NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date MARCH 7, 1991 Time: 9:00 A.M.

NAME	REPRESENTING	LOCATION
W. Perry Pearce	Montgomery Andrews, P.A	Santa Fe
Melissa Rankin	Harvey E. Yates Company	Roswell, N.M.
William F. Carr	Campbell & Black P.A.	Santa Fe
R. C. Anderson	Chevron	Midland
James Bruce	Hinkle Law Firm	Albuquerque
Bryan Cotner	Chevron U.S.A.	Midland
Denise Beckham	Chevron U.S.A Inc.	Midland
STANTON CHAPMAN	CHEVRON USA, INC	MIDLAND
DON GINSSEY	CHEVRON USA, INC.	MIDLAND, TX
LOUIS MAZZULLO	NEARBURG PROD. CO.	MIDLAND,
Mark Nearburg	"	"
W. T. Kellahin	Kellahin & Kellahin	Santa Fe
RON JOHNSON	PAT	Midland
Sealy Cavin	Sherman & Howard	Albuquerque
HARRY SQUIRES	Snyder Ranches	HOBBS
J. W. Neal	"	HOBBS
JIM SHARP	"	HOBBS

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NAME	REPRESENTING	LOCATION
John Lodge	Pacific Enterprises	Midland, Tx.
DARRELL ROBERTS	SANTA FE ENERGY RESOURCES	MIDLAND, TEXAS
Raye Miller	Marbob Energy Corp	Artesia, N.M.
David Cromwell	Pacific Enterprises	Midland Tx
Manuel Jimenez	Mobil Oil	Midland, Tx
RAY VADEN	CHEVRON	MIDLAND, Tx.
Dan Foland	Amerada Hess	Tulsa, Ok
Jim Almond	Amerada Hess	Seminole Tx
Hearing Date 3/8/91		
RANDY Offenberger	SANTA FE ENERGY RES	MIDLAND TX
John Thoma	SANTA FE ENERGY RESOURCES	MIDLAND, TX
Larry Murphy	"	"
Melissa Randle	Harvey E. Yates Company	Roswell, NM
James W. Rogers	Hanley Petroleum Inc	Midland, Tx
L D Robbins	" " "	" "
Brett K. Brosher	" " "	" "
William R. Huck	Consultant for Ran " "	" "

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:

APPLICATION OF MOBIL EXPLORATION & PRODUCING COMPANY

CASE NO. 10233

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: JIM MORROW, Hearing Examiner

March 7, 1991

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on March 7, 1991, at 11:13 a.m. at Oil Conservation Division Conference Room, State Land Office Building, 310 Old Santa Fe Trail, Santa Fe, New Mexico, before Freda Donica, RPR, Certified Court Reporter No. 417, for the State of New Mexico.

FOR: OIL CONSERVATION DIVISION

BY: FREDA DONICA, RPR
Certified Court Reporter
CCR No. 417

I N D E X

March 7, 1991
Examiner Hearing
CASE NO. 10233

* * *

E X H I B I T S

A P P E A R A N C E S

FOR THE DIVISION:	ROBERT G. STOVALL, ESQ. General Counsel Oil Conservation Commission State Land Office Building 310 Old Santa Fe Trail Santa Fe, New Mexico 87501
FOR THE APPLICANT:	MONTGOMERY & ANDREWS 325 Paseo de Peralta Santa Fe, New Mexico BY: W. PERRY PEARCE, ESQ.
FOR SNYDER RANCHES:	NEAL & NEAL 116 North Turner Hobbs, New Mexico BY: J. W. NEAL, ESQ.

HEARING EXAMINER: Call case 10233.

MR. STOVALL: Application of Mobil Exploration & Producing Company for approval of salt water disposal, Lea County, New Mexico.

HEARING EXAMINER: Call for appearances.

MR. PEARCE: May it please the Examiner, I am W. Perry Pearce of the Santa Fe law firm of Montgomery & Andrews, appearing in this matter on behalf of Mobil Exploration & Producing U.S. I have two witnesses who need to be sworn.

MR. NEAL: On behalf of Snyder Ranches, Inc., J. W. Neal, Box 678, Hobbs, New Mexico. And I will have one witness, Mr. Larry Squires, president of (Sky) Snyder's JHM Ranch.

HEARING EXAMINER: The witnesses will please stand and be sworn.

(Witnesses sworn.)

HEARING EXAMINER: Go ahead.

MR. PEARCE: Thank you, Mr. Examiner.

DAN BURNHAM

the Witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. PEARCE:

Q. For the record, sir, would you please state your name and place of employment?

A. My name is Dan Burnham. I work for Mobil Oil in

Midland, Texas.

Q. What is your capacity with Mobil?

A. I'm a staff production geologist.

Q. Mr. Burnham, have you previously appeared before the New Mexico Oil Conservation Division and examiners and had your credentials as an expert in the field of petroleum geology accepted and made a matter of record?

A. Yes, I have.

Q. And are you familiar with the subject matter of Mobil's application today?

A. Yes.

MR. PEARCE: Mr. Examiner, at this time, without opposition, I would request that Mr. Burnham be accepted as an expert in the field of petroleum geology.

MR. NEAL: I'd like to ask one question, if I may. Was he involved in our previous case, in any of the research?

THE WITNESS: No.

MR. NEAL: No problem.

HEARING EXAMINER: We'll accept his qualifications.

Q. (By Mr. Pearce) Mr. Burnham, let's begin, please. I would ask you to refer to what we've marked as Exhibit Number 1 to this proceeding. Would you describe, please, for the Examiner and those in attendance what Exhibit Number 1 is?

A. Exhibit Number 1 is an application for -- by

Mobil for authority and request authority to dispose of produced water in a salt water disposal well in southeast Lea County, New Mexico, in our State Section 27 Number 1.

Q. About four pages back in that is a copy of a form C-102, division's form. Could you look at that and just highlight what's reflected on that?

A. The C-102 form is just indicating the location of the well bore.

Q. Let's flip to the next page to locate that well a little better.

A. It's in the northeast quarter of Section 27; this is in Township 18 South, 35 East.

Q. All right, sir. About three or four pages back there is a section headed Roman numeral VIII. And, I'm sorry, the pages are not --

A. It's page number nine, but it's not numbered; lithologic detail.

Q. This is the section of data required by form C-108 relating to the lithology of the zone. Could you just describe what's reflected there, please?

A. The lithology of the zone in the South Vacuum Devonian field is an interbedded -- the particular zone which we're producing out of, they produce out of a Devonian dolomite. It was white-to-tan, medium-to-coarse crystalline with vuggy and cavernous porosity.

I'll just go through a portion of this. The structure is a faulted anticline. And I'll indicate it on a structure map here in just a moment. Average porosity within the pay zone in the dolomite was 13 percent. Permeability was 5 to 30 millidarcies. The thickness, average thickness, of these well bores in the area of the Devonian was 500 feet, and the top of pay was 12,000 feet; so it's a pretty deep field. The overlying fresh water zone within this area, two are included, the Ogallala at 300 feet and the Santa Rosa at 1,400 feet. And immediately above or below the proposed injection zone there are no fresh water zones at all.

Q. Anything else you'd like to highlight on that exhibit for us?

A. No.

Q. Let's look now at what we've marked as Exhibit Number 2. And would you describe that, please?

A. Exhibit Number 2 is a xerox copy of a portion of the oil and gas fields of southeastern New Mexico 1960 supplement. Within this is a description of the -- 1960 description of the South Vacuum Devonian Field, and within it again talks about the type of trap as a faulted anticline, talks about the type of drive as a water drive reservoir. And the very back page of it indicates a small structural map dated June 1960, and it shows also a type log

on the right-hand side. And this is the structure map which we have indicated up here on the wall, just an enlarged version so that it's easier to read.

Q. At this time I'd ask you to stand, and let's address our attention to what we've marked as Exhibit 3, which is an enlarged copy of the map that was included as Exhibit 2. And would you highlight the significant data represented on that exhibit, please?

A. I've indicated here in the orange a discovery well which was the Union, referred to now as Unical Number 35 Number 1, which was a discovery well in the field. It produces just out of the very upper portions, upper dolomite within the Devonian section in this area. Was drilled in 1968, and I believe it was completed early in 1959.

The structure, as indicated before, and from this other exhibit, is a faulted anticline. We can see the fault running approximately from the northwest to the southeast. There is a considerable amount of throw on this, approximately 400 feet, 400 plus feet of throw on the fault. And subsequently, at the initial discovery, there were 14 other wells -- 13 other wells, 14 total producers within the Devonian Field which produced approximately seven million barrels of oil. That's about all.

Q. It appears that the next thing hung on the wall is what we've marked as Exhibit Number 4, which is the same

map with this additional data added. Could you describe that for us, please?

A. One thing on this other exhibit, I have noted with green which are the producing wells in the Devonian. There are other producing wells and horizons within this area, but I highlighted with the green only those which are Devonian producers.

HEARING EXAMINER: There are some Devonian producers in the pool; is that correct?

THE WITNESS: Yes.

Q. (By Mr. Pearce) Let's move to 4, please.

A. Exhibit Number 4, what I've done -- and I could have put a new map with all the updated, but just for clarification I've used the same map. And what I've done was just add a couple of wells which were -- have previously been drilled since then. What I've identified on here, again, the green is the current producing Devonian wells. There are four of them. The discovery well is still producing after 1.2 million barrels of oil. The Number 3 well and Number 2-26 well is still producing, and the 1.6-J is producing. Those are the four current producing wells. Current production on these wells are about 80 barrels of oil per day and 4,500 barrels of water.

HEARING EXAMINER: Total?

THE WITNESS: Total. That's out of the PI records.

Currently, all of the water out of these four wells is currently injected into a salt water disposal well, which is currently a producing well in the Devonian. And they're injecting into their 2-35, which is an injector, a salt water disposal well within this same producing Devonian interval. So they're actually injecting into their pay zone, basically a pressure maintenance in there. And they are currently producing all of that water into that well every day. As I say, the other wells have since been abandoned and plugged out of the Devonian, so those are the only four Devonian producers immediately right in this area.

I've also highlighted with the orange dots on your maps any of the salt water disposal wells which are in the area. There are a number of them. This well was initially drilled as a dry hole by unit. It has since been made actually open hole, injected and disposed of in the Devonian, 9.8 million barrels of salt water. They have since plugged this well, and they converted this well.

There's a well up here -- I don't remember the name of the thing -- that was drilled up in the -- in another pool which injected 34 million barrels of salt water. It has since been plugged in the Devonian.

The 2-35, which was originally a producer -- it produced 320 million barrels of oil -- and since being

turned around into an injector in the same injection zone --

Q. (By Mr. Pearce) It produced how much?

A. Excuse me, 320,000 barrels. We'll get to the bigger number here in a minute. It has since 1971 injected 39 million barrels of salt water in this well in the Devonian. This well is currently out of vacuum still. Our records indicate that the well has never had any surface pressure.

You go up to our 27, this is Mobil operated, and that's highlighted in the yellow here. Mobil-operated 27-2 was originally a Devonian producer, produced 311,000 barrels of oil. And we also attempted a Bone Spring completion, a miserable 4,000 barrels of oil, and since June of last year started an injection into it into the Devonian. I'll show you which zone it is. This is below the pay zone, approximately 150 feet below the original upper pay zone, our salt water disposal well. We have injected 1.2 million barrels of salt water.

HEARING EXAMINER: Is that -- the red spot, is that your proposed location?

THE WITNESS: This is the proposed location, the 27 Number 1, that's correct.

A. A well was drilled up in this area by Blanks Energy, drilled to the Devonian, did not make a Devonian

completion, and apparently have sold it to Maralo, and they have -- or are currently disposing into the Devonian, and they've put in 3.4 million barrels of salt water. And I've got some monthly totals that go in there. There was a shallow disposal well which was drilled by Arco Sinclair years ago, disposed of in a real shallow zone, only down to 6,600 feet, and it has since been plugged also. So there's 1, 2, 3, 4, 5 -- in the area, five Devonian disposal wells. Of those, these three that I've got records on, the Maralo well is right now putting in 430 barrels of water per day, and they show a five-pound injection surface pressure. The Union 35 Number 2 down here has almost 40 million barrels. These are November numbers, by the way. They put in approximately 40 million barrels of salt water. They're putting in 6,081 barrels of salt water a day, and they're on a vacuum. And our well is currently injecting 5,700 barrels of salt water per day, and it's on a vacuum also. I think that's all I have on that one.

Q. (By Mr. Pearce) Would you return to your seat? No, Number 5.

A. One moment.

Q. Please address your attention to Number 5 also on the wall.

A. This is a structural cross-section which I've put together just using the 35 Number 2, just the disposal

wells, and our current proposed disposal well. So it would include the Union 35 Number 2, our 27 Number 2 and our proposed well, 27 Number 1, is the red dot.

The Union well, the datum is minus 7,500 subsea, and we're hanging this structurally. We can see that the structural high well actually is our 2-27, Mobil operated. The Union well is down structure to it. And also our 27 Number 1 over here is also down structure about 60 feet. These wells are approximately 1,300 feet apart in that range.

The Union well, I show an original oil-water contact of approximately 79 -- minus 7,900 feet. Come down into the lower portions up here. This is proved up by not only dry holes off the edges of the field, but also in DSD within the interval, which basically recovered 100 percent salt water. The original perforations in this particular well were this upper set, and these lower ones were added when they converted to salt water disposal.

I've colored in here in brown as the word for shale, the overlying Woodford shale, which is an excellent correlation marker throughout the Permian Basin. I've also colored a blue and also a purple. The blue indicates, and as I've before testified, the producing interval within this South Vacuum Devonian is a dolomite. It's excellent porosity and permeability. All of the dolomite stringers

within the area here have been correlated across to using sample logs, well-cutting sample logs, and that's what's colored in the purple. And the blue intervals are the tighter limestone stringers throughout the field. There's basically an interbedded dolomite, which are porous and permeable, and interbedded with it are limestone, which are tight and permeable. And that's what the color scheme is on here.

As you can see, the correlations across the top of the field, the Woodford shale overlies it. Right below the Woodford shale is a fairly continuous thick limestone interval, which apparently caps the whole interval in there. It is tight and does not produce. The original producing interval in each of these wells, here, here and here, is the producing interval, and this is the only interval which produces in the South Vacuum Devonian.

Below this interval is interbedded tight limestones, and the lower interval in here, which is just excellent porosity and permeability, which is the zone we are injecting into right now.

Our 27 Number 2 -- let me start over here. The Union well has added perforations to these two zones and are injecting into the producing interval. Apparently they've gotten permission to do that or they wouldn't be doing that. We are not producing. We are structurally high to

them and would not produce -- we wouldn't inject into it anyway. We have deepened our well and have gone in and injected below casing right here at 11-9-54, where our casing is set. We are injecting open hole to the TD of the well here at 13,600 approximately. We have two surveys on the well, and the other gentleman, Manuel, will talk about the surveys. We have two injection surveys which show us where our water is going. This first hash mark here was our 388 survey. And we ran a survey earlier this year in January, and it shows that we're basically going to the same interval. There's no indication of any water or movement behind pipe.

This is our proposed salt water disposal well, 27 Number 1. It is currently a plugged well. It was a producer at one time. It produced 421,000 barrels of oil. It was plugged and concurrently, of course, have squeezed everything off in there. What we propose to do is drill this out and to deepen the well to the proposed depth of 13-9-70 and inject below our casing at 11,800, inject into these lower, wet, porous dolomites for the purpose of disposing of salt water.

HEARING EXAMINER: It injects into the Fusselman also.

THE WITNESS: Yes, it does; that's correct.

MR. PEARCE: Anything further, Mr. Burnham?

THE WITNESS: I don't have anything further.

Q. (By Mr. Pearce) Are there other items of geological interest which you'd like to highlight for the Examiner at this time?

A. I don't think so.

MR. PEARCE: Mr. Examiner, at this time I move the admission of Exhibits 1 through 5. I have no further questions of this witness at this time, and he is available.

MR. NEAL: The Examiner please, would it be satisfactory if I could cross-examine the witness at this time?

HEARING EXAMINER: Go ahead.

CROSS-EXAMINATION

BY MR. NEAL:

Q. How long have you been with Mobil?

A. I've been with Mobil six years and total experience of ten years.

Q. And that's been as a geologist?

A. That's correct.

Q. When did you first come into the vacuum field study?

A. Started working in the vacuum field in 1985.

Q. Now, when did you first become aware of the report that was made in 1960 by Mr. Sweeney for Roswell Geological Society?

A. Looking through some of our present or past

testimony on one of the other cases we had, this was one of our original exhibits, and that's when I first looked at it.

Q. And that was the previous case where the same parties appeared, I believe.

A. That's correct.

Q. As far as your making a clear and independent study of this area, you're just relying on whatever was in that report?

A. That's correct.

Q. Directing your attention to your Exhibit Number 1, on the second page, which is your form C-108, and calling our attention to item number 11 where it states that you've prepared a chemical analysis of fresh water from two or more fresh water wells, if available, within one mile, how many did you examine?

A. I didn't put all this together. Just one. As far as I know, I think there's one -- let's see -- it's --

Q. Do you know where that location of that well that was tested is?

MR. PEARCE: Mr. Examiner, the report of that test is headed Exhibit D, and it is Champion Chemicals, maybe a little more than halfway back.

MR. NEAL: Thank you.

MR. PEARCE: Yes, sir.

Q. (By Mr. Neal) Have you got that before you?

A. Yes, I do.

Q. I call your attention --

HEARING EXAMINER: Hold up just a minute. I don't have it yet, sir.

Q. (By Mr. Neal) Also considering that, that's Exhibit D, I believe, you also had a map which I assume to be where this location -- within a mile radius.

A. That's correct.

Q. Now, where is the Snyder windmill on the map? And perhaps it would be easier to identify that on one of the bigger maps.

A. I don't have an exact location. I've seen a plat that indicates it in this quarter section up here in the northwest of the northwest quarter. I believe it's down in this section.

Q. Why would you draw the line on your map to the one mile? Wasn't that where you did your test?

MR. PEARCE: If you look at that map, Mr. Neal, the two circles on that map, one is the half mile area of review as required, and the other map is the two-mile circle as required; so although we looked for water wells within one mile, there's not a circle on that map reflecting that.

MR. NEAL: Thank you.

MR. PEARCE: Yes, sir.

Q. (By Mr. Neal) Would you indicate on either one of

those exhibit maps where you think its location is?

A. Yes, sir. I think it's in this southwest quarter. I have not been on the lease, I don't know exactly where it is.

Q. You've been told that that's where it was?

A. That's right.

Q. Would you just put an "X" there?

A. Somewhere in this quarter. I don't know. It could be right in here somewhere.

Q. Do you know whether or not it's adjacent to any road or public highway?

A. No, I don't know.

Q. Is the name Snyder windmill, is that because there's a windmill on it?

A. That's what I'd indicate it.

Q. Now, in that particular test, it's showing that your chlorides are very low. And that is excellent water, is it not, in that area?

A. I'm not a water expert. It looks like it's got low chlorides.

Q. You have also filed within your application other tests, water analysis from other wells, from the Abo and the Devonian and so forth, where you go anywhere from 6,000 parts of chloride to over 400,000, I believe; is that correct?

A. I think the highest I see there is 140 -- 139,000. But that's correct, there are -- water that we are disposing or proposing to dispose of is out of the north vacuum area.

Q. I want my question to be corrected because I believe 139 is correct. Anyway, that's pretty salty, isn't it?

A. That's correct.

Q. So it's very important -- strike that. In this particular area, that is an excellent area of the Ogallala formation for fresh water, is it not?

A. Most of the area around there is excellent water in the Ogallala.

Q. So it becomes very important that the water zone of the Ogallala be protected.

A. Mobil is very keen on or interested in the environment and taking care of the Ogallala formation; that's correct.

Q. What effort -- you mentioned that you have a survey of where your water is being presently disposed of in your first well.

A. Yeah, we have a survey. And actually we have an exhibit which Manuel will show later in the testimony, a large blowup of that survey, and he can give you some details on that.

Q. Do you know how the survey is performed?

A. I'm not an expert on injection surveys. He will handle that.

Q. But you do know there is a survey made.

A. That's correct.

Q. How often is that done?

A. Well, as I testified, one was done in 1988, and one was done again this spring, in January of 1991.

Q. And is that about the time you first started injecting into the well?

A. The well -- no. First injection into the -- which well are we referring to?

Q. Your present disposal well.

A. In the 27 Number 2, the first -- I believe approximate date was June of 1990.

Q. And you filed these monthly water disposal reports with the Conservation Commission.

A. Yes.

Q. Now, as I understand it, you have not been out at the location personally as to the water well that was tested.

A. No. I've been at the location of the 27 Number 2 tank battery and our facilities on the disposal, but I've not been on to the windmill area.

Q. Have you driven around to ascertain whether or

not it was within the half-mile area or a mile area that there are other water wells?

A. No.

Q. What, if anything, other than the survey, has Mobil proposed to keep checking to make sure there's no water getting into the Ogallala formation? What do you propose to do, if anything?

A. We do as the state has asked us to do, and we comply with the regulations which they've set forth. I think it's every five years we test the integrity of the back side of the casing.

Q. Now, directing your attention to Exhibit Number 3, the map, as I understand it, the circles in green with the red in the middle are present disposal wells?

A. No. Number 3 is the -- green are all the Devonian producers within the area.

Q. They're producing at this time?

A. No. Exhibit 4 is, but Exhibit 3 just shows the overall field area with the 1960 map and the producers which ever produced out of it. They are not current producers.

Q. In addition to the Devonian wells, there's numerous other wells in the area that have been plugged.

A. Right. There's a number of Bone Spring wells. There's a number of -- some attempted Delaware wells, San Andres also.

Q. And they are located up and down from the northwest to the southeast in the map that's shown on 3; is that correct?

A. They're -- I don't know exactly the locations, I didn't put them on this particular map; but, yes, there are additional wells. We're drilled throughout the area.

Q. Are you familiar with a well that was drilled by Hondo Oil and Gas within the last few years to the west of your proposed location?

A. No.

Q. Are you aware that they had a water blowout?

A. The well I think you're questioning is a Blanks Energy well.

MR. PEARCE: Let's determine if, in fact, we're talking about the same well.

Q. (By Mr. Neal) Do you know where the location of this other well is?

A. There was a well that had a salt water flow in it, yes.

Q. Was that fairly close to your present proposed new location?

A. It's a mile-and-a-half away from it.

Q. Would you mark that on there?

A. That's the one I indicated up here already. It's this Maralo well. It was drilled by Blanks Energy to the

Devonian, was not a commercial producer, and Maralo apparently purchased it from Blanks. It's the Arco State Number 2, and they're currently injecting salt water into the Devonian in that location.

Q. (By Mr. Neal) Have you made a study as to what was the cause of that blowout of water buildup?

A. The well just to the north of it, which I've circled in pink around the edge of it, is an old former injector well that was drilled by Sinclair. They injected open hole from 3,900 feet to 6,600 feet. I think the pressures on those were very high. They had injection pressures of a couple of thousand pounds on the surface. So I surmise that this particular well probably contributed to some of that problem.

Q. So that in the drilling of the next well, it's possible some of the salt water could get into your fresh water zone.

A. If it was cased properly, that's correct.

Q. Now, where do you think that this water would be going that you propose to inject into the new location?

A. The water is going to go into the porous dolomites below our casing at 11,800 feet.

Q. In which direction? Will it flow principally to the southeast, or will it go in a circle, or what will it do?

A. I haven't the foggiest idea.

Q. You have no idea where it will go?

A. Water -- I'm not an engineer, but water is going to go to the area where you have the least --

Q. The line of least resistance?

A. Exactly.

Q. So you don't know if it's going to go north, south, east or west.

A. I surmise that it will go to the south and to the west, based on the fact that we have a fault of four or 500 feet of throw in there. The fault is, I believe, a sealing fault, based on a couple of things, but basically based on the fact that we have hydrocarbon entrapment to the tune of over seven million barrels, and it's been a nice producer, good structure. If it were not at sealing fault, the hydrocarbons would not be there.

Q. Tell me what a sealing fault is.

A. A fault that does not allow fluid or migration, pressure, etcetera, across the fault boundary.

Q. Do you think that's the type of fault line that's here?

A. Yes, I do.

Q. What do you base that on?

A. Just on other work in other areas where I worked with faults in displacements of this variety. We know that

the fault is down-thrown by a couple of deep penetrations just offset of the area.

Q. Do they appear on that map?

A. Yeah.

Q. Would you indicate that, please?

A. The 26 Number 3, which is a down-thrown well.

Q. Would you put a circle around that?

A. That particular well is down-thrown with a throw of over 400 feet. And as testified in previous cases, the fault is sealed, it's a sealing fault.

Q. Other than relying on the geological society and this report and this one well, is that the basis that you're --

A. And the previous case, the testimony with our 27 Number 2.

Q. My question is directed to you. Other than the study here in this one well, have you made an independent study of it yourself?

A. I've looked at the area. I have not made a detailed correlation study of the area, no. This looks like good work. It's a simple faulted anticline.

Q. When you have a sealing fault, what is the effect of that?

A. Excuse me?

Q. What is the effect of that when you have a

sealing fault?

A. By definition of the sealing fault, you don't have movement of fluids or pressure across that boundary.

Q. Are there any plans or been consideration for continuing testing up and down the fault line to make sure in these other wells that there's not any contamination going on in the fresh water area?

A. Not that I know of. Our particular operation out there on our lease is -- we do everything we can and -- to comply with state regulations, make sure that our well bores are in integrity.

Q. Do you have your file on the previous case?

A. No.

Q. This was marked, I believe, Exhibit Number 1 in case number 9337.

HEARING EXAMINER: Do you have a copy of that for us, sir?

MR. NEAL: No, sir. I'm just going to ask a few questions on it.

HEARING EXAMINER: All right, go ahead and ask them. I don't know if it will help the record any if we don't see them.

MR. NEAL: I'm going to ask you to take administrative notice of your files. I want to show all these locations of all these wells; that's the purpose of it.

HEARING EXAMINER: Show the location of which wells, sir?

MR. NEAL: These wells that are not shown on these exhibits here that was previously shown in the other case.

HEARING EXAMINER: All right, go ahead. I would ask to take administrative notice of the exhibits of Mobil in case number 9337.

Q. (By Mr. Neal) Directing your attention to Exhibit Number 1 of the Mobil -- styled Mobil Producing Texas New Mexico, Inc., that shows numerous wells up and down this fault, does it not?

A. That's correct.

Q. And, to your knowledge, some of these wells that are shown in that exhibit are dry holes.

A. That's correct. Some of them are noted there.

Q. Some of them are at 5,000, some at 7,000, some are deeper.

A. Right.

Q. There's more than just the Devonian production along that line.

A. Oh, I think I testified to that, yes.

Q. Now, to what extent, if any, have you attempted to determine whether or not there have been any surveys made or anything else to determine where the water has been going into those other disposal wells?

A. Which disposal wells are you referring to?

Q. The ones you have testified to.

A. The -- I don't know of any surveys. The only thing I have is the state record which indicates which zones are perforated, where the recompletion zone was.

Q. Whether or not there have been any checking or tests made to determine whether or not any water is getting into the Ogallala, do you know of anything that's been done in that area?

A. The only thing that we've done, and, of course, I can't account for the other operators, is we have run two surveys within our own well. We also have installed a gauge on the back side, on the casing side, of our annulus to determine whether or not we have built up any pressure, as just a precautionary measure.

Q. How often is that checked?

A. I don't know. Daily.

Q. Good. Now, I believe you testified that one of these disposal wells had been plugged?

A. That's correct.

Q. Why would they plug it?

A. I don't know.

Q. Is it because they're getting such a buildup of water?

A. I kind of doubt it just because the well next

door to it there, they're still taking 5,600 barrels a day on a vacuum.

Q. As I understand it, the new well you're proposing, you expect it to be on vacuum also.

A. That's correct.

Q. Now, I believe the Maralo well is a disposal well?

A. That's right.

Q. Where do you think that water is going?

A. It's going in the Devonian also.

Q. Is it going to the southeast?

A. Again, it's up close to that fault, and it's a sealing fault, and so it's going to be going path of least resistance. In my opinion, it's going south and it's going west along the edge of that fault.

Q. Where is the water that you're disposing of at this time, and where the new well will be, where is it coming from?

A. Where is the water coming from?

Q. Uh-huh.

A. It's coming from the North Vacuum Field.

Q. Why are you having to move it?

A. We're moving it because we don't have an adequate source in that area to dispose of the water.

Q. You mean you've already filled up the cavity?

A. No. In fact, Mobil has spent several million dollars attempting a Devonian recompletion up in that area to try to take the water, and the Devonian was tight at that location. We have since got permission and asked the state for permission to inject into the 27 Number 2. And after getting approval on it, we have built approximately an eight-mile pipeline down to that particular area and have it installed and are injecting currently.

Q. Are you aware of the area where this water is coming from, that there has now developed a substantial water blowout problem in other drilling?

A. There are some problems in Texaco acreage to the south of where we are. We have encountered no -- this is in the San Andres area, shallow. We have not had any problems at all on our lease.

Q. Is the San Andres the principal area where you're producing your oil from?

A. No. The principal production area is the Abo formation, but we are producing out of approximately 11 other horizons which are mixed up in this combined water samples.

Q. Is the San Andres productive at that place?

A. Yes.

Q. In other words, there's not any water being injected into it?

A. Yes, we're injecting into the San Andres also, as a water plug.

Q. So you have excess water that you have to dispose of.

A. That's correct.

Q. What's the economic benefit to Mobil of that?

A. Well, the more water -- if we can economically dispose of that water, we will produce more oil and gas for our operators and for those who we lease the land from.

Q. In just a rough figure, what kind of dollars are we talking about?

A. I have no idea.

Q. Millions?

A. Yeah, I'm sure it is. The longer we can produce those wells economically with a higher water cut, and we are dealing with a mature water flood, and every year our flood is maturing, we will continue to have higher water needs and we will have a greater need of more disposal capacities.

Q. As long as you make a profit you're going to stay.

A. I think that's what we're in the business for.

MR. NEAL: That's right. No quarrel with that. I have nothing further and have no objection to the exhibits.

MR. PEARCE: May I just jump back in at this point? I didn't understand, Mr. Neal. Were you proposing to

incorporate the full record from 9337 or just that map?

MR. NEAL: Just that map.

MR. PEARCE: In view of that, Mr. Examiner, I would move that the Examiner take administrative notice of the full court record. The map that was discussed has lots of data in it, as does the rest of that case file, and I think for completeness the whole record needs to be noticed in this proceeding. And if I may, as I said, that was case number 9337 and order --

HEARING EXAMINER: I'd like to ask you both to submit a written request that that be done. You submit a request saying what you want done and you submit --

MR. NEAL: I have no objection to what he's doing.

HEARING EXAMINER: Both of you submit a written request and we'll do it.

MR. PEARCE: I'll be happy to do it. Thank you, Mr. Examiner.

MR. STOVALL: Mr. Pearce, the case you're referring to is the case on the state 227?

MR. PEARCE: Yes.

MR. STOVALL: I just want to get a couple of things in the record. In that case, you're talking about the commission de novo hearing? Is that the one we're discussing?

MR. PEARCE: That's the one I was talking about. And,

as I understand it, that is the proceeding in which that map was an exhibit.

MR. NEAL: That is correct.

MR. STOVALL: And I will, for the record, state on behalf of the division and the commission that that case was appealed through the judicial system. The primary issue in the case was whether or not there was a sealing fault. And I think the Supreme Court found that the commission had sufficient evidence to find there was a sealing fault. And I would ask that if --

MR. NEAL: Under that particular evidence.

MR. STOVALL: I would ask that the decision in the Supreme Court case 18,860 be incorporated as well, Mr. Examiner. And I will submit that in writing, if you so request.

MR. NEAL: I have no objection to that.

HEARING EXAMINER: All right, thank you.

Go ahead, Mr. Pearce.

MR. PEARCE: That's all I have at this time, Mr. Examiner.

HEARING EXAMINER: You had moved, and you agreed we ought to accept Exhibits 1 through what?

MR. PEARCE: Well, I had moved the admission of Exhibits 1 through 5.

MR. NEAL: I have no objection at this time.

HEARING EXAMINER: All right, 1 through 5 are accepted into evidence.

MR. PEARCE: Thank you, sir.

HEARING EXAMINER: Mr. Burnham, who operates the producing wells in the pool?

THE WITNESS: Unical.

HEARING EXAMINER: The numbers you quoted, and I think they're tabulated on Exhibit Number 4 --

THE WITNESS: Yeah, I gave you a total.

HEARING EXAMINER: Tell me how the little blocks read. I couldn't find that in the legend.

THE WITNESS: Here's the legend over here on the side. Production data -- they're all out of the Devonian. Production data. The cumulative production is in thousand barrels of oil. The current production is just in barrels of oil per day. And the salt water disposal, which is the BSWs, is in million barrels.

HEARING EXAMINER: Here's one that reads 30 BOPD. This is on the discovery well, which is 30 --

THE WITNESS: That would be the daily production.

HEARING EXAMINER: It says 3,519 barrels of water per day, 1,206 MBO.

THE WITNESS: Is the quimed oil production.

HEARING EXAMINER: Obviously, there's been no injection into that well.

THE WITNESS: Correct, correct.

HEARING EXAMINER: Did the lower three zones ever produce any oil?

THE WITNESS: Lower three as in the way that I've got it drawn on here?

HEARING EXAMINER: Yes.

THE WITNESS: No. The only producing interval is, as you can see, this upper -- the very first dolomite that's in the area. That's the only one that is perforated throughout this whole area.

HEARING EXAMINER: Did the Fusselman ever produce in this area?

THE WITNESS: I believe it was tested; but, no, it did not. The Montoya produced in a couple of wells, a very small volume of oil; but the main producing interval within the field is the Devonian.

HEARING EXAMINER: On the well that you have labeled Magnolia Petroleum 227, you've indicated the Fusselman zone is open to salt water disposal, and there's a little shaded-in area in the lowermost Devonian stringer.

THE WITNESS: Those are the tracer logs in there.

HEARING EXAMINER: What does that show again?

THE WITNESS: What this is showing is just the two different tracer injector surveys which we've run, and Manuel will address those in a little more detail. What

we're showing is where our salt water is going. This was run in 1988. The casing is set right here. It's coming into the open hole and going into this.

MR. STOVALL: Mr. Burnham, just so it makes sense, when you say "the casing is set right here," would you identity --

MR. PEARCE: It's 11-9-54.

MR. STOVALL: And the first survey area is how deep?

THE WITNESS: This is at 12,000, approximately 30 feet. It's going into -- what it's doing is going into the first porous interval.

HEARING EXAMINER: Even though the Fusselman is open, it's not taking any water?

THE WITNESS: That's correct. Within this area and actually throughout the southeast New Mexico Permian Basin the Devonian is known to take large volumes of water without much pressure resistance.

HEARING EXAMINER: How much is that 227 taking at this time?

THE WITNESS: This well is currently taking 5,600 or 5,700 barrels a day.

HEARING EXAMINER: At what pressure?

THE WITNESS: At no pressure, vacuum.

MR. STOVALL: I have a couple of questions.

EXAMINATION

BY MR. STOVALL:

Q. This proposed well, the 127, is north and west of the 227, which is currently being used for injection?

A. That's correct.

Q. What is your opinion as a geologist as to -- let me back up and preface that -- Mr. Snyder previously objected to the 227 because he felt the water would encroach on his land, and the commission found it would not. What is your opinion, based on the location of the wells -- is this water injected into this well more or less likely to go towards and on to Mr. Snyder's land were there to be an encroachment?

A. It's even less likely because we're farther away from his property.

Q. You've reviewed the exhibits in the previous case?

A. Yes.

Q. Do you agree with the conclusions presented by Mobil at that time?

A. Yes. Of course, we don't know exactly which zones we will encounter in our proposed well because we're on the open hole. We assume by the continuity of the offset wells that we will have same zones present.

Q. Do you know what the options are if you're not granted this as far as what to do with the water you're

producing in the area?

A. Yes. I think it was actually in the last case, there were actual dollar numbers. I don't have those available. The other options are to truck the water to some other facility or to have someone else haul it off for us at a pretty high expense.

Q. Are these commercial facilities that you're proposing, or are these just for production from Mobil wells?

A. This is only for Mobil wells.

Q. So if this application were denied, you'd have to find another place to put a well; is that correct?

A. That's correct.

Q. Or find somebody else who would take the water; is that correct?

A. That's correct.

Q. Are there any commercial disposal facilities in the area that you're aware of?

A. There are some. There's subsurface disposal areas also. There's some other commercial injection wells available also.

Q. Do you know who operates any of those?

A. I know who.

Q. You can answer the question.

A. The Snyder Ranches apparently operate --

MR. NEAL: We object to that. The Snyder Ranches do not operate --

THE WITNESS: Mr. Squires apparently owns a business which injects surface disposal of water, salt water disposal.

Q. (By Mr. Stovall) Do you know where?

A. I don't know exactly; I've never been on the actual area. It's south and probably west of this area several miles. I don't know exactly where it is. It's called Laguna Katuna.

Q. Would that be one of your options, to dispose of --

A. No, no. Mobil will not dispose of water in the surface. We are not prepared to take on that kind of liability. Any of our salt water will be disposed of properly in a subsurface planter.

MR. STOVALL: I have no further questions.

HEARING EXAMINER: Is that all right with you, Mr. Neal?

CROSS-EXAMINATION (Continued)

BY MR. NEAL:

Q. You say you agree with the conclusions and the statements that were made in the other case?

A. Yes.

Q. Do you also agree then that there is some water

that will get on the Snyder Ranches' property?

MR. PEARCE: I object. I'm not sure that record says that.

MR. NEAL: I will challenge the record, and it's a direct statement. I asked whether or not there would be water that would get on Snyder Ranches' land, and the answer was yes, and that's in the transcript. And I'll be glad to furnish that question and answer and page.

HEARING EXAMINER: Please do that.

MR. PEARCE: And I will furnish the rest of the record.

HEARING EXAMINER: Anything further, Mr. Neal?

MR. NEAL: No, sir.

HEARING EXAMINER: I did have one more question.

THE WITNESS: Okay.

HEARING EXAMINER: Why wouldn't you put more water in the Number 2-27?

THE WITNESS: The reason we're seeking for this application is because we are continuing to have to introduce additional water flood, and also as the water flood matures, we are continuing to have additional water needs. And also in this particular well, we are looking for a backup in case we do have mechanical problems -- these are on 1958 well bores -- that we can go ahead and switch very quickly. We have the line already in place and the surface facilities there. We can immediately alleviate our problem

and get back to producing oil and gas.

HEARING EXAMINER: Would your current approval allow you to put more water in there?

THE WITNESS: Current approval is 10,000 barrels per day, I believe, in that particular well.

HEARING EXAMINER: You put about 6,500 a day in it.

THE WITNESS: What was the number that I quoted you? 5,700 a day.

HEARING EXAMINER: 5,700?

THE WITNESS: That's correct.

HEARING EXAMINER: What is your additional need now at this time? How much more -- would the 10,000 handle you except for needing the backup?

THE WITNESS: It might, but it -- I don't know our current -- our current needs are 5,700 barrels a day. But as we continue to mature this water flood and get other wells on, if we were to get the 10,000 barrels, we would be shutting in production -- high water-producing wells that are making a small amount of oil just because we couldn't handle the water. And that's why we're asking for this application.

MR. PEARCE: May I?

HEARING EXAMINER: Sure.

REDIRECT EXAMINATION

BY MR. PEARCE:

Q. Mr. Burnham, I'd ask you to look at the second page of Exhibit Number 1 at the bottom. There is a typed-in footnote which refers to order number R-8645. Do you see that?

A. I see that.

Q. That order was dated May the 5th, 1988, according to that note?

A. That's correct.

Q. When did you testify earlier that you were finally able to begin injection of water into the 27-2 well?

A. We injected water approximately June of 1990.

Q. Something over two years after the order?

A. Yes.

MR. PEARCE: Thank you.

HEARING EXAMINER: I didn't pick up on the point you were making.

MR. PEARCE: It took us a very long time from when this division entered an order allowing us to inject water before we actually could.

MR. NEAL: In other words, he wants us to deny -- not be permitted to contend that we had a trespass, but we're still -- we have one --

MR. PEARCE: I don't know that this is the time --

MR. NEAL: -- doesn't have the authority to issue a permit that permits a trespass. He's liable for damages.

MR. PEARCE: If Mr. Neal will tell me when he finishes speaking, I'll speak. I don't want to interrupt you again, sir.

MR. NEAL: I want to go eat dinner.

MR. PEARCE: My point, sir, is that in the previous case it took two years from the entry of an approval order until we could begin injecting water. Mobil is very concerned that a two-year delay is too long because of the necessity we may have to dispose of more water. And that's why we're here today.

HEARING EXAMINER: Anything further of Mr. Burnham?

MR. PEARCE: No.

HEARING EXAMINER: The witness may be excused.

MR. PEARCE: If we may just pause for a moment, we've got one more exhibit to hang. Let me get that up.

MANUEL JIMENEZ

the Witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. PEARCE:

Q. I'd ask you please to take a seat in the witness stand. Would you please state for the record your name and place of employment?

A. My name is Manuel Jimenez, and I work for Mobil Oil Company in Midland, Texas, as a production engineer.

Q. Mr. Jimenez, have you testified before the Oil Conservation Division or its examiners previously and had your credentials accepted and made a matter of record?

A. No, sir.

Q. Would you briefly describe for us, please, your educational background and work experience as it relates to the field of petroleum engineering?

A. Yes. I obtained a BS in petroleum engineering from Texas Tech University in 1976. Since then I have worked three years as an engineer, eight years as a production engineer, worked three years as a completion engineer, and then one year as a supervising engineer for Mobil Oil Company. My experience is in West Texas, Oklahoma and New Mexico.

Q. And, Mr. Jimenez, are you familiar with the application filed on behalf of Mobil in this proceeding today?

A. Yes, sir.

MR. PEARCE: Mr. Examiner, at this time I would ask the recognition of Mr. Jimenez as an expert in the field of petroleum engineering.

HEARING EXAMINER: His qualifications are accepted.

Q. (By Mr. Pearce) Mr. Jimenez, at this time I would ask you to place a couple of exhibits before you simultaneously. They're exhibits which we have numbered 6

and 7. And then if you will open Exhibit Number 1 to the third page of that exhibit, which is the form C-101 filed with the division. I'd ask you to discuss what's reflected by these exhibits, please.

A. Okay. Apparently Exhibit Number 6 is the current status or condition of our state Section 27 Number 1 well which we are proposing to convert to a salt water disposal well. It is currently plugged and abandoned, according to commission requirements. It was abandoned back in 1969.

Exhibit Number 7 is the proposed condition of the salt water disposal well, or the proposed salt water disposal well, in order to get from the plugged and abandoned condition to the disposing condition. C-101 details the procedure that we plan to do. We're going to drill out the various cement plugs that are currently in the well bore. We plan to dust off the top of the 75-inch casing, which was cut off at 1689 feet when it was plugged.

At that time we plan to pressure test the top of that casing to insure the testing integrity and insure that the 75-inch casing is not leaking. If there is a leak, we plan to squeeze at that time. When we get through with that, we are planning to drill out the cement retainer, drill out the cement across the old Devonian perfs (purse) that was squeezed off back when it was plugged and abandoned. Again, we do plan to pressure test the Devonian. And at that time,

if the perfs (purse) is not squeezed off, we do plan to resqueeze to insure that the total well bore does have pressure integrity.

Once we get through with that, we plan to drill out the bottom of the casing shoe and drill out our open-hole section. When we get down to our proposed depth, we plan to run open-hole logs and analyze them and submit them to the commission for their records.

We do plan to follow that with a stimulation of the open-hole section, which would include 2,000 gallons of hydrochloric acid, followed by 10,000 gallons of gelled hydrochloric acid. And we do plan to use 6,000 pounds of graded rock salt.

Once we establish injection, then we plan to pull out with that work stream packer, run in with permanent packer and install our injection tubing, which will consist of probably four-and-a-half-inch tubing, internally coded.

Q. At this time, while we're still dealing with Exhibit Number 1, I would ask you to turn to the page we referred to before headed Lithologic detail, which is five or six pages back, I think. Let's pause for a moment. And I would ask you to please direct your attention to what is marked Roman numeral XII. And would you read that statement for us, please?

A. Yes, sir. "MPTM has examined the available

geologic and engineering data and finds no evidence of open faults or any other hydrological connection between the Devonian Formation and any underground source of drinking water."

Q. Thank you, sir. There was some discussion earlier about how often the injection pressure on this well would be measured. What was the testimony and how often is that pressure gauged?

A. As far as the injection pressure, that's measured on a daily basis. Right now the injection pressure is on a vacuum. To satisfy state requirements for pressure testing, once every five years we plan to pressure test the tubing casing annulus. The period of testing is 30 minutes, 500-pound pressure. And if it holds, then that will pretty much satisfy the requirement on that basis. On a daily basis, we do have pressure gauges on the annulus, casing annulus, as well. And we do have a pumper going by on a daily basis checking the pressures to insure that we do not have pressure on the casing annulus.

Q. And is it your understanding that the injection pressures on injection wells are reported monthly to the Oil Conservation Division?

A. Yes, sir. They're reported on the monthly water disposal reports C-120-A, is the report number. And we report volumes, pressures on that monthly report.

Q. We've had a good deal of questioning, Mr. Jimenez, about the tracer surveys that have been conducted on the 27-2 well. I would ask you now to approach the exhibit we've put on the wall, which is Exhibit Number 8. And could you discuss what's reflected on that exhibit for us, please?

A. Yes, sir. This is a tracer survey of the current disposal in the Vacuum South Devonian Field, the state Section 27 Number 2. What we have over here on the left is a gamma ray neutron log which is basically just to correlate our depths. The metal log is a tracer survey that was run back in March of '88 when we applied for a disposal permit. What it showed back then -- and I haven't changed anything on this particular log -- what it showed back then that we were disposing most of our water in an interval from 12,038 to 12,096. Eighty-four percent of the water was going out in that interval, with some minor water going out just below that.

The line that you see here is actually temperature survey, injection temperature survey. What this shows is that there is no water going out of the well bore below this interval here, about 12,100. This is a survey that was run back in March.

January of this year we came back to this same well, and we ran another tracer survey. The configuration

is a little different. This is a temperature log, and this is a tracer survey, but both logs ran the same type of survey. They both ran tracer surveys and they both ran a temperature survey.

What this shows, this indicates a radioactive slug that was injected from the logging tool. We followed this radioactive slug down the hole until we noticed at what interval the radioactive slug dissipates or leaves the well bore. At that point, we determined the amount of water, the percentage of water, that is leaving the well bore. Looking at the percentages that we came up with, we found that basically from 12,060 to 12,080 there, that 94 percent of our water was leaving the well bore, with minor water leaving the well bore just below that, which is pretty close to what, you know, the initial survey indicated.

Q. Anything else you'd like to discuss with us as it relates to that exhibit?

A. No, sir, that's all.

Q. You can return to your seat, please. And I want to direct your attention to what we have marked as Exhibit Number 9, please. Discuss this exhibit for us, please.

A. This Exhibit Number 9 is a disposal rate -- water disposal rate on barrels per day versus time. As Dan Burnham testified earlier, we started injection in this well in June of 1990. And this just shows our disposal rates on

a barrel of water, per-day basis. Started out a little over 3,000 barrels of water per day, got to a high of about 7,000, down to our current disposal rate of about 5,700 barrels of water per day.

Q. Look now at Exhibit Number 10, please.

A. Exhibit Number 10 is a plot of injection pressure versus time, covering the same time interval that we have injected water into our 27 Number 2. What it signifies is that the line in blue is our actual injection pressure, shows that we are injecting water at zero PSI, or really just a slight vacuum. What the red line signifies is what the authorized or permitted injection pressure is for this particular well, which is 2,375 PSI.

Q. Anything else on either of those exhibits?

A. No, sir.

Q. Mr. Jimenez, at this time I want to ask you a couple of general questions. Is it your opinion that you know the Devonian zone in which the disposed water is most likely to enter?

A. Yes, sir.

Q. And is it your opinion that that is an environmentally sound disposal method for these fluids?

A. Yes, sir.

Q. And do you believe that the fresh water zones, which are some 11,000 plus feet above the disposal zone, are

adequately protected by the well program that you suggest?

A. Yes, sir.

Q. Do you believe that the disposal of fluids in an environmentally sound way in the least expensive method is important in order to prevent the waste by premature abandonment of New Mexico natural resources?

A. Yes, sir, it is.

MR. PEARCE: Mr. Examiner, I have nothing further of this witness at this time. I would like to move the admission of Mobil Exhibits 6 through 17.

MR. NEAL: No objection.

HEARING EXAMINER: Mobil Exhibits 6 through 10 are admitted.

CROSS-EXAMINATION

BY MR. NEAL:

Q. At this time you say that it is your opinion that this is a safe way to dispose of produced water?

A. Yes, sir.

Q. Through time things do break down, do they not?

A. I would say yes.

Q. Now, this survey that you made that's a radioactive tracer survey in -- I believe it's from '91, January?

A. January '91.

Q. Will that show not only where any waters that

you're injecting in, would that show where it was going?

A. Yes, sir.

Q. If it were some other area?

A. That's what that survey shows, is that all of our water is being disposed down into the Devonian formation.

Q. So if a periodic survey were made over time, then as long as it was showing going into that same area, then there wouldn't be a problem, would there, of pollution with the fresh water?

A. No, sir.

Q. So that a survey of that nature periodically would protect the fresh water zones, would it?

A. Yeah, with respect to water disposal or water injection. This type of survey is not really typical unless you feel like there is a problem. And this -- we ran this survey to illustrate that we are currently still injecting water into the same zone as what the initial survey showed.

Q. If such a survey were made, it would show where the water was going other than the particular zone where you wanted it to go.

A. Right.

Q. All right. Now, I think I misunderstood -- does this survey run all the way from zero to total depth?

A. No, sir; no, sir. It runs from approximately -- we ran our survey -- the current survey ran from about

12,150 up to about 12,000 -- or, excuse me 10,700.

Q. But if a problem did develop uphole in the Ogallala, it would show on that type of survey.

A. This type of survey, since we're logging down close to TD, would probably not show water leaving the -- or at the surface; but pressure-wise, we should be able to catch that with our pressure gauges.

Q. Now, if it was operating at the time, it would show it on your radioactive, wouldn't it?

A. Pardon?

Q. It would show on the tracer if you were running it at the time from zero all the way to total depth.

A. Right. Typically, you don't really run a survey for that length. It does tend to run the costs up on your surveys.

Q. Here you're looking for a place where the water is going. You can also run a survey for the purpose of determining if it's going anywhere else except the hole.

A. Right. Let me explain. The reason why we run it this deep is because we believe that our tubing integrity is good and that we don't have any leaks close to the surface.

Q. If you did happen to have a leak -- and leaks do occur up the hole -- it would show up, wouldn't it?

A. Right.

Q. And if it was in a close area where communication

of salt could go into the Ogallala, then you could have a problem in the fresh water zone, couldn't you?

A. That's possible. Again, that's why we do monitor the pressure gauges. Along with the every five-year pressure testing of the annulus, there is a Bradenhead test that's done annually where the well is shut in for 24 hours, then the casing valves are opened up to see if there is any water flow. At that time we would detect any kind of flow.

Q. Tell me on a pressure -- I'm not an engineer and it's very obvious by my ridiculous questions -- but on these pressures on the pressure gauge, will that show whether or not any water is leaking into another formation?

A. If it requires pressure to leak into it, yes. If it will take it on a vacuum, no.

Q. Well, if you had a hole at 60 foot in your casing and there was a breakdown in your cementing of that casing, surface casing, would water go into the Ogallala formation?

A. It depends if it required any pressure to be pumped into the Ogallala. If the hydrostatic from 60 feet to the Ogallala is greater than what the pressure in the Ogallala is, then I would say no, it would not require any kind --

Q. To your knowledge, have you made any studies as to whether or not it would require pressure to get into the Ogallala, or would it go in vacuum, or what?

A. No, sir; no, sir. We believe that our casing integrity is sufficient.

Q. Let's assume your casing goes bad. Casing has gone bad in Lea County. You understand that.

A. Right.

Q. That's been going on for over 30 years, hasn't it? Thirty years from now we may have a bad casing leak.

A. It's possible.

Q. The only thing I'm asking you, you don't know whether or not it would or would not go into the Ogallala under those circumstances.

A. No, sir. I've not obtained a pressure on the Ogallala formation.

Q. Are you familiar with the Windmill Oil Company?

A. No, sir.

Q. In Hobbs, New Mexico, at the San Andres?

A. No, sir.

Q. Where they use -- where there's been casing leaks, and the water has been fresh water, and it scums and it's made over several thousand barrels of oil in the last 20 years; do you know anything about that?

A. No, sir.

Q. Wasn't Mobil an operator in the East Hobbs Pool?

A. I'm not familiar with that.

Q. Now, let's see. As I understand it then, 6 and 7

is your schematic on how you intend to complete this well; is that right?

A. Yes, sir.

MR. NEAL: I have no further questions.

MR. PEARCE: May I?

HEARING EXAMINER: Yes, sir, go ahead.

REDIRECT EXAMINATION

BY MR. PEARCE:

Q. Mr. Jimenez, we've had a good deal of discussion about well bore integrity, and I want to go back and review what I understand is going on and see if I'm correct. Within the present injection well and the proposed injection well, there's a string of casing; is that correct?

A. Yes, sir.

Q. And inside that string of casing is a second tube through which the water to be disposed of is injected; is that correct?

A. Yes, sir.

Q. And that tubing is plastic-lined to prevent corrosion?

A. Yes, sir.

Q. Between the tubing and the casing, that space that's called an annulus, is filled with an inert fluid; is that correct?

A. Yes, sir. It's typically treated to eliminate

corrosion in the annulus.

Q. So that if a casing leak, in fact, developed, the most likely occurrence is that that inert fluid would, to the extent it could, leak out of the annular space and that -- in fact, there is a pressure gauge on the annular space; is there not?

A. Yes, sir.

MR. PEARCE: Thank you. That's all.

HEARING EXAMINER: I'd ask a question or two about that, Mr. Jimenez. Is there any pressure at all on the tubing casing annulus?

THE WITNESS: No, sir, not right now.

HEARING EXAMINER: So it and the tubing read the same pressure?

THE WITNESS: Right.

HEARING EXAMINER: Whenever you go out there and observe it.

THE WITNESS: Right.

HEARING EXAMINER: Is the tubing casing annulus filled with fluid of any kind?

THE WITNESS: Yes, sir. Packer fluid, like I mentioned, is treated with a corrosion inhibitor to minimize corrosion in the annulus.

EXAMINATION

BY MR. STOVALL:

Q. The tracer survey you ran is in the open hole portion of that well; is that correct?

A. We started up in the cased hole and ran it down into the open hole portion, yes, sir.

Q. You can run a tracer survey in the cased portion of a hole?

A. Yes, sir.

MR. STOVALL: Thank you.

RECROSS-EXAMINATION

BY MR. NEAL:

Q. Have you gone to any of these other disposal wells that Mr. Burnham testified to that's on the exhibit and determined the pressures on those?

A. No, sir.

Q. Do they do the same thing as far as casing pressure and maintain that record?

A. I'm not sure what they do as far as on a daily basis. That's really above what we're required to do. On a monthly basis, they are required to submit a pressure -- injection tubing pressure, but I'm not familiar with what they do besides that.

MR. NEAL: That's all.

HEARING EXAMINER: Any more --

MR. PEARCE: Nothing further of this witness, Mr. Examiner.

HEARING EXAMINER: The witness may be excused.

MR. PEARCE: Mr. Examiner, at this time I would like to present and move the admission of what I have marked as Mobil Exhibit Number 11, which is the affidavit of service, and I'd like to highlight a problem which I'm responsible for, to Mr. Neal and to the division. That notice was not timely sent 20 days prior to this hearing, and I believe it will be necessary for us to recall this case in two weeks so that any party who received that notice who is not here today could appear if they wish to express an opinion on this matter.

HEARING EXAMINER: You just need to readvertise it again, see if anybody else shows up.

MR. PEARCE: Actually, I don't need to readvertise; we just need to leave this open, and we can take the case under advisement at the next hearing. The advertisement was timely made, the mailing notice was not.

HEARING EXAMINER: Renotice it then?

MR. PEARCE: Yes, sir.

MR. STOVALL: Not actually even renotice, but rather allow time for that notice --

MR. PEARCE: Allow the 20-day clock to run.

MR. STOVALL: Nothing has to be done except the passage of time.

MR. NEAL: I have no objection to that at all.

HEARING EXAMINER: And you're willing to accept this?

MR. NEAL: Yes, sir.

MR. PEARCE: He got one, we know he got one.

HEARING EXAMINER: Exhibit 11 is accepted. Anything further, Mr. Pearce?

MR. PEARCE: No, sir.

MR. NEAL: I have one witness, will be very short. Mr. Squires, will you take the witness chair?

HEARING EXAMINER: We'll accept 1 through 11, if we haven't already.

LARRY C. SQUIRES

the Witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. NEAL:

Q. State your name.

A. Larry C. Squires.

Q. Mr. Squires, you're the president of Snyder Ranches Inc., a corporation?

A. That's correct.

Q. And as such, are you the operator of -- the Snyder Ranches operate several ranches in Lea and Eddy County; is that correct?

A. That's correct.

Q. And is one of the important factors of being able

to ranch fresh water?

A. Very definitely so.

Q. And have you had unfortunate experiences with contamination of fresh water in the potash area?

A. Yes, I have had water wells that have been contaminated by open pits by the oil and gas industry.

Q. And that's under the caprock towards Carlsbad.

A. That's correct.

Q. As far as this particular area, you haven't had any problems at this time.

A. Not as yet, and I would like to try and prevent any problems before they do happen.

Q. You heard the testimony of Mr. Burnham, and referring to, I believe, the Champion water well report that's contained in Exhibit Number 1 -- and it's marked Exhibit D -- and I'll ask you if you know where the Snyder windmill is.

A. Well, yes, I know where -- we've got several windmills, and I was not sure where this windmill was located.

Q. Directing your attention to Exhibit 3, where is the closest windmill from either Mobil's well presently being used or the proposed well?

A. Well, in Section 34, just off of highway 529, approximately a mile or three-quarters from their disposal

well.

Q. And you heard the testimony of Mr. Burnham that there is a well here in the corner of the quarter marked W. M. Snyder.

A. He is correct; there is a water well there, yes.

Q. Is there any windmill on it?

A. Hasn't been a windmill on it in six or seven years.

Q. Is it presently being pumped by a submergible pump?

A. That's correct; it's got a submergible pump in it.

Q. Did you contact Champion Chemicals to determine where they had taken the test?

A. Yes. I contacted Owen Roberts who is the fellow that sampled the water, and I also discussed it with Mr. Randolph Scott, the chemist.

Q. Where did hey tell you that they took the test?

A. Mr. Roberts indicated to me tha he --

Q. Did he indicate or tell you?

A. He told me. He says, "Oh, yes, I remember that. I sampled that water well. It's just off of highway 529 down in a draw." And I assumed that that was the windmill that we have on that -- in that area because there's no windmill on the 40 acres that they've testified to. And, of

course...

Q. To your knowledge, were you ever contacted about taking a sample from that water that's located in the Snyder ranch on the map for W. M. Snyder?

A. Not for this case, no, not at all. Mobil employees, no one has contacted me about taking a sample of any of our water wells for this application.

Q. Now, is this particular area where the proposed well is to be located, is that on your ranch?

A. If I may, I'll point it out on this map.

Q. Call the number of the exhibit.

A. Either one of the exhibits; both of them have got Section 34.

Q. Wait a minute. Exhibit -- what's that right there?

A. This is Exhibit 3.

Q. All right, Exhibit 3.

A. The water well that the Champion Chemical employee indicated to me that he sampled was within a thousand feet of this highway right here.

Q. Will you put a mark there, please, as a windmill well?

A. He indicated to me that he sampled this water well right here. I asked him specifically, I said, "Did you sample the water?" I said, "Do you know where Mobil's

disposal well is?" He says, "Yes, where those big black tanks are." I said, "Yes, that's correct." I said, "Did you sample a water well within a thousand, 1,500 feet of that disposal well?" He says, "No, I did not."

Q. All right. Now, Mr. Squires, is that area part of the Lea County water basin?

A. Yes.

Q. And subject to the jurisdiction of the state engineer of the State of New Mexico?

A. Yes. We have a farm located not too far from there that's got 800-acre feet of water allocated to this farm.

Q. And is that a strong area -- strong water sand in that area?

A. Oh, very definitely. We have some irrigation wells that are approximately 90 feet deep that produce six to 900 gallon a minute.

Q. And the chlorides shown where the Snyder windmill, wherever that may be, is one; is that correct?

A. One milligram per liter; that's correct.

Q. That's pretty good water, isn't it, compared to what they're pumping in the other tests that have been shown?

A. It's excellent fresh water.

Q. It's your purpose of protesting here today to

request the commission or the hearing examiner to assure that adequate steps are taken whereby no contamination of the Ogallala formation can occur.

A. That is exactly my purpose. I am not a geologist. I do not understand all of this technical stuff. But the one thing that I do understand is that there have been fresh water contaminations within the area, within the Buckeye area, in the Texaco area, and it's been caused by geologists, and competent geologists indicate to me that it's caused by water seeping up through into the Salado formation and getting around old abandoned well bores that were plugged 30 years ago and seeping into the Ogallala.

We're very concerned about it in this area because less than a year ago, or approximately a year ago, Hondo Oil and Gas reentered a well in the northwest part of this Section 27, and they flowed salt water out of six-inch pipe for ten days. And as a farmer and rancher in the area, I'm vitally concerned where the water is coming from and why is it there, because I am told by Mr. Sexton and other people in the area that it's not naturally occurring water, that it's water that's gotten into the salt formation from other ways. And a lot of people, a lot of knowledgeable people, cannot tell you exactly why that water is getting into that Salado section. And it appears to be migrating from the Buckeye area to the southeastern toward my ranch

and our farming area, and, yes, I'm vitally concerned. I'm certainly not here trying to force Mobil to do business with me. We don't really want their business.

Q. Mr. Squires, do you know of other instances of fresh water contamination in the Ogallala formation in Lea County?

A. Yes.

Q. Has it been occurring all over the county?

A. That's correct.

Q. Now, just one more question, if I can find my note here. In your protest you have requested the commission to take adequate steps. In other words, it's your opinion as a landowner and a rancher that there be more inspections required of these disposal wells to make sure there's no contamination that will occur?

A. I certainly do. You know, I feel like that a lot of oil companies are very casual about testing the adjacent water wells within the area, as pointed out very definitely that these people thought they had sampled the water well on that 40 acres when, in fact, it was a mile-and-a-half away. It was casual occasional sampling of a water well.

MR. NEAL: I have nothing further.

HEARING EXAMINER: Mr. Pearce?

MR. PEARCE: Thank you.

CROSS-EXAMINATION

BY MR. PEARCE:

Q. Mr. Squires, let's talk about the water well that got sampled. Let's assume for purposes of my questioning that, in fact, they didn't get that well on your 40-acre tract due east of the proposed disposal well but, in fact, sampled some other well.

A. I don't know whether they sampled that well or not. I know that none of Mobil's employees or agents called me and asked me that they'd like to take a sample of that well.

Q. And I really didn't understand that answer. I thought you had indicated to me that this Champion sample was not a sample from that well.

MR. NEAL: From the well on the 40 --

Q. (By Mr. Pearce) Do you know that?

A. I don't know that for a fact. If it is, then he's in error because he says that there's a windmill on it. There is no windmill on it.

Q. Have you taken a current water sample of the well on that 40-acre tract in Section 26? You're telling me there's a well with a downhole pump; is that right?

A. That's correct.

Q. Do you have a water sample of that water?

A. I don't have a water sample of it now. I was out there a couple of days ago, and I turned it on and I got a

drink out of it.

Q. Do you have anything that leads you to believe that a water sample from that well would be different -- would yield different results than are reflected on this page of Exhibit Number 1?

A. Well, yes. I would think that certainly if any contamination occurs from the salt water disposal well that's 660 feet away from it, that certainly the contamination of the chlorides would certainly show up in that well much sooner than they would a mile-and-a-half away.

Q. Do you have any indication currently that there is any contamination in that well bore on that 40-acre tract in Section 26?

A. No, I do not. I would like to see Mobil sample the water for me and submit monthly analyses to me so we can determine whether or not it's got any contamination in it or not.

Q. Do you have any idea what the cost of that water sampling is, testing?

A. Yes.

Q. What does that cost?

A. Approximately $50.00 a sample.

Q. And yet over all these years with the well in Section 35 injecting 35 million barrels of salt water for

disposal, you have not tested the water in that well; is that correct?

A. I have not tested it because it's been good water all this time. And, of course, that disposal well down there in that area has been there for a long time, and is approximately two-and-a-half miles away.

Q. Let's refocus our attention to some discussion you had about a surface disposal facility. Where is that facility, Laguna Katuna?

A. It's located approximately 25 miles from this area.

Q. And where is your ranch in relation to this area, the area of the disposal well, where is your ranch?

MR. NEAL: Which one?

A. I've got three or four ranches.

Q. (By Mr. Pearce) Where are those ranches?

A. My home is located approximately two miles to the east, two-and-a-half miles to the east. Our north boundary is located approximately two miles north of there. Our west boundary is approximately four miles west of there, south boundary approximately two miles.

Q. South of this location?

A. Yes.

Q. And do you have other ranches to the south of this acreage?

A. Yes, south and west both.

Q. Is the current surface disposal facility in the vicinity of one of your ranches?

A. Yes, it was. I have recently sold that ranch.

Q. And when that ranch was yours, did you have Ogallala water on that ranch?

A. No, we never have.

Q. Where did the water for that ranch in operation come from?

A. We got the -- we have some water wells on that ranch, but it's not Ogallala water. The Ogallala pinches out, as I understand it, along the edge of the caprock. The -- it's Santa Rosa water, and I believe that's correct, and also some pockets of water that are located within the red beds in that area. But as far as in the basic vicinity of Laguna Katuna, there is no fresh water, never has been.

Q. How is the water transported to that surface disposal facility?

A. Primarily by pipeline; in fact, 99 percent of it is transported by pipeline.

Q. And those pipelines, I assume, cross major portions of your ranch, or do they not?

A. Ninety-nine percent of the right-of-ways procured by the pipelines is federal government.

Q. Lands that you have grazing leases on?

A. I did have grazing permits on them. I do not now. I've sold it.

Q. And when you speak of your ranches, are we including acreage which you own in fee and acreage which you lease?

A. That's correct. I might like to add, Mr. Pearce, the Laguna Katuna salt water disposal company is not owned solely by me. I'm a minority stockholder.

Q. You mentioned, Mr. Squires, one of your ranches or all of your ranches, and I didn't understand which, has 800-acre feet of water rights.

A. I have a farm approximately three miles from this disposal well that has about 800 acres of water rights.

Q. Which direction?

A. East.

Q. And the water at that farm is at an approximate depth of 90 feet; is that correct?

A. That's correct.

Q. And have you sampled the water from those wells?

A. No, I have not.

Q. You mentioned your understanding that Hondo Oil and Gas Company had attempted a reentry of a well, I believe you said in Section 27?

A. I'm not sure whether it's in Section 27 or the southwest southwest 22. It's either -- it's right in the

corner, the northwest northwest 27 or southwest southwest 22.

Q. Do you have any information about the well which they reentered, the depth of that well or the zoning?

A. It was -- they reentered it, it was my understanding, for shallow production. They entered -- they encountered a salt flow of approximately two to 3,000 feet. The water flowed for a week, ten days and they plugged and abandoned it.

Q. Two to 3,000 feet?

A. I don't know. All I saw was the water gushing out on to our ranch. It damaged quite a bit of surface in that area.

Q. I'm sorry, I want to go back and try to understand. I thought I understood you to say that you understood that the interval from which the water was flowing to be two to 3,000 feet.

A. That's what the pumper or the man out on the location told me.

Q. That's what I was trying to determine. I appreciate that, sir.

A. I had felt like that we might get some information on that well this morning in that hearing.

MR. PEARCE: Mr. Examiner, I don't believe I have anything further of Mr. Squires at this time.

MR. NEAL: Nothing further.

HEARING EXAMINER: Mr. Squires, the contamination of your ranchland from potash and oil field operations, has that been your ranch in this area? Was that contamination of your ranchland in the area of this application?

THE WITNESS: Yes, sir. There has been some contamination of the surface of our lands from this Union disposal well located in this same pasture. Primarily, most of this contamination has occurred in shallow water aquifers over close to the Mash Draw area.

HEARING EXAMINER: Is your ranch -- does it include all or parts of what's shown on Exhibits 3 and 4 as Sections 21, 22, 23, 26, 27 and 28 and 33, 34 and 35?

THE WITNESS: Yes, sir. Basically, I think our north boundary would be the -- north boundary would be this line right here. I believe that's correct.

HEARING EXAMINER: Where is south? Is it way on south of the map?

THE WITNESS: Yes, it goes south and back east towards Monument.

HEARING EXAMINER: So, basically, all that's shown is -- the contour lines up there is part of your ranch.

THE WITNESS: Yes, sir, it sure is.

HEARING EXAMINER: Did I understand you to say that -- you or Mr. Neal one -- that you weren't really protesting

this application, but you wanted to make sure that certain safeguards or adequate safeguards were required so that water contamination would not occur?

THE WITNESS: Well, our prime concern is that -- protection of our fresh water source. We don't feel like that Mobil is very interested in our water well because we don't feel like they've even sampled it. And this is our main concern.

HEARING EXAMINER: Would you, as a monitoring procedure, should this application be granted, or as a monitoring procedure for the other disposal well, would you have any problem with them obtaining periodic samples from your well to run analysis on?

THE WITNESS: No, sir, I don't; but we do feel like that their water does encroach upon our property, and Mobil has not -- we feel like that our Devonian formation in our 40 acres is storing their waste that's being transported from ten miles away, and we don't think Mobil has a right to use our property without our consent. But, certainly, I really have no objections to proper safeguards and a good salt water disposal well, no, I certainly don't.

HEARING EXAMINER: So the sampling program utilizing your well, you wouldn't have any objection to that, if I heard you correctly. And while you didn't sample it, that well, I believe you said you drank from it recently, and

that was within the last month or so?

THE WITNESS: Last couple of days, yes, sir.

HEARING EXAMINER: Do you use the water for your ranch house or irrigation?

THE WITNESS: Livestock. There's no house there.

EXAMINATION

BY MR. STOVALL:

Q. Mr. Squires, you said you're only a small owner in Laguna Katuna?

A. That's correct.

Q. Are you an officer of that?

A. Yes.

Q. Is that a corporation?

A. Yes.

Q. Are you an officer of the corporation?

A. I'm the president of the corporation.

Q. Who are the other major stockholders in the corporation?

A. Trent Stradley, Wade Shipley, Lloyd Goodheart.

Q. Is that it?

A. That's it, yes.

Q. You indicated pipeline comes -- a lot of the water that's disposed of is delivered by pipe; is that correct?

A. A hundred percent of it is at this time, yes.

Q. Does any of that pipe cross the area where your 800-acre feet of water is located?

A. Oh, no, no, it's 30 miles from there.

MR. STOVALL: I have no further questions.

HEARING EXAMINER: All right, the witness may be excused.

MR. NEAL: I have nothing further.

HEARING EXAMINER: I'd like to ask Mr. Jimenez one more question.

Mr. Jimenez, would Mobil have any problem with sampling that well on a periodic basis, the well we've discussed with Mr. Squires, his well?

MR. JIMENEZ: No, we wouldn't have any problem at all. In fact, we'd like to do that, just to keep a proper monitor out there.

HEARING EXAMINER: Do you know if in salt water disposal wells, if Mobil ever uses a procedure of pressuring up on the annulus to observe whether or not there's any difference in pressures on wells such as this, the one you're applying for that is injecting on a vacuum?

MR. JIMENEZ: We have not done it since we started injection, but we will do it as part of the commission requirements, yes.

HEARING EXAMINER: You would then -- that would be acceptable to you to put a positive pressure on the annulus

in order to better monitor whether or not you had a leak in the tubing or the packer.

MR. JIMENEZ: Okay, to maintain constant pressure?

HEARING EXAMINER: Yes.

MR. JIMENEZ: That's -- I haven't heard of many instances where they do that. I would like to talk to the operations folks and see if they would have any problem with doing that.

HEARING EXAMINER: If you'd do that and include that in some kind of a written submission, along with the material Mr. Pearce is going to submit concerning the cites he'd like to make as to the records.

MR. JIMENEZ: Okay.

MR. STOVALL: I think since this case will be open for two more weeks, perhaps at the next hearing, Mr. Neal; is that all right?

MR. NEAL: Fine.

EXAMINATION

BY MR. STOVALL:

Q. Mr. Jimenez, what would you recommend? What would you think would be an adequate frequency of the testing of a water well which is the subject of Mr. Squires' concern?

A. I think on a quarterly basis would probably be sufficient to sample that water.

HEARING EXAMINER: Quarterly?

MR. JIMENEZ: Yes, sir.

Q. (By Mr. Stovall) From your knowledge and experience in production engineering, have the techniques involved in preventing leakage through casing, etcetera, improved over the last 30 years?

A. As far as leaking from the tubing to the casing, they've improved on the type of linings in the last several years. And, of course, we would use the best possible lining for our tubing to prevent or minimize any kind of tubing leak, yes, sir.

Q. And monitoring, has that been improved, either the technology or the regulatory requirements?

A. Basically, as far as monitoring, it's just a matter of monitoring your pressure gauges or putting a positive pressure on your annulus, once a year, or something to that effect.

MR. NEAL: Quarterly would be entirely satisfactory.

HEARING EXAMINER: Quarterly sampling of the well?

Anything further?

The witness may be excused. And, let's see, I guess we'll leave this case open for two weeks for anyone to appear that wants to. We'll be in recess then until 1:45.

(The foregoing hearing was adjourned at the approximate hour of 12:56 p.m.)

STATE OF NEW MEXICO)
:
COUNTY OF SANTA FE)

I, FREDA DONICA, RPR, a Certified Court Reporter, DO HEREBY CERTIFY that I stenographically reported these proceedings before the Oil Conservation Division; and that the foregoing is a true, complete and accurate transcript of the proceedings of said hearing as appears from my stenographic notes so taken and transcribed under my personal supervision.

I FURTHER CERTIFY that I am not related to nor employed by any of the parties hereto, and have no interest in the outcome hereof.

DATED at Santa Fe, New Mexico, this 5th day of April, 1991.

Freda Donica
Certified Court Reporter
CCR No. 417

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10223, heard by me on March 7 1991.

Examiner
Oil Conservation Division

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:	
APPLICATION OF MOBIL EXPLORATION & PRODUCING COMPANY FOR APPROVAL OF SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO	CASE NO. 10233

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner
March 21, 1991
3:35 p.m.
Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on March 21, 1991, at 3:35 p.m. at Oil Conservation Division Conference Room, State Land Office Building, 310 Old Santa Fe Trail, Santa Fe, New Mexico, before Paula Wegeforth, Certified Court Reporter No. 264, for the State of New Mexico.

FOR: OIL CONSERVATION DIVISION

BY: PAULA WEGEFORTH
Certified Court Reporter
CSR No. 264

EXAMINER STOGNER: Call next case, 10233.

MR. STOVALL: Application of Mobile Exploration and Producing Company for approval of salt water disposal, Lea County, New Mexico.

EXAMINER STOGNER: This case was heard on the March 7th, 1991, docket. It was continued for some reason.

MR. STOVALL: It was continued because the notices had not actually gone out in time. There was no additional action on anyone's part. It was just a matter of allowing time to lapse.

EXAMINER STOGNER: In that case, at this time I'll call for any additional appearances and/or testimony.

None being, this case will be taken under advisement.

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10233, heard by me on 21 March, 1991.

Michael E. Stogner, Examiner
Oil Conservation Division

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

REPORTER'S CERTIFICATE

I, PAULA WEGEFORTH, a Certified Court Reporter and Notary Public, DO HEREBY CERTIFY that I stenographically reported these proceedings before the Oil Conservation Division; and that the foregoing is a true, complete and accurate transcript of the proceedings of said hearing as appears from my stenographic notes so taken and transcribed under my personal supervision.

I FURTHER CERTIFY that I am not related to nor employed by any of the parties hereto, and have no interest in the outcome hereof.

DATED at Santa Fe, New Mexico, this 22nd day of April, 1991.

Paula Wegeforth

PAULA WEGEFORTH
Certified Court Reporter
CSR No. 264, Notary Public

My Commission Expires:
September 27, 1993