history and production forecast for gas, oil and water production from the project area, as required by the Division rules?

A. Yes, it does.

Q. And they're set out on Exhibit E?

A. Yes.

Q. And in fact, based on what you've just testified to, is it fair to say that with the microemulsion flood, you're anticipating that the results you will obtain are as good as what you would have received if, in fact, the CO_2 flood had been implemented in the project area?

A. Yes. In fact, there's a good chance that it will exceed the CO_2.

Q. In the prior hearing, the 1997 hearing for implementation of the CO_2 flood, only a portion of the unit area was designated as the area which would, in fact, derive the benefit or experience a production increase by virtue of CO_2 injection.

My question for you is, with a micro-emulsion flood, will the entire unit area benefit from the microemulsion injection?

A. Yes, it will.

Q. And do you anticipate that a positive production response or increase can be obtained throughout the entire unit area with this flood?

A. Yes.

Q. In your opinion, would approval of the Application and implementation of this flood be in the best

interest of conservation, the prevention of waste and the protection of correlative rights?

A. Yes, it will be.

Q. Have you reviewed Exhibit 3, and can you testify that it is, in fact, the Application that contains the numbers you've just reviewed with the Examiner?

A. Yes.

MR. CARR: Mr. Catanach, at this time we would move the admission into evidence of Quay Valley Exhibit Number 3.

EXAMINER CATANACH: Exhibit Number 3 will be admitted as evidence.

MR. CARR: And that concludes my direct examination of Mr. H.L. Atnipp.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Atnipp, do you know if Quay Valley will utilize all the injection wells in the project?

A. That is anticipated, yes. All of the wells that are shown as injection wells will be utilized for the injection of the water and the microbes.

Q. And essentially, does that involve starting up at the same time, or does it --

A. Well, I think as Stan pointed out, that the total process will take about six months. Currently, they have

two wells only accepting produced water. We will begin to integrate the injection into wells as they come on stream and are reworked, whatever is necessary. But we hope that within four to six months we will have all wells on injection.

I might add that the well that was referred to before is also out of the Delaware, the one that they are beginning to see some response in. It is a Delaware flood.

Q. That's the one in Texas?

A. Yes.

Q. Where do you obtain the micro-organisms?

A. Well, that's proprietary from our source, I might add, and the strains are proprietary. But I can tell you one. One of the strains came from the limestone outside of Austin at no cost. They have growth facilities, they isolate the micro-organisms.

And they're not the same micro-organisms for all -- It's not one takes care of all. They are different strains of micro-organisms, as required for, say, scale removal or paraffin removal or reduction in paraffin. It's an individual set of circumstances.

Q. So the ones you plan to inject into this flood, is it a combination of different strains?

A. Yes, it is, it is a combination, and a proprietary combination.

Q. Okay.

A. This is our -- We have been approved for three in the State of New Mexico. This will be our fourth.

EXAMINER CATANACH: I think I have everything I need.

MR. CARR: I just have one more question.

EXAMINER CATANACH: Go ahead.

FURTHER EXAMINATION

BY MR. CARR:

Q. Mr. Atnipp, you testified about the use of microemulsion being environmentally sound.

A. Yes.

Q. When you compare the product that you obtain from a microemulsion flood with the gas you would get as a result of the CO_2 project, is it easier to sell the gas or get it ready for market when you use microemulsion?

A. Well, yes. One of the problems with the CO_2 project is that you can't vent it. And therefore you have to keep reinjecting it into the formation, which substantially increases the cost. And since they can't separate it, you can't sell the gas, naturally occurring gas, from the formation.

Q. With microemulsion do you have any of those problems?

A. No, you do not have any of those problems.

CERTIFICATE OF REPORTER

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

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; 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 May 12th, 2000.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 2002