NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date MARCH 7, 1990 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
William F. Carr	Campbell and Black P.A.	Santa Fe
STEVEN S. DUNN	MERRION OIL & GAS CORP.	FARMINGTON
Jimmy Roberts	"	"
[illegible]	"	"
[illegible]	TAHOE ENERGY, INC.	Midland, Tx.
[illegible]	El Paso Natural Gas	El Paso, TX
[illegible]	Byram	Santa Fe
[illegible]	Gallegos Law Firm	Santa Fe
[illegible]	"	"
[illegible]	pro se	"
[illegible]	Chevron U.S.A.	Hobbs, NM
[illegible]	Kellahin & Snyder	Santa Fe
[illegible]	State Oil & Gas Co.	Roswell,
[illegible]	Bird Creek Resources	Santa Fe
[illegible]	Conoco, Engr	Santa Fe

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NAME	REPRESENTING	LOCATION
Bill W. Burhum	Bird Creek Resources	Tulsa, Ok
Joe D. Ramey	Siete Oil & Gas	Hobbs, NM
KEITH LOGAN	BTA OIL PRODUCERS	MIDLAND
GREG HAIR	"	"

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

CASE 9880

EXAMINER HEARING

IN THE MATTER OF:

Application of Merrion Oil & Gas Corporation for a Waterflood Project, McKinley County, New Mexico

TRANSCRIPT OF PROCEEDINGS

BEFORE: DAVID R. CATANACH, EXAMINER

STATE LAND OFFICE BUILDING

SANTA FE, NEW MEXICO

March 7, 1990

ORIGINAL

CUMBRE COURT REPORTING
(505) 984-2244

A P P E A R A N C E S

FOR THE DIVISION:	ROBERT G. STOVALL Attorney at Law Legal Counsel to the Divison State Land Office Building Santa Fe, New Mexico 87501
FOR THE APPLICANT:	B. TOMMY ROBERTS, ESQ. Post Office Box 1020 Farmington, New Mexico 87499

I N D E X

E X H I B I T S

APPLICANT'S EXHIBITS:

EXAMINER CATANACH: Call Case 9880.

MR. STOVALL: Application of Merrion Oil and Gas Corporation for a waterflood project, McKinley County, New Mexico.

EXAMINER CATANACH: Appearances in this case?

MR. ROBERTS: Mr. Examiner, my name is Tommy Roberts. I'm an attorney in Farmington, New Mexico. I'm appearing on behalf of the Applicant and I have one witness to be sworn.

EXAMINER CATANACH: Any other appearances? Would the witness please stand and be sworn in.

(Thereupon the witness was sworn.)

MR. ROBERTS: Mr. Examiner, if I might, I would like to give a brief preliminary statement. This is the third in a recent series of applications filed by Merrion Oil & Gas with respect to its operations in the Papers Wash-Entrada oil pool.

The first of those applications was an application for horizontal directional drilling pilot project in Case No. 9754, which was heard by the Examiner on September 6, 1989, and it was approved by Order No. R-9079 on December 14, 1989.

The second of the applications was an application for cooperative unit agreement in Case No.

9840, and it was heard by the Examiner on December 13, 1989, and approved by Order No. R-9090 on December 21, 1989.

I would ask the Examiner to take administrative notice of all matters of record in these prior proceedings before the Oil Conservation Division.

If you're ready, we can proceed with the testimony of Mr. Sharpe.

EXAMINER CATANACH: You may proceed, Mr. Roberts.

GEORGE SHARPE

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

EXAMINATION

BY MR. ROBERTS:

Q. Mr. Sharpe, would you state for the record your name and place of residence?

A. My name is George Sharpe; I live in Farmington, New Mexico.

Q. Who are you employed by?

A. Merrion Oil & Gas Corporation.

Q. In what capacity are you employed?

A. I'm a reservoir production engineer for Merrion Oil & Gas.

Q. How long have you been employed by Merrion?
A. For two months.
Q. What are your general job responsibilities?
A. As a reservoir engineer, to review the performance of fields and to try to optimize the ultimate recovery from those fields. And, as a production engineer, to evaluate the performance of individual wells and optimize the performance and productivity of individual wells.
Q. Are you familiar with the operations of Merrion Oil & Gas in the Papers Wash-Entrada oil pool?
A. I am.
Q. Are you familiar with the application in this case?
A. I am.
Q. Have you testified before the Oil Conservation Division on any prior occasion?
A. No, I haven't.
Q. Would you briefly describe your post-high school educational background.
A. I received a B.S. in civil engineering from Colorado School of Mines in 1980, and a master's in petroleum engineering in 1982 from Colorado School of Mines.
Q. Briefly describe your occupational

background.

A. In 1982 I went to work for Chevron USA, Inc., in Denver, Colorado. I worked as a reservoir and production engineer for four years there. Then moved to Rangley, Colorado, and worked on the Rangley waterflood CO-2 project for three years, and then moved to Bakersfield, California, and worked for a year as a reservoir engineer in Bakersfield, California, before going to work for Merrion Oil.

Q. Could you describe in a little bit more detail your past experience in waterflood projects?

A. As a gas and chemical engineer and corrosion engineer at the Rangley unit, I was responsible for monitoring corrosion, monitoring all aspects of the waterflood from the standpoint of mechanical integrity and the standpoint of the treating and implementing the waterflood.

Q. What have been your responsibilities with respect to the waterflood project which is proposed by Merrion Oil & Gas for the Papers Wash-Entrada oil pool?

A. As a reservoir engineer I justified the technical feasibility of a waterflood and I have been responsible for preparing the permit applications and preparing the AFE justification for the project.

MR. ROBERTS: Mr. Examiner, we would tender Mr. Sharpe as an expert in the field of petroleum engineering.

EXAMINER CATANACH: He is so qualified.

Q. Mr. Sharpe, briefly describe the purpose of this application.

A. The purpose of this application is to institute a waterflood in the Papers Wash Cooperative Agreement Unit Area, underlying portions of Sections 15 and 16, Township 19 North, Range 5 West, by injecting water into the Navajo Allotted 15-3 well.

Q. Have you completed and submitted to the Oil Conservation Division Form C-108 for this project?

A. I have.

Q. Now, you have before you a packet of exhibits which you intend to introduce in this case. What are the relationship of these exhibits to your C-108 application?

A. The exhibits summarize the key points of the C-108 application. In addition they go beyond that to summarize the technical feasibility of the waterflood.

Q. Do you have Environmental Protection Agency approval for the conversion of the well to an injection well?

A. No, we do not.

Q. When do you anticipate to have that approval?

A. We have submitted as of last week the EPA permit, and I am unfamiliar with their approval process, how long that will take.

Q. I want to direct your attention to Exhibit 1 in your packet of exhibits. Would you identify that exhibit and explain its relevance to this application?

A. Exhibit 1 is an index map showing the location of the Papers Wash Field to be in the northeast corner of McKinley County, approximately 20 miles west of Cuba, New Mexico.

Q. Now turn to what's been marked as Exhibit 2 and identify that exhibit.

A. This exhibit is a net pay map showing the cooperative area that has been approved for the secondary recovery projects in the field. The cooperative area has been approved by the BLM, by the State, and we anticipate approval by the BIA this morning at 10:00 a.m. The project area for the waterflood is defined in the C-108 as essentially the cooperative area.

In addition, I would like to point out on this exhibit that all wells but one well in the field

are currently shut in. The only producing well, the Navajo Allotted 15-4, is currently producing at a water/oil ratio of 120, which is marginally economic. Therefore, without the horizontal drilling which we have already drilled shown on this exhibit as 15-2H well and in addition to the waterflood, without the secondary recovery of the horizontal well in the waterflood we would be very close to terminating operations in the Papers Wash Field.

Q. Is the cooperative area co-extensive with the project area for the waterflood project?

A. Essentially, yes, it is.

Q. On Exhibit 2, the cooperative area is indicated by the bold black line, is that correct?

A. That is correct.

Q. Now, turn to what's been marked as Exhibit No. 3 and identify that exhibit.

A. Exhibit No. 3 is a cross-section through the field which illustrates what we feel the major reservoir drive mechanisms are, which enabled us to recover oil up to this point. The Entrada reservoir has a very strong water aquifer and very dead oil. Through the aquifer a bottom water drive rising through the reservoir, pushing oil to the wellbore has been the mechanism by which we've recovered

approximately 32 percent of the original oil in place to date.

With our ultimate recovery being approximately 32 percent, a great deal of the reservoir will remain unswept by the bottom water drive. Essentially what we are proposing is to realign the natural waterflood that is going on at this time and try to flood the reservoir in a side-to-side manner and increase the sweep efficiency and thus increase our recovery.

This has been done before in a high water drive or, excuse me, a field with a very active water aquifer in the Fosterton field in Oklahoma, and we feel it has application in this reservoir.

Q. Refer to what's been marked as Exhibit 4 and identify that exhibit.

A. Exhibit No. 4 is a map of our predictions of the remaining net pay after depletion from our current wells, including the horizontal well, Federal 15-2H. As the exhibit shows, there's a relatively thick column of oil, over 20-feet thick, in between our current producers or, excuse me, the current wells in the field, and we feel that by injecting into the Navajo Allotted 15-3 and eventually a couple of years down the road injecting into the Navajo Allotted 15-1,

that we can sweep through that portion of the reservoir and increase the recovery from the field.

There are several things to point out. First, the application before the Commission today is to convert the Navajo Allotted 15-3 to injection. If the project is successful and we are recovering incremental oil, we would, a year or two years down the road, like to convert the Federal 15-1 to injection, also.

Again, if it works, there's the possibility of coming over to the west side of the field and injecting into the 16-2 and the 16-1 and sweeping reserves from that side of the field, also.

Q. Exhibit No. 4A in your packet is a primary and secondary reserves tabulation. Would you describe the information relevant to this application that's depicted in that tabulation?

A. The purpose of Exhibit 4A is to summarize the benefit of the waterflood as compared to remaining primary reserves. The exhibit shows the remaining primary reserves are predicted to be approximately 92,000 barrels. The horizontal well is predicted to recover an additional 170,000 barrels, and the waterflood is predicted to recover 130,000 barrels.

The exhibit goes on to show the value of

that to the state and to the landowners and it should be pointed out that this not only protects the correlative rights but enhances those rights by increasing the recovery and increasing the value to the state and the landowners.

Q. How would you characterize the economics of operations in this Papers Wash-Entrada oil pool without the waterflood project approval?

A. Again, the only producer in the fields has a water/oil ratio of 120. We can produce that well to an economic limit of 160 water/oil ratio. Again, we are very borderline economic, and it has very high operating costs, and without the secondary recovery processes we would be very near the terminal life of this field.

Q. So, to restate your testimony, then, you're indicating that the waterflood project would potentially result in recovery of an additional 130,000 barrels of oil?

A. That's correct. It should be pointed out that that is an unrisk prediction. We feel there's substantial risk to recovering that and that is why we're conservatively going about it, converting one well at a time in evaluating the process.

Q. Now turn to Exhibit No. 5 and identify that

exhibit.

A. Exhibit 5 is a land map showing the leases within one-half mile of the Navajo Allotted 15-3. There is a circle on the exhibit, a one-half mile radius. All wells within that one-half mile area of review are within the cooperative agreement which is shown in bold line on the exhibit.

It should be pointed out that all leases that are within the area, the one-half mile area of review, except for one, and that one being New Mexico Lease 33382, which is held by Chase Oil Company, all other leases are held by the owners of the cooperative agreement, Merrion Oil & Gas and Pitco, except for the two in the south which are open. Again, the only outside operator which owns a lease within the area of review is Chase Oil Corporation.

Q. Now turn to Exhibit No. 6 and identify that exhibit.

A. Exhibit 6 is a statement whereby I notified Frank Welker, the vice-president of Chase Oil Company on March 2, 1990, and informed him of our plans to institute a waterflood. He said that he considered the telephone call adequate notice, and he had no objections to the waterflood.

Q. To your knowledge, have all notice

requirements set forth in the rules and regulations of this Division been satisfied?

A. Through this verbal notification to Chase Oil Company, and through the applications to the EPA and to the state, and copies of those applications going to the BLM, we feel we have satisfied the notification requirements of the C-108.

Q. Mr. Sharpe, who owns the surface of the lands on which the proposed injection well is located?

A. The BLM owns most of the lands. Some are Indian allotted which are under the jurisdiction of the BIA.

Q. And specifically the proposed injection well is located on Indian allotted lands?

A. That's correct.

Q. You've notified the BIA of this application?

A. The BIA has received copies of the C-108 as well as the EPA permit for this well.

Q. Let's turn to Exhibit No. 7. Identify that exhibit.

A. Exhibit 7 is a summary table showing the mechanical integrity of all wells within the area of review. It should be noted for the record that in our opinion all wells have mechanical integrity, and all

wells are cemented across the Entrada formation, the formation we're planning to inject into. We do not anticipate cross-flow from or through any of those wells.

There is more detail in the C-108 application in the form of a wellbore schematic for each well in Exhibit 7.

Q. Let's turn to Exhibit No. 8. Identify that exhibit and explain its significance to the application.

A. Exhibit 8 is a water analysis of the Entrada-produced water. Our plan is to take produced water from the Entrada formation and reinject it back into the Entrada formation, into the Navajo Allotted 15-3. We are currently disposing that water into the Gallup formation in the Navajo Allotted 15-6.

The total dissolved solids as shown on this exhibit are 4210 parts per million, indicating this is a fresh water reservoir. It should be pointed out that samples from this field and other Entrada fields which Merrion Oil & Gas operates shows that the total dissolved solids within the Entrada formation varies from 3,000 to 20,000 parts per million, and averages from 8- to 10,000 parts per million.

It should also be pointed out that the

sample that was submitted in the C-108 application of 18,000 parts per million was a sample from the Media field and it was mistakenly submitted. This is the most recent analysis from the Papers Wash Field.

Q. What is the date of this analysis?

A. The date of this analysis is January 31, 1990.

Q. Mr. Sharpe, will all of the water to be injected be from the Entrada formation?

A. Approximately 95 percent of the water to be injected would be from the Entrada formation. We would like permission from the State to inject produced water from the Mesaverde formation, also.

Q. Let's turn to Exhibit No. 9 and identify that exhibit.

A. Exhibit 9 is a water analysis from the Little Blue Federal #1, a Mesaverde producer within the cooperative area. The water analysis shows the total dissolved solids to be 7,200 parts per million, which is also less than the 10,000 parts per million criteria for fresh water. It is also less than the 8- to 10,000 parts per million average for the Entrada fields, although it's slightly greater than the 4,200 parts per million shown in Exhibit 8.

We feel there are no compatibility problems

with these waters. Less than five percent of the total volume will be Mesaverde water, and we would like permission to commingle these waters and inject them into the Entrada formation.

Q. What is the date of this analysis for the Mesaverde water?

A. It is December 22, 1989.

Q. Okay. Now turn to Exhibit No. 10 and identify that exhibit.

A. Exhibit No. 10 is a wellbore diagram of the Navajo Allotted 15-3. It should be noted for the record that there is cement from the Entrada formation all the way to surface in this subject well, behind the 7-inch production casing. Our plans are to complete the well with a 7-inch Baker Lockset Retrievable Packer at 5100 feet, and inject into the Entrada perforations from 5142 to 5148.

We will have inhibited fluid in the annular region behind the packer, and we will initially pressure test the packer tubing and casing upon initial completion and a minimum of every five years as called for in the UIC requirements.

I would also like to point out that our plans are to initially inject at 3,000 barrels per day at an anticipated surface pressure of 500 psi. We

anticipate a maximum injection rate of 6,000 barrels per day at a maximum surface pressure of 1,000 psi, which is below the fracture pressure of the Entrada formation. We do not anticipate initiating fractures within that formation.

Q. In your opinion, is the injection well adequately cased and cemented to prevent movement of formation or injected fluids from injection zones into any other zone or to the surface?

A. Yes, it is.

Q. How do you plan to assure the continued mechanical integrity of the wellbore?

A. Again, our plan is to initially pressure test the tubing, casing and packer. We will record daily rates and pressures, and on a routine basis minimum of once every five years we will re-pressure test the tubing casing in the packer.

Q. Mr. Sharpe, in your opinion, will the granting of this application be in the best interest of conservation and result in the prevention of waste and the protection of correlative rights?

A. Yes, it will.

Q. Were Exhibits 1 through 10 prepared by you or at your direction and under your supervision?

A. Yes, they were.

MR. ROBERTS: Mr. Examiner, we move the admission of Exhibits 1 through 10.

EXAMINER CATANACH: Exhibits 1 through 10 will be admitted as evidence.

MR. ROBERTS: I have no other questions on direct.

MR. STOVALL: Mr. Sharpe, I'm looking at what appears to be your C-108 packet. Mr. Roberts, I am going to hand you that and ask you to mark that, please and have the witness identify it. Here's the stamp over here if you need it.

MR. ROBERTS: Okay. I'll call this Exhibit 11.

Q. (BY MR. ROBERTS) Mr. Sharpe, I'm handing you what's been marked as Exhibit No. 11. Would you take a look at that, please, and identify it?

A. This is identified as proof of notice. It shows receipts for registered mail of sending our permit application to the various regulatory agencies as well as to Chase Oil Company.

EXAMINATION

BY MR. STOVALL:

Q. Let me ask. That is the receipt which, I assume, was prepared in your office, is that correct?

A. Yes, sir.

Q. And what date does it show the notice was given?

A. March 1, 1990.

Q. Are you familiar with the requirements for notice of the Commission?

A. I am now.

MR. STOVALL: For the record, let's specify that, that seven days probably doesn't qualify, and there is no provision for oral notice to be given under the rules or regulations. As far as I'm concerned, Mr. Examiner, the only way that could be overcome is for the parties entitled to notice to actually enter their appearance and waive any deficiency in the notice. So it appears to me that this case will not be able to be taken under advisement today, that we'll have to have the actual notice 20 days prior to this case been taken under advisement, so I'm going to recommend this case be continued to allow for adequate notice time.

If those were mailed on the 1st, I believe that means we could continue it until the 21st for notice purposes, and Mr. Sharpe or Mr. Roberts also need to provide the green return receipt cards when you receive them back, if you would.

EXAMINER CATANACH: Okay. We'll go ahead

and continue the case until the 21st.

MR. STOVALL: The other item we need to take care of, and Mr. Roberts again I'll defer to you as to how you would like to do this, but as a matter of practice there's a question as to whether the C-108 actually constitutes the application in this case and becomes a matter of the record in that manner.

Normally, as a matter of practice, and I think for convenience, it is most convenient to have that C-108 admitted as a exhibit.

MR. ROBERTS: We'll mark that as Exhibit No. 12.

MR. STOVALL: I'll give you that right now and you can have the witness identify it.

Q. (BY MR. STOVALL) Mr. Sharpe, while Mr. Roberts is doing that, do you know if that C-108 was sent as part of the package to each of the recipients on there?

A. Yes, sir, it was. Not in full. I kept out some of the detail, but the summary sheets on the wells in the area, as well as all the maps. I don't believe I sent all the wellbore schematics to every person, but I did send the application itself, as well as the major exhibits within that application. Is that adequate?

MR. STOVALL: In my opinion that would sufficiently provide them with notice of the intent of the application.

Mr. Roberts, would you like to get him to identify the C-108?

MR. ROBERTS: Yes.

FURTHER EXAMINATION

BY MR. ROBERTS:

Q. Mr. Sharpe, identify what's been marked as Exhibit No. 12.

A. Exhibit No. 12 is the C-108 that was submitted to the State of New Mexico for permission to inject water into the Navajo Allotted 15-3 in the Entrada formation.

MR. ROBERTS: Mr. Examiner, we would move the admission of Exhibits 11 and 12.

EXAMINER CATANACH: Exhibits 11 and 12 will be admitted as evidence.

MR. ROBERTS: Mr. Examiner, do you have any other questions of this witness?

EXAMINER CATANACH: Yes, I do, Mr. Roberts.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Sharpe, for what reason does your

company seek to also inject Mesaverde water into the field?

A. For the economic handling of that Mesaverde water. It is again within the cooperative area. The surface facilities are very close to the Entrada reservoir and it is the most convenient, and we feel not unsanitary way to handle the Mesaverde water to commingle and inject it.

Q. What is the source of that Mesaverde water? What wells does that come from?

A. It is from the Little Blue Federal #1. It's the current only Mesaverde well. We are currently testing that well. We're in the initial completion stages. If that well proves economic, there might be additional Mesaverde wells drilled within the field.

Q. That's within the unit?

A. I can't answer that. I don't know.

Q. The Little Blue Federal, is that within the unit?

A. Yes, sir. If you'll refer to Exhibit No. 2, it is shown on Exhibit No. 2 as LB #1 and it has the gas well symbol there. It is included in the area of review, and it is included in the application for the C-108.

Q. So you've got about 150 barrels a day coming out of that well?

A. 150 to 200, yes, sir.

Q. How long has that been producing?

A. We have tested it for 30 days and shut it in. We have reapplied to the BLM to continue the test on it.

Q. Do you have an opinion as to whether the quality of that produced water will essentially stay the same, or will it deteriorate?

A. I believe it will stay the same. When we initially perforated several zones we swab tested the individual zones separately and the quality of the water was, in all cases, below 10,000 parts per million. Whichever of those zones, we're now pump testing different zones individually, and whichever zones we eventually produce in should be a fresh water zone.

Q. Will the quality of that water be tested at some interval to make sure it's still below 10,000?

A. That's a super idea, and we will test it at least once a year.

Q. Mr. Sharpe, the only well producing currently is the 15-4, is that correct?

A. That is the only well that's currently

economically producing. The Navajo Allotted 16-1 is on production and will be shut in tomorrow. It was shown on this map as shut in because when the map was prepared it was shut in. We had it on for a short test to see if it would be economic, it is not, and we're going to shut it in.

Q. Everything besides the 15-4 is uneconomic at this time to produce?

A. That is correct. We are in the completion stages of the Federal 15-2H horizontal well. We're hoping that one will also be economic and we'll be producing it.

Q. I see.

A. I think it should be pointed out that the 15-4 is currently making about 6,000 barrels of water a day. The Federal 15-2H is also anticipated to make 5- to 6,000 barrels a day. Only a small portion of the total produced water will be reinjected back into the Entrada. The bulk of the water will still go to the 15-6 Gallup disposal well.

Therefore, whatever water we mix in from the Mesaverde will also be diluted. Only a very small portion of it will go back into the Entrada formation. We have approval to inject all produced water from the field into the Gallup.

Q. I'm not clear on something, Mr. Sharpe. Why do you feel the need to inject Mesaverde water into the reservoir if you've got enough capacity from produced Entrada water to inject?

A. It's a matter of the surface facilities. The gathering system is not isolated. We do not anticipate it to be isolated. They are common gathering and water treating facilities for the injection, and all we anticipate doing is taking a--we have excess capacity on our injection pumps. All we anticipate doing is taking a split off our injection pumps and taking it to the Navajo Allotted 15-3 for injection.

Q. Do you have a cross-section of the 2H well in this packet, or a schematic? I'm sorry.

A. A schematic of the 2H well? Mr. Steve Dunn of Merrion Oil & Gas who testified before the Commission on the 15-2H horizontal well is prepared to discuss that, if you would like to call him as a witness.

Q. Well, in the requirements to provide that information, I'm just curious as to whether it's--

A. Yes, sir, in the C-108 there is a schematic of the horizontal well. Again, we are in the completion stages. We're still cement squeezing part

of the liner on that well, and so it's a preliminary wellbore sketch for the horizontal well.

MR. STOVALL: Mr. Examiner, if I may interrupt for a second, Mr. Roberts, is that horizontal well approval, that was one of the cases you requested administrative approval for--I mean that administrative notice be taken of it?

MR. ROBERTS: That's correct.

Q. (BY EXAMINER CATANACH) Mr. Sharpe, would you be willing to provide us with a copy of that schematic whenever that well is completed?

A. Yes, sir, we would. In addition, we'll update the schematic on the Little Blue #1, which is also still in completion stages.

Q. Mr. Sharpe, is there any fresh water in this area?

A. As defined by the State as 10,000 parts per million or less, yes, there is. The Entrada is fresh, as well as the Morrison formation being fresh.

Q. The Morrison being where in relation to the Entrada?

A. The Morrison is immediately above the Entrada formation.

Q. In your opinion, is that adequately protected from any migration from the Entrada?

A. Yes, sir, in my opinion it is. Again, all the wells within the area of review are cemented completely across the Entrada up through the Morrison, as well as our injection well.

Q. Okay. You stated that your injection pressure will go between 500 and 1,000, but that was still below fracture pressure. Do you know what the fracture pressure is in the Entrada?

A. I estimate it to be 1,300 pounds at the surface, 1,300 psi. We plan on initial completion of the injection well to do a step rate test to determine exactly what that fracture pressure is, and certainly plan on staying below the fracture pressure.

EXAMINER CATANACH: I believe that's all the questions we have at this time.

MR. ROBERTS: I have no other questions.

EXAMINER CATANACH: There being nothing further in this case, Case 9880 will be continued to the March 21st hearing.

CERTIFICATE OF REPORTER

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

I, Carla Diane Rodriguez, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division 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 March 15, 1990.

Carla Diane Rodriguez

CARLA DIANE RODRIGUEZ
CSR No. 91

My commission expires: May 25, 1991

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9880, heard by me on March 7 1990.

David R. Catanach, Examiner
Oil Conservation Division

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

CASE 9880

EXAMINER HEARING

IN THE MATTER OF:

Application of Merrion Oil & Gas Corporation for a Waterflood Project, McKinley County, New Mexico.

TRANSCRIPT OF PROCEEDINGS

BEFORE: MICHAEL E. STOGNER, EXAMINER

STATE LAND OFFICE BUILDING

SANTA FE, NEW MEXICO

March 21, 1990

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(505) 984-2244

A P P E A R A N C E S

FOR THE DIVISION: ROBERT G. STOVALL
Attorney at Law
Legal Counsel to the Divison
State Land Office Building
Santa Fe, New Mexico

EXAMINER STOGNER: I'll next call Case No. 9880.

MR. STOVALL: Application of Merrion Oil & Gas Corporation for a waterflood project, McKinley County, New Mexico.

EXAMINER STOGNER: This case was heard on March 7, 1990, before David R. Catanach, and it had to be continued for today's hearing.

At this time I'll call for any additional appearances or testimony.

MR. STOVALL: Mr. Roberts, you were the attorney in that case, is that correct?

MR. ROBERTS: Yes.

MR. STOVALL: Do you happen to have the notice or receipt cards?

MR. ROBERTS: It's my understanding those were submitted.

MR. STOVALL: Okay.

EXAMINER STOGNER: Do you know when those were submitted, Mr. Roberts?

MR. ROBERTS: I talked to Mr. Sharpe, who was the witness in that case, and he indicated they were sent last week. I talked to him on Monday of this week, and he indicated that all the requirements had been satisfied regarding notice.

MR. STOVALL: They appear to be here.

EXAMINER STOGNER: If there's nothing further in Case No. 9880, this case will be taken under advisement.

CERTIFICATE OF REPORTER

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

I, Carla Diane Rodriguez, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division 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 March 21, 1990.

Carla Diane Rodriguez

CARLA DIANE RODRIGUEZ
CSR No. 91

My commission expires: May 25, 1991

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9880 heard by me on 21 March 1990.

Examiner
Oil Conservation Division