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 FALCON CREEK RESOURCES, INC., FOR STATUTORY UNITIZATION, LEA COUNTY, NEW MEXICO	)	CASE NOS. 12,331
APPLICATION OF FALCON CREEK RESOURCES, INC., FOR APPROVAL OF A WATERFLOOD PROJECT FOR ITS WEST TEAS (YATES-SEVEN RIVERS) UNIT AREA AND QUALIFICATION OF THE PROJECT FOR THE RECOVERED OIL TAX RATE PURSUANT TO THE ENHANCED OIL RECOVERY ACT, LEA COUNTY, NEW MEXICO	)	and 12,332
	)	(Consolidated)

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

ORIGINAL

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

February 17th, 2000

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, February 17th, 2000, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

I N D E X

February 17th, 2000
Examiner Hearing
CASE NOS. 12,331 and 12,332 (Consolidated)

* * *

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A P P E A R A N C E S

FOR THE DIVISION:

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FOR THE APPLICANT:

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By: WILLIAM F. CARR

* * *

WHEREUPON, the following proceedings were had at 8:57 a.m.:

EXAMINER STOGNER: At this time I'll call Case Number 12,331.

MS. HEBERT: Application of Falcon Creek Resources, Inc., for authority to inject water into six wells in the proposed Teas-Yates Seven Rivers Unit Waterflood Project Area, Lea County, New Mexico.

EXAMINER STOGNER: Call for appearances.

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

EXAMINER STOGNER: Okay, any other appearances?

Will all three witnesses please stand to be sworn at this time?

(Thereupon, the witnesses were sworn.)

MR. CARR: Mr. Stogner, this case involves an Application to inject water in six wells in the Teas-Yates-Seven Rivers Unit.

Efforts to unitize this acreage have been ongoing for over a year, and as part of these efforts, in August of 1999, Falcon Creek filed application for administrative approvals for six injection wells in the Teas-Yates-Seven Rivers Unit Waterflood Project area.

Objections to these Applications were received, and this case, Case 12,272, was set for hearing.

Since that time, there have been substantial negotiations between the parties, and I can report to you that the interests of Mitchell Energy Corporation; Santa Fe Snyder Corporation; Camterra Resources Partnership, Limited; and Bass Enterprises Production Company have been, in fact, acquired by Falcon Creek.

We stand before you in a situation today where there is no longer an objection to this Application by virtue of certain agreements that have been reached and the acquisition of these property interests.

Now, on December the 28th, I filed applications for Falcon Creek seeking statutory unitization of this area, and filed an application again seeking approval of the waterflood project. Those cases are docketed as Case 12,272 -- I'm sorry, Cases 12,331 and 12,332. There is an overlap between the first case filed, 12,272, and Case 12,331.

We therefore request that the initial case, Case 12,272, the original waterflood application, be dismissed, and that you now call Case 12,331 and Case 12,332, and that those cases be consolidated for hearing.

EXAMINER STOGNER: Thank you. For the record, I'll call Case Numbers 12,331 and 12,332.

MS. HEBERT: Application of Falcon Creek Resources, Inc., for statutory unitization, Lea County, New Mexico,

And Application of Falcon Creek Resources, Inc., for approval of a waterflood project for its West Teas (Yates-Seven Rivers) Unit Area and qualification of the project for the recovered oil tax rate pursuant to the Enhanced Oil Recovery Act, Lea County, New Mexico.

EXAMINER STOGNER: Other than Mr. Carr representing the Applicant, are there any appearances in these cases?

Let the record show that the witnesses have been sworn, and we'll dismiss Case 12,272, and both 12,331 and 12,332 will be consolidated for purposes of testimony.

Mr. Carr?

MR. CARR: May it please the Examiner, at this time we call Lynn D. Becker.

MS. HEBERT: Has this witness been sworn?

EXAMINER STOGNER: Did we swear the witnesses?

MR. CARR: Yes, you did.

EXAMINER STOGNER: And you have been sworn?

MR. BECKER: Yes, I have.

EXAMINER STOGNER: And you did swear three in, Mr. Brenner?

COURT REPORTER: Yes, sir.

EXAMINER STOGNER: Thank you.

LYNN D. BECKER,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. Lynn David Becker.

Q. And where do you reside?

A. 14085 Berry Road, Golden, Colorado.

Q. And by whom are you employed?

A. Falcon Creek Resources, Incorporated.

Q. Mr. Becker, what is your position with Falcon Creek Resources?

A. I'm a senior landman.

Q. Have you previously testified before the New Mexico Oil Conservation Division?

A. I have not.

Q. Would you briefly summarize your educational background for Mr. Stogner?

A. I have six years post-college education, five years in the College of Environmental Design, University of Colorado, and one year in the School of Business, Regis University.

Q. When did you graduate?

A. I did not graduate.

Q. When did you leave college?

A. 1978, spring of 1978.

Q. And since that time, would you review for the Examiner your work experience?

A. I started my career with Mobil Oil Corporation. I was there for two years when I was hired by Petro-Lewis as an acquisition landman. I worked for them for five years. Then I spent 11 years as an acquisition consultant, two years with an exploration company in Denver, Westport Oil and Gas, and the last two years of my 22-year career with Falcon Creek Resources.

Q. And during this 22-year career you have been working in various capacities as a petroleum landman; is that correct?

A. Correct.

Q. Are you familiar with the Application filed in each of these consolidated cases?

A. Yes, I am.

Q. Are you familiar with the status of the lands in the proposed West Teas (Yates-Seven Rivers) Waterflood Unit Area --

A. Yes, I am.

Q. -- West Teas (Yates-Seven Rivers) Pool?

A. Sorry. Yes, I am.

Q. Are you familiar with the efforts of Falcon Creek to reach voluntary agreement with other interest owners in the unit area for the further development of the minerals under these lands?

A. Yes, I am.

Q. Are you familiar with the proposed unit agreement and unit operating agreement for the West Teas Unit and the status of the ratifications of the proposed units and waterflood project?

A. Yes, I am.

MR. CARR: Mr. Stogner, at this time we would tender Mr. Becker as an expert witness and petroleum landman.

EXAMINER STOGNER: Mr. Becker, again, what was your -- the college before -- Was it Regis?

THE WITNESS: Yes, one year at the School of Business at Regis University and five years in the College of Environmental Design at the University of Colorado. School of Architecture, actually.

EXAMINER STOGNER: So you went to the University of Colorado first, then Regis?

THE WITNESS: Yes, I did.

EXAMINER STOGNER: And you left Regis in 1978?

THE WITNESS: I've also taken one course in

mineral economics from the School of Mines.

EXAMINER STOGNER: Which School of Mines would that be?

THE WITNESS: I'm sorry, Colorado School of Mines.

EXAMINER STOGNER: Oh, okay, I'm from New Mexico, so there was only one in my mind. Okay, so Colorado School of Mines, the other School of Mines?

THE WITNESS: That's the other one, yes.

EXAMINER STOGNER: Okay, good.

THE WITNESS: Thank you, sir.

EXAMINER STOGNER: Consider yourself qualified, and you won't have to go through these questions again when you come up.

THE WITNESS: Thank you.

EXAMINER STOGNER: Mr. Carr?

Q. (By Mr. Carr) Mr. Becker, would you briefly state what Falcon Creek seeks with this Application, or with these Applications?

A. Yes, we seek the statutory unitization of the proposed unit, West Teas (Yates-Seven Rivers) Unit Area, comprised of 1320 acres, more or less, including federal, state and fee lands, the approval of the waterflood project itself for the unit, approval to inject water into the reservoir, and qualification for the reduced severance tax.

Q. What is the current status of the acreage in the unit area?

A. There are 18 tracts in the unit area. Ten of those tracts are federal, seven are state and one is fee. All of the lands are held by production, with the exception of a 120-acre federal tract and a 40-acre state tract.

Q. Let's go to what has been marked as Falcon Creek Exhibit Number 1. I'd ask you to identify it and then just briefly explain to the Examiner what it shows.

A. This Exhibit Number 1 is an area map. It shows an outline of the proposed unit area and other lands in the immediate vicinity. Approximately one mile to the east of the West Teas proposed unit boundary is the Teas Unit, and you see several wells there that are producing from the same Yates-Seven Rivers formation, and that is also a Yates-Seven Rivers flood.

Q. Let's go to Exhibit Number 2. Would you identify and review that?

A. This is an ownership plat of the lands within the unit. The plat shows the record title ownership of the lands. Each of the record title owners is shown there with their lease designation in each one of the unit tracts.

Falcon Creek Resources is the operator of all of the tracts. We just consummated three sales this last week from parties within the unit, which gave us 100-percent

control of the operators.

The federal land in here comprises about 54.55 percent of the unit, the state land is 39.39 percent of the unit, and there's an 80-acre fee tract which is 6.06 percent of the unit.

Q. Would you now identify Exhibit Number 3?

A. Exhibit Number 3 is the unit agreement for the development and operation of the West Teas (Yates-Seven Rivers) Unit. This unit agreement is a typical federal form, which has been tentatively approved, preliminarily approved, by the state and reviewed by them. It shows the character of the lands, it defines the unitized formations, it provides for the waterflooding of the unit, it sets out the basis of participation for each of the parties in the unit, and it provides for the periodic filing with the NMOCD, the BLM and the State Land Office of plans of operation and development.

Q. And Exhibit Number 4 is what?

A. Exhibit Number 4 is the unit operating agreement for the West Teas (Yates-Seven Rivers) Unit. This document sets out who the unit operator is going to be; it's stated that Falcon Creek Resources will be the unit operator. It outlines how the work will be supervised and how the management of the unit will take place. It also defines the rights and duties of all the parties within the unit,

all the working interest owners. It shows how the investments and the costs are to be shared. It establishes a voting procedure for all the decisions to be made by the working interest owners as they go forward in the development of this project. It has an exhibit that defines the accounting procedures on how costs and expenses are to be handled, and contains a multitude of other fairly standard operating agreement clauses.

Q. Has Falcon Creek reviewed the Application and these agreements with the Bureau of Land Management?

A. Yes, we have. I have an Exhibit Number 5. Exhibit Number 5 is a letter from the Roswell Field Office of the Bureau of Land Management, designating the West Teas (Yates-Seven Rivers) Unit Area as a logical unit area.

Q. And have you also reviewed this Application with the New Mexico Commissioner of Public Lands?

A. Yes, I have. Exhibit Number 6 is a copy of the letter from the Commissioner granting preliminary approval to our proposed West Teas (Yates-Seven Rivers) Unit.

Q. And as a condition for final approval, the Land Office is requiring an order from the Oil Conservation Division approving the unit; is that correct?

A. Yes, they are.

Q. Could you refer to what has been marked as Exhibit Number 7, identify this first and then explain what

it is?

A. Exhibit Number 7 is a listing of working interest owners by tract. It shows their ownership in each tract and then whether or not they've executed a joinder, and then it shows that percentage of -- voting percentage of that joinder. It goes through all 18 tracts of the unit.

Q. And what percentage of the working interest is voluntarily committed to the unit at this time?

A. On a unit basis, there is a little over 96 percent of the unit owners, unit working interest owners, have committed their interest.

On a tract-by-tract basis, no less than 89 percent of the working interest owners in each tract have committed their interest.

EXAMINER STOGNER: Okay, run those numbers by me again, before we get off of that?

THE WITNESS: Okay, on a unit basis, 96.8 percent of the working interest owners have committed their interest to the unit.

On a tract basis, no less than 89 percent of the working interest owners have committed their interest to the unit.

Q. (By Mr. Carr) So every tract has at least 89 percent of the working interest voluntarily committed?

A. Correct. I'm only missing four owners.

Q. And who are those four owners?

A. In Tract 2C, Charles McNeese; he owns a 2-percent interest.

In Tract 2E Kenneth English, and he owns a 10-percent interest.

In Tracts 2B, -D and -F -- sorry, more slowly -- -B, -D and -F, PATCO, Limited, has a 5-percent interest.

And then all of Tracts 2 and 3, the partnership of Sheehy and Richardson owns between 1- and 1-1/4-percent interest.

Q. Have you been able to reach and visit with each of these interest owners concerning their voluntary participation in this effort?

A. Yes, since we began our attempts to unitize this back in November of 1998, we've made three attempts to purchase the interests of these owners. They've all indicated that they would like to participate in the unit. By telephone, I've talked to them multiple times to keep them updated about our progress with the unit and to solicit their written participation through ratification, and they have been unwilling to return an executed ratification and joinder.

Q. Let's go now to the royalty interests, and I direct your attention to what has been marked Falcon Creek

Exhibit Number 8. Would you identify that and review it for Mr. Stogner?

A. This is a similar document as the previous document. It's a listing showing all of the royalty owners and overriding royalty owners by tract.

It has attached to it copies of all the executed ratifications.

One hundred percent of the royalty -- base royalty owners, have committed their interests to the unit. I am missing four overriding royalty interest owners, so that gives me an overall participation percentage of approximately 94 percent of the royalty and overriding royalty interest owners committed to the unit.

Q. When you have the state and federal government in, though, you have 100 percent of the --

A. Yes, when I say 100 percent of the base royalty, I am including the state and the federal government.

Q. Is it your opinion that you've done all you reasonably can to obtain the voluntary participation in this unit of all working and royalty interest owners?

A. Yes, I've sent letters requesting their participation and that they execute a ratification, and I've followed up with telephone calls and have been unable to induce these people to return their executed ratifications.

Q. Would you identify what has been marked as Falcon Creek Exhibit Number 9?

A. This is an affidavit from William F. Carr, indicating that he has served notice to all the appropriate parties, all the owners that would be subject to the statutory unitization order, all leasehold owners and surface owners within one-half mile of the unit boundary that would be affected for unitization purposes for the purpose of injection and the qualification for the --

Q. Mr. Becker, was a copy of Falcon Creek's Form C-108 submitted to each of these owners?

A. Yes, it was.

Q. As well as the Application for statutory unitization?

A. Yes, it was.

Q. Were Exhibits 1 through 9 either prepared by you or compiled under your direction?

A. Yes, they were.

MR. CARR: May it please the Examiner, at this time we would move the admission into evidence of Falcon Creek Exhibits 1 through 9.

EXAMINER STOGNER: Exhibits 1 through 9 will be admitted into evidence.

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

EXAMINATION

BY EXAMINER STOGNER:

Q. Okay, Mr. Becker, on Exhibit Number 7 you identify for me PATCO, Sheehy and Richardson, Charles McNeese and the PATCO, and a Kenneth English as being the parties that have not ratified; is that correct?

A. Correct.

Q. Okay. Now, you mentioned something, there are a few overriding royalty interests that have not, on Exhibit Number 8, and which ones would those be?

A. That would be Matt Muratta, and he has a .0083-percent interest in Tract 9; Conoco, Inc., and they have a 4.833-percent override in Tract 6; Bob Shackelford has a 5-percent override in Tract 1B; and Laguna Gatuna, Inc., has a 5-percent override in Tract 5A.

Q. Conoco in 6B, did you say that, or 6A?

A. It's 6A and B --

Q. 6A and B.

A. -- Tract 6.

Q. Now, were you an actual -- Well, okay. You were obviously in contact with Conoco and Laguna Gatuna.

A. Yes.

Q. How about Matt Muratta and the Bob Shackelford?

A. I've been in contact with Bob Shackelford. I know Bob over a series of transactions over the last year.

I don't know what happened to his particular ratification.

Matt Muratta, I have not been able to contact.

Q. Were you able to find them, an appropriate address?

A. I do have an appropriate address for him.

Q. He just hasn't responded?

A. Right, and I was unable to make a telephone follow-up call.

Q. Okay, explain to me -- You said you have been at this for about a year; is that correct?

A. Since November of 1998.

Q. Okay, so you've been in actual contact, or at least attempting contact, with these parties since that time?

A. Yes.

Q. Why don't you give me a rundown on essentially what has transpired over that time up until now, what kind of communications, attempted communications and such?

A. Okay. Approximately at the beginning of November of 1998, when we made the decision that we wanted to go ahead with this unitization effort, we sent a letter to all of the working interest owners in the area asking -- or offering to purchase their interest, and we gave them an offer. We did have some owners agree to sell their interest at that time.

Then we put together preliminary unit documents and circulated them to the owners, and at that time we also called a working interest owners' meeting on January the 5th, 1999, in Midland, Texas. During that meeting, it was decided that the owners wanted to use a different period for current production than the one that we had chosen, so we selected the time period from February through April of 1999. So all the parties went back to their various companies and worked over their wells to get production up to where they thought it ought to be.

And then we got together again in May of 1999 via teleconferences and exchanged information, and we had another working interest owners' meeting on July 15th in the offices of Bass in Midland, Texas, and again discussed the parameters for unitization.

At that time it became really apparent that there was differences of opinion of those who had drilled wells in more recent times, 1996, versus those who had drilled the wells in 1960, and so we were trying to work out the parameters and the weighting of the parameters in such a way that it would give equity to everyone, and we agreed to do some further studies, and we broke up from that meeting.

Then in August of 1999, really as a precursor for us getting ready for our unit Application, we went ahead and sent out the injection notice, because it does require

a longer notice period than unitization did. And at that time the other working interest owners in the fee tract, Mitchell, Camterra and Santa Fe, became alarmed that we might be working too quickly, and so they filed protests with the Commission, I believe, at that time, and we continued the hearing on that for several months.

We continued our negotiations amongst the parties, we bought a couple more owners during that time period, and then we had another working interest owners' meeting on or about November 10th, 1999, again in the Midland offices of Santa Fe Snyder. And again, we got down to some of the final details of how the unit would work, but we also discussed buying out those interests, those owners of those interests.

Then in December we received -- or late November, I guess it would have been, we received an offer to sell from Mitchell. We pursued that. That led, then, to offers to both Santa Fe and Camterra, and here this first two weeks of February we have consummated those sales and now own those interests.

EXAMINER STOGNER: Okay. Any other questions of this witness?

MR. CARR: No further questions.

EXAMINER STOGNER: You may be excused.

THE WITNESS: Thank you.

EXAMINER STOGNER: Mr. Carr?

MR. CARR: May it please the Examiner, at this time we would call Denny LeMar.

DENNY D. LEMAR,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. Denny D. LeMar.

Q. Mr. LeMar, where do you reside?

A. In Denver, Colorado.

Q. By whom are you employed?

A. Falcon Creek Resources.

Q. And what is your position with Falcon Creek?

A. I'm a senior geologist.

Q. Have you previously testified before the New Mexico Oil Conservation Division?

A. No, I have not.

Q. Would you review your educational background for Mr. Stogner?

A. I have a BS in geology from Northern Arizona University.

Q. And when did you receive your degree?

A. 1980.

Q. And since that time, could you summarize your work in the oil and gas industry?

A. I started my professional career with Amerada Hess in Seminole, Texas, was transferred to Denver in exploration with Amerada Hess. During that period I moved back to Roswell, New Mexico, with an independent for four years, I moved back to Denver, worked in various consulting positions with Graham Resources and Bonneville Fuels and, the last two years, Falcon Creek Resources.

Q. Are you familiar with the Applications filed in these cases?

A. Yes.

Q. Have you made a geological study of the portion of the West Teas (Yates-Seven Rivers) Pool that is involved in this case?

A. Yes, I have.

Q. Are you prepared to share the results of your work with the Examiner?

A. Yes.

MR. CARR: We tender Mr. LeMar as an expert witness in petroleum geology.

EXAMINER STOGNER: Mr. LeMar, you got your geology degree at Northern Arizona?

THE WITNESS: That's correct.

EXAMINER STOGNER: That's in Flagstaff?

THE WITNESS: Yes, sir.

EXAMINER STOGNER: And when did you get out?

THE WITNESS: 1980.

EXAMINER STOGNER: You went to Seminole?

THE WITNESS: Yes, sir.

EXAMINER STOGNER: How long were you at Seminole?

THE WITNESS: Two and a half years.

EXAMINER STOGNER: Two and a half long years?

THE WITNESS: They were enjoyable --

EXAMINER STOGNER: Well, good.

THE WITNESS: -- yeah, I'll have to confess.

EXAMINER STOGNER: Flagstaff to Seminole.

THE WITNESS: Uh-huh.

EXAMINER STOGNER: All right, so qualified. Thank you, sir.

THE WITNESS: Thank you.

Q. (By Mr. Carr) Mr. LeMar, you have prepared exhibits for presentation in this case, correct?

A. Correct.

Q. Initially, could you identify for us the formation that's being unitized?

A. The formation is the Yates-Seven Rivers.

Q. And how is that defined?

A. It's defined by Exhibit 10, I believe. This is

the Olsen Energy Snyder State Number 1, is what I've chosen for a type log, and it's located in Unit Letter J of Section 16.

And what we have is, the Yates has been subdivided into three different intervals. The top interval is characterized by siltstones, sandstones, interbedded anhydrites and shales.

Zone 2 is carrying a higher percentage of the anhydrites, dolomites.

And Zone 3 is more layered as far as the sand and siltstones are concerned. The Seven Rivers occurs in this well at approximately 3300 feet, and the Capitan Reef lies about 60 feet below that.

Q. Is this the type log that was used to identify the formations in the unit agreement?

A. That's correct.

Q. Has the portion of the reservoir which you propose to waterflood been recently defined by development?

A. Yes, it has.

Q. And as we go through your geological presentation, you're going to be talking about these three separate zones within the Yates formation; is that correct?

A. That is correct.

Q. Does Falcon Creek propose to waterflood all three zones at the same time?

A. Yes, it does.

Q. Let's go to what has been marked as your Exhibit 11, and it's in three parts, 11a, -b and -c. I'd ask you to identify this and review it for the Examiner.

A. 11a, -b and -c are structure maps on each of the individual zones. They have been defined as the Yates Zone 1, Zone 2 and Zone 3.

What both structure maps show is an asymmetrical anticline. Basically the crest of the feature is in Section 16, plunging to the north northeast. The steeper-dipping limb is on the eastern side of the field and has been fairly well defined as far as dry holes and limits to production by the amount of sand in those wells.

Q. And all of the structure maps seem to mirror one another, the formation getting somewhat larger as you move down?

A. That is correct, there's not a -- There's approximately 250 feet of closure on each one of the layers.

Q. Let's go now to the isopachs for the unit area, Exhibits 12a through -c, and again I'd ask you to review these for Mr. Stogner.

A. Again, the first map is on Yates Zone 1, and what it shows is a thick in the northern portion of the field. As we come to the south, down into Section 16, we have some

areas of localized absence. This map is contoured on a five-foot interval, using a 10-percent density porosity cutoff.

The next map is on Zone 2, and what it shows is the northern portion of the field in Section 4, the limit of the sand, and as you proceed to the south there are localized areas of the sand being present but the porosity development is not there. Down in Section 16 we see that the sand is fairly continuous throughout the unitized area.

Zone 3, this shows that -- is probably the most insistent thickness of any of the Yates zones, and it's fairly concurrent with the structural picture that we have for Zone 3.

Q. All right, let's take out the cross-section. It's a large exhibit, you may want to stand up and spread this out. You first might review the trace for the cross-section on the right-hand side of the exhibit and then move across the cross-section and review the information on each of the wells.

A. This is cross-section C-C', basically a north-south cross-section, north being on the left. It's hung on a structural datum of approximately plus 600 feet. And what we see in a general -- that all three zones are present across the entire structure.

Okay, as we start on the north end, the first two

wells, Scharbauer "4" 1, Anasazi "4" 3, we can see that Yates Zone 1 is very well developed. As we proceed to the south across the structural high portion of the field, these zones show a decrease in porosity.

As we go down to Zone 2, we see that the northern two wells do not have any sand development in these. As we proceed to the south, especially in the Federal 9-2, the pay interval is present and continues on down to the south.

Zone 3 is the most persistent interval across the entire structure.

Q. Mr. LeMar, can the portion of the pool which is included in the proposed unit area be effectively and efficiently operated under this unit plan of development?

A. Yes, I believe from the current present structural position that we have well defined inside the unit boundaries, the proposed unit boundaries, several offstructure wells have defined the structure as far as being wet or too far offdip, and the wells in the southern portion of the field have defined some of the limits of the sand production as we see it today.

Q. And the unit boundaries fairly well match the formation that you're including within the unit application?

A. Correct, they're concurrent with the structural picture, more or less.

Q. Mr. LeMar, were Exhibits 10 through 13 prepared by you or compiled under your direction?

A. Yes, they were.

Q. Will Falcon Creek be calling an engineering witness to review that portion of the case?

A. Yes.

MR. CARR: May it please the Examiner, at this time we would move the admission into evidence of Falcon Creek Exhibits 10 through 13.

EXAMINER STOGNER: Exhibits 10 through 13 will be admitted into evidence.

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

EXAMINATION

BY EXAMINER STOGNER:

Q. Let's stay on Exhibit Number 13 here, while we've got it out and spread out in front of us.

Were most of these wells and their logs, were they from about the same era, and when were they drilled, and when were the logs run?

A. No, they're not. The structural crest of the field was developed in the early 1960s, and those would be the wells on the south end. And what you see there is a dominance of sonic logs, gamma-ray neutron logs. That was the crustal portion during the early development.

What has happened since 1960 is, we've come off with a stratigraphic entrapment down the nose or the plunge of the structure, and what we'll see is more modern logs, 1990 vintage, on the down -- on the plunge of the nose of the structure. So that's why you're getting a dominance of more modern logs in the northern end of the field.

Q. Do you know if the discovery log was utilized, or discovery well, just by off chance?

A. I don't believe it's on this cross-section, but I have other cross-sections with the discovery well on it.

Q. Was that about 1960 also?

A. That's correct.

Q. Okay, I'm looking at the south end here, beginning with that fifth well from the left. That's an open hole; is that correct?

A. Right, the Lea 6015 Federal Number 1.

Q. And then there's another open hole, and that would be the second one, the Snyder Number 1?

A. That's the sixth from the left?

Q. Second from the left.

A. Second from the left.

Q. Second from the left.

A. Okay.

Q. Am I reading this right?

A. That's the Scharbauer 4-1?

Q. Did I say second from the left? I meant second from the right, I'm sorry, we're looking at the wrong one. Snyder Number 1.

A. Okay. And your question, sir?

Q. Is that open hole Seven Rivers?

A. Yes, it is, it's a sonic log, and the top of the Seven Rivers was just barely penetrated in that well.

Q. Okay. But the Yates was --

A. Right, there's a full section of Yates Zone 1, 2 and 3 in that well.

Q. Okay. You have a notation here in the last well on the right, "Hole full of water, P&A". Was this an open hole completion, or what can you tell me about it?

A. It was completed as a dryhole, I believe what they probably got into was the lower portion of the -- or the upper portion of the Seven Rivers. These wells usually have to be frac'd upon completion for any type of commercial production other than the Seven Rivers.

Q. And this well is off of the unit boundary; is that correct?

A. Right.

Q. So this marks your southern end of your --

A. Yes, sir.

Q. -- unitized area? Right? I mean, you utilized this well as essentially the ending of the southern portion

of your unitized area?

A. Correct.

Q. Now, when I skim these logs --

A. Uh-huh.

Q. -- and I don't know if they're representative of the area, what kind of production, if any, has come from the Seven Rivers?

A. Most of the Seven Rivers wells are slightly north of -- or slightly south of the last two wells on the cross-section. They're more crestal in position, and they're characterized by fairly high water cuts. The zones usually don't have to be stimulated. They're in a carbonate. Usually some acid will do the trick. You'll get either large volumes of water or oil and water.

Q. Okay, now in referring to the type log, Exhibit Number 10 --

A. Uh-huh.

Q. -- you show the top of the Capitan Reef right below the Seven Rivers. Is that prevalent throughout this unitized area?

A. I believe so. There's limited penetrations into the Capitan. Most of these wells just topped the Seven Rivers.

Q. Do you know if there's communication between that Capitan Reef and the base of the Seven Rivers, as far as

the water?

A. I do not, and possibly our engineer, Joe Cox, will have some water resistivities that may help with that.

Q. Okay. Do you have any wells that you reviewed in the unitized area that went through the Capitan Reef?

A. Yes, there are. There are some -- two deep Morrow tests.

Q. Were they on the log map -- I'm sorry, on the map at the right end of your Exhibit 13?

A. Yes, sir. One is currently being used as a disposal well in the Delaware by Falcon Creek Resources, the Anasazi 16 Number 1.

Q. Anasazi 16 Number 1.

A. Right. And if you look right north of the third well from the south --

Q. Okay, that's the one that's shown --

A. -- yeah, as an open hole.

Q. Now, the unitized substance -- Oh, okay, first of all, I want to make sure my Exhibit Number 10 is also the referenced well that sets the unitized formation; is that correct? That was your type log, and also that was the one mentioned in the unit agreement?

A. Yes, sir.

Q. Okay. Are these three Yates zones fairly consistent as far as deposition, when they were laid down?

A. It appears so in that the units themselves, the gross interval, can be fairly well easily correlated over the entire proposed unit interval. What's controlling some of the production in Zones 1 and 2 is the -- sort of the stratigraphic nature. The porosity and permeability within these zones vary quite a bit. The thickness varies. We have a thick on the north end, as evidenced by one isopach map. The Zone 3 appears to be the most widespread and consistently thick interval in the proposed area.

Q. What was the depositional environment on these three zones?

A. Shallow shelf, basically. A lot of -- If you'll notice, a lot of the sands that are associated with the pays have a high gamma-ray content, and what I believe this is coming from is, they're probably feldspathic aeronites. There's a lot of plagioclase, a lot of clays in there, that are causing a high gamma-ray reading.

EXAMINER STOGNER: Any other questions of this witness?

MR. CARR: No further questions.

EXAMINER STOGNER: You may be excused. Thank you, sir.

THE WITNESS: Thank you.

MR. CARR: May it please the Examiner, at this time we would call Joe Cox.

JOE H. COX, Jr.,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. My full name is Joe H. Cox, Jr.

Q. Mr. Cox, where do you reside?

A. In Littleton, Colorado.

Q. By whom are you employed?

A. Falcon Creek Resources.

Q. And what is your position with Falcon Creek Resources?

A. I am the senior engineer.

Q. Mr. Cox, have you previously testified before the New Mexico Oil Conservation Division?

A. I have.

Q. At the time of that testimony, were your credentials as an expert in petroleum engineering accepted and made a matter of record?

A. Yes, they were.

Q. Are you familiar with the Applications filed in these consolidated cases?

A. Yes, I am.

Q. Have you made an engineering study of the area

which is involved in this case?

A. Yes.

Q. And are you prepared to share the results of that work with Mr. Stogner?

A. I am.

MR. CARR: Mr. Stogner, are Mr. Cox's qualifications acceptable?

EXAMINER STOGNER: They are.

Q. (By Mr. Carr) Mr. Cox, you're familiar with the Statutory Unitization Act?

A. Yes.

Q. And you've prepared certain exhibits for presentation in this case?

A. I have.

Q. Let's go to what has been marked as Exhibit Number 14, and I'd ask you to identify it and review it for the Examiner.

A. Okay. Not sure if I have a copy. It's --

MR. CARR: Mr. Examiner, I might point out that Exhibit 14 is an isopach map. We are using this isopach map not because of the contours -- this is an interval other than those reviewed by Mr. LeMar -- but when we were looking at our well-status map we discovered we had earlier tract numbers on them, and to avoid confusion you -- we tried to have a plat that has the same tract numbers on it.

The contours are not part of Mr. Cox's testimony, but the well symbols, in fact, are.

EXAMINER STOGNER: Okay.

Q. (By Mr. Carr) If you'd like to review Exhibit 14, Mr. Cox.

A. Okay. On Exhibit 14 it identifies with the triangles the proposed injection wells, and I've got a black-and-white, but I believe the red triangles are of Stage 1, which would be the earlier part of the flood.

The red circles will be the Stage 1 producers.

And then the blue triangles would be Stage 2 injectors, which would be developed after we start getting a response out of the first stage of the flood.

And the blue circles would be additional drilling that's planned for that time.

Q. During Stage 1 you'll have six injectors?

A. That's correct.

Q. And 11 producing wells -- or -- no, how many producers?

A. Thirteen producing wells during Stage 1.

Q. Stage 2, you go to 11 injection wells and then how many producing wells?

A. Eighteen producing wells, so we'd be adding five injectors and five producers.

Q. Now these areas, the Stage 1 and Stage 2 areas,

actually overlap, do they not?

A. That is correct.

Q. How are you going to go about developing this, if you could just review your plans for Mr. Stogner?

A. As far as Stage 1 goes, we would be converting the six wells. They're all existing wells. Four of those produce from the Yates alone, one of those is a Yates and Seven Rivers producer, and one of them is a shut-in Yates producer.

Q. Then is it your intention to go forward with these six wells and then wait until you see a response from those wells before you start implementing Phase 2?

A. That's correct, yes, sir.

Q. And so you're going to make your initial investment, then once you get the -- what are you -- Are you tying your effort into performance in other reservoirs in the area, or using that and other experience, other -- operate as an analog?

A. Yeah, Teas field, as Mr. Becker mentioned, to the east, was our analog for this flood.

Q. And if you get the response you hope for, then you'll be moving into Stage 2?

A. That's correct.

Q. Let's go to Exhibit Number 15, and I'd ask you to identify this and review it for the Examiner.

A. Okay, Exhibit 15 is economic printouts. The first page is the total waterflood economics, so it includes the primary and secondary production. It shows the production streams and the investments and the anticipated cash flows from the project.

Page 2 is the same type of display for the primary reserves. This would be the field without any waterflood.

And then the third page would be the difference, which is the incremental secondary economics for the waterflood.

Q. In fact, if we look at the third page of Exhibit 15, this is really what you're hoping to achieve with the waterflood project, is it not?

A. That's correct, this would be the benefit.

Q. It shows both the increase in reserves and the value that you have assigned to those?

A. That is correct, yes.

Q. What price were you utilizing in computing these figures?

A. It nets to a $17.80-per-barrel oil price and a $1.86 gas price.

Q. And if we look at page 3, in fact, we'd be able to see the volume of hydrocarbons that could be wasted if, in fact, you are unsuccessful with this waterflood effort?

A. Yes, under the gross oil barrels column it shows 2.1 million barrels at the bottom of that column, and that would be the volume we wouldn't recover without the flood.

Q. Let's go to Exhibit Number 16. Will you identify and review that for the Examiner?

A. Okay, Exhibit 15 [*sic*] is -- The first part of it is historical production, and then the projection of the waterflood performance starts after that. So it's just the overall performance of the flood as we anticipate.

Q. Okay. And what we have is, we have the oil in green, and the spike we see as we go forward is, in fact, what you're hoping to achieve through unitization and the implementation of this project?

A. That is correct.

Q. Based on your experience or your knowledge of the Teas unit to the east, do you foresee any problems with implementing a waterflood project in this reservoir?

A. I don't. The stratigraphic section is very similar. Our number of injectors and producers is even very similar, and the pattern we've chosen is similar to what they've used there, so...

Q. Exhibit 17 is another production curve. Could you refer to that and just point out the differences between the two for Mr. Stogner?

A. The only real difference here is, we've projected

the primary production also, with the more solid-looking green curve being the oil and the more solid-looking red curve being the projected gas.

Q. Again, we can look at this exhibit and see the anticipated additional recovery coming from the unitization and waterflood project?

A. That's correct.

Q. And when we talk about the allocation of production from this unit, in your opinion does the formula in the unit agreement allocate production to the separately owned tracts in this unit on a fair, reasonable and equitable basis?

A. Yes, I believe it does.

Q. And can you explain that to the Examiner?

A. Well, we went through a long process, as was discussed earlier, going over the issues with the owners, the previous owners, and we came up with a formula that was generally agreeable to all the owners. In fact, it was the basis for the purchase price that all parties agreed to.

The formula included remaining primary oil in place, the usable wellbores in the field and the EOR primary.

Q. By applying these various factors on a tract-by-tract basis, will each interest owner in the unit receive its fair share of the additional production that will be

obtained as a result of this waterflood project?

A. Yes, they will.

Q. And is it fair to say that unitization and implementation of this waterflood project will, in fact, benefit all working interest owners and all royalty interest owners in the unit area?

A. Yes, we feel it will.

Q. Unitization is necessary, is it not, Mr. Cox, to effectively implement and carry on the secondary-recovery operations?

A. That is correct.

Q. And your Exhibits 16 and 17 show the additional recovery that you can achieve through this Application?

A. That's correct.

Q. Does Falcon Creek seek authority to commit additional wells to injection in orthodox and unorthodox locations within this unit area by an administrative procedure?

A. We do.

Q. When you get to Stage 2, you're going to need to come back to the Division with an additional request; is that not correct?

A. That is our plan, yes.

Q. And at that time you would be submitting C-108 information on each of the additional injection wells?

A. That's correct.

Q. Your hope is that you would be able to do that without the necessity of additional hearings?

A. Yes, sir.

Q. Could you identify -- I'd like to focus now for a minute on the waterflood project aspect of the case. Could you identify what has been marked as Falcon Creek Exhibit 18?

A. Exhibit 18 is our C-108, the Application for Authority to Inject.

Q. And this is not an expansion of an existing project; this is a new waterflood, correct?

A. That's correct, there's no previous flood here.

Q. Let's go to the plat which is set forth on page 11 of Exhibit 18.

A. Page 11 is an area map that again identifies the injection wells with triangles and the area of investigation around those -- half-mile radius around each of those wells.

Q. And this is a similar map to that reviewed by Mr. Becker, is it not?

A. That's correct.

Q. You've just added the area of review to this exhibit?

A. That's right.

Q. You have reviewed, have you not, at this time, the status of the six wells that you intend to convert to injection as part of Stage 1?

A. We have.

Q. Let's go to pages 12 and 13 of this exhibit, and I would ask you to identify for Mr. Stogner what is set forth on those pages.

A. Okay, this table shows all of the wells within that area of study for the Application. It gives the wells' names and locations, the spud dates for the wells, their depths and the mechanical -- the casing depths and cement used on the casings, and the completed intervals.

Q. And this provides all information on each well within an area of review as required by OCD Form C-108?

A. That is correct.

Q. Let's look now at pages 14 through 20. Would you tell me what these are?

A. Okay, these are wellbore diagrams for the dry holes that fall within this area of review.

Q. And these are plugged and abandoned wells?

A. That is correct.

Q. Is all plugging detail shown on each of these wellbore summary pages?

A. It is, complete from what we were able to obtain from the State.

Q. Does this exhibit also contain schematic drawings for the proposed injection wells?

A. Yes, they're --

Q. -- pages 5 through 10?

A. That's correct.

Q. And what have you set forth on these pages?

A. These pages show the proposed configuration of the injectors in their injection application. It shows the approximate packer locations, the tubing strings --

Q. Is the annular space on each of these wells to be filled with an inert fluid and put through the gauge as required by the Federal Underground Injection Control Program?

A. Yes, it will.

Q. And you are proposing to inject into what formation? Just the Yates, or the Yates and Seven Rivers?

A. It will be just the Yates.

Q. And approximately what is the depth of the Yates sands you're going to be injecting into?

A. They're found from 3000, approximately 3000 feet, to about 3450.

Q. And the thickness of those sands is approximately what?

A. That varies from about 40 feet to 100 feet in net thickness.

Q. What kind of a porosity and permeability are you encountering in this Yates interval?

A. On average for the field, we think it's about 15.7-percent average porosity and about 1 millidarcy permeability.

Q. Are there any other oil-productive zones in the immediate area?

A. Outside of the Yates and Seven Rivers, the only zones that are in the area are deeper, below the unitized interval.

Q. Are they objectives for Falcon Creek in this effort to unitize and waterflood?

A. They are not.

Q. What is the source of the water you're proposing to inject in the subject well?

A. All of the water is proposed to be produced water from the Yates and Seven Rivers.

Q. And will it be coming, in fact, from the West Teas (Yates-Seven Rivers) Unit?

A. Yes, all of it will.

Q. And what volumes are you proposing to inject?

A. With the initial six wells, about 3000 barrels of water per day, about 500 barrels per day, per injector.

Q. Okay, and what is the maximum daily injection rate you're proposing?

A. We anticipate as high as 4500 barrels of water per day, which would be 750 per injector.

Q. And this will be a closed system?

A. That's correct.

Q. Are you going to be injecting under pressure?

A. Yes, we will be.

Q. And what pressure do you propose to utilize?

A. We anticipate 600 pounds average injection pressure. We've applied for 1200 pounds maximum pressure.

Q. And that is in -- 1200 pounds is in excess of the .2-pound-per-foot-of-depth of the top of the injection interval, is it not?

A. That's correct.

Q. Has an injection pressure of 1200 pounds previously been approved in this area by the Oil Conservation Division?

A. Yes, the operator of the first wells we acquired in this area have done a step-rate test on the B.F. State Number 4 well.

Q. And when was that test run, do you know?

A. January 26th, 1998.

Q. And what is the location of that well?

A. It's the northeast-northeast of Section 16.

Q. And that's in --

A. -- in 20-33.

Q. -- in 20-33?

A. Yes.

Q. And what was the approved surface injection pressure for the Yates formation that resulted from that test?

A. Okay, the State approved a 1282-p.s.i. pressure.

Q. And you are prepared to run whatever additional step rate tests might be required by the OCD?

A. We are, yes.

Q. Would you just identify the water analysis that is set forth in this exhibit?

A. Okay. Pages 23 and 24 of the C-108 have water analyses.

Q. What is this of? Of the water that will be injected into the reservoir?

A. Yes, the first one, page 23, is probably representative of the average water that would be injected. Page 24 shows -- This is from a well that produces just Seven Rivers, so it's slightly fresher.

Q. Are there freshwater zones in this area?

A. We contacted the State Engineer's Office for information on that. The only zones they identified were within the surface casing interval.

Q. And are there any water wells within a mile of any of the proposed injection wells?

A. Not within a mile, not.

Q. In fact, the nearest well is actually the well in Section 5, just based on the State Engineer Office report; is that not correct?

A. That's correct, yeah.

Q. Have you examined the geologic and engineering data available on this reservoir and concluded as a result of that examination that there are no hydrologic connections between the disposal zone or any underground source of drinking water?

A. Yes, everything we've seen indicates that there is no connection.

Q. Now, as to the Falcon Creek Application for the enhanced oil recovery tax rate, is Exhibit Number 19 a letter application seeking qualification of this project?

A. Yes, it is.

Q. And this letter sets forth basically the things required by Oil Conservation Division rules?

A. Yes, it does.

Q. What are the estimated capital costs to be incurred in this project?

A. For the total project, Stage 1 and Stage 2, it would be $3.4 million.

Q. And how much additional production does Falcon Creek anticipate it will obtain from this waterflood

project?

A. About 2.1 million barrels.

Q. And how much natural gas will you also be producing?

A. About 426 million cubic feet.

Q. Can you tell us a general value for this additional production?

A. It's approximately $8 million.

Q. And what do you base that upon?

A. That's on the $17.80-per-barrel price that I mentioned.

Q. And so we have a situation here where you will be recovering substantially more in terms of the value of the hydrocarbons than the cost that it will take to pursue those?

A. That's correct. The $8-million value is after the expenditure for the waterflood.

Q. So that's what you will get over and above the $3.4 million?

A. That's correct.

Q. So the waterflood project clearly is feasible economically in the area?

A. Yes, sir.

Q. Does Exhibit C attached to 19, Exhibit 19, this plat, does it set out the production history and the

forecast for oil, gas and water from the area as required by OCD rules?

A. Yes, sir, it does. It's another plot similar to the first ones. This one includes the projected water production.

Q. In your opinion, will approval of this Application and implementation of the proposed waterflood project in the West Teas (Yates-Seven Rivers) Unit be in the best interests of conservation, the prevention of waste and the protection of correlative rights?

A. Yes.

Q. Were Exhibits 14 through 19 prepared by you or compiled under your direction?

A. Yes, they were.

MR. CARR: Mr. Stogner, at this time we move the admission into evidence of Falcon Creek Exhibits 14 through 19.

EXAMINER STOGNER: Exhibits 14 through 19 will be admitted into evidence.

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

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Cox, what's the average production of the wells presently producing from this pool in this unit area?

A. Let's see, we're currently at about 4000 barrels a month, and we have about -- So about 20 barrels per day, average. Excuse me 200 barrels per month, average.

Q. That's average per well?

A. That's correct.

Q. So these are classified as stripper wells; is that correct?

A. Yes.

Q. Okay, you mentioned the well up there in Unit A -- that's of Section 16 -- as having a step rate test back earlier last year; is that correct?

A. That's correct.

Q. Is that an injection well now?

A. Stevens and Tull, the previous operator of that well, had applied to make a saltwater disposal well out of that, and then they went through the procedure of step rate testing, but there was an offsetting operator that protested their saltwater disposal application, so it never was an active disposal well.

Q. Do you know who objected or anything more about that particular application?

A. It was -- Just from the material that we've seen in the files, I believe it was Shackelford Oil that had protested it, but I don't know much more than that about it.

EXAMINER STOGNER: I'll take administrative notice of that application, whatever file we have on it, Mr. Carr.

Q. (By Examiner Stogner) On page 18 of your Exhibit Number 18, this is a plugged and abandoned well, the Lea 886 State Well Number 2 of Sinclair Oil Company.

A. Yes, sir.

Q. I show an open hole completion up to the top of the casing interval, which is 2950. Is this all that's still within the Yates formation, that you know of, up to this 2950?

A. I think that also included the top of the Seven Rivers in that.

Q. Well, yeah, but the Yates is above the Seven Rivers; is that correct?

A. That's correct, yes, sir.

Q. Okay. And the zone above the Yates? I guess my question is, where is the base of the Yates formation in this -- I'm sorry, where is the top of the Yates formation in this area? Maybe the geologist can answer that question.

A. Yeah, right offhand I don't know. I'm assuming that they topped the Yates when they set casing, but I don't find it.

EXAMINER STOGNER: Perhaps Mr. LeMar could answer

that, Mr. Carr?

MR. CARR: Mr. LeMar?

MR. LEMAR: The top of the Yates in that well is approximately 409. Do you have that KB there?

THE WITNESS: Yeah, ground level is 3544, so about 3953, 3960.

EXAMINER STOGNER: I'm sorry, 29- --

THE WITNESS: Twenty-nine --

Q. (By Examiner Stogner) 2953, so this is still in the Yates; is that correct?

A. Yes, yes. I calculated that backward. It's 403?

MR. LEMAR: 409.

THE WITNESS: 409. So it would be three thousand -- 44 minus 9 -- thirty-five, top of the Yates.

Q. (By Examiner Stogner) I'm sorry, what?

A. 3035; is that correct, Denny? If you had 3544 --

MR. LEMAR: KB, Joe?

THE WITNESS: I've got a ground level of 3544.

MR. LEMAR: 3544?

THE WITNESS: Right.

EXAMINER STOGNER: Mr. LeMar, why don't you step up forward here?

MR. LEMAR: Okay.

EXAMINER STOGNER: What I'm concerned about is, this particular well goes up -- In other words, if there is

some channeling up to the top of that casing interval at 2950. What is the matrix of the top of the Yates, and what's found above the top of the Yates in this area?

MR. LEMAR: Above the top of the Yates would be probably anhydrite, basically, maybe a few scattered salt-shale stringers in there, but I believe the bulk of the formation would be anhydrite above there.

EXAMINER STOGNER: Along this same line of questioning, while I've got you here, what do we find at the base of the Seven Rivers, right before or right at that area that the top of the Capitan Reef is found at? What matrix is there? Is that a permeable layer or an impermeable layer?

MR. LEMAR: The few wells that I can think of offhand, it's usually fairly tight on top of the Capitan itself, so there should be some type of barrier there, barring any type of fracturing. I don't know if I can readily identify any type of fracturing occurring in the Seven Rivers itself.

EXAMINER STOGNER: How thick is that interval, would you say?

MR. LEMAR: The Seven Rivers?

EXAMINER STOGNER: This impermeable layer at the base of the Seven Rivers.

MR. LEMAR: Oh, 20 to 30 feet.

EXAMINER STOGNER: Has either one of you seen an actual water quality from the Capitan Reef in this particular area underlying that proposed unit area?

MR. LEMAR: I have not.

THE WITNESS: I have not either. We have the Seven Rivers analysis, which is about 12,500 parts per million.

Q. (By Examiner Stogner) I'm sorry, the Seven Rivers was how many parts per million?

A. 12,500 total dissolved solids.

EXAMINER STOGNER: I'm going to take about a 15-minute recess at this time, Mr. Carr.

(Thereupon, a recess was taken at 10:07 a.m.)

(The following proceedings had at 10:25 a.m.)

EXAMINER STOGNER: This hearing will come to order.

Mr. Carr?

MR. CARR: Yes, sir.

EXAMINER STOGNER: The Capitan Reef in New Mexico, and an extent down in Texas, it had some -- is a source of fresh water, it's a source of protection, and the policy and the procedure from us and the State Engineer's Office over the may years has essentially led us to protect the Capitan Reef quite extensively, no matter what depth.

And when anything occurs around the Capitan Reef,

definitely it raises awareness of it. And there has never been any approval to directly, of course, inject into the deeper Capitan Reef, which, of course, there has been applications. I think there might have even been applications when you were working for the OCD.

So these were the extent of my concerns --

MR. CARR: Sure.

EXAMINER STOGNER: -- at this particular point. I understand that the other Teas waterflood, up -- that has been alluded in this particular Application, is up there in that same area, and I'm assuming that it's above the Capitan Reef also.

So that's the reason I'm focusing my attention a lot on the completions into the Seven Rivers, and also I'm going to be asking about the proposed completion techniques of these injection wells, is there any fracs planned, what kind of fracs it's been or what the general completion procedures have been in this area.

So with that in mind, Mr. Cox, I think you kind of see where I'm leading to at this particular point.

The six injection wells -- First of all, let's go back.

Is it my understanding the proposal is to limit it to 600 p.s.i. at this time, the injection pressure? Was that my understanding?

MR. CARR: The initial pressure was to be 600 p.s.i. They were asking for a maximum pressure of 1200 based on the step rate tests and were prepared to conduct additional step rate tests if needed by the OCD, before they go to the higher pressure.

EXAMINER STOGNER: Okay, I understand.

MR. CARR: So I guess my answer was yes.

EXAMINER STOGNER: Okay. Well, with that in mind, I can tell you I'm not going to approve the 1200 based on the information on this old well. I don't really have it, and I will look that up. But with this in mind, I'm going to relay that on to our UIC Director, on how those procedures should enact.

But as far as your 600, that's what I'm going to limit it to at this particular time.

MR. CARR: And that's Mr. Catanach?

EXAMINER STOGNER: Yes, that would be Mr. David Catanach.

MR. CARR: You know, Mr. Stogner, we were aware of the concern with the Capitan. We had discussed this with Mr. Catanach, and, yeah, we'll be happy to try and respond to any of these questions you have. We were trying to keep it up in the Yates for the -- That was one of the main reasons.

But anything we can provide for you here today we

will, and anything you need after this we'll certainly get to you.

EXAMINER STOGNER: Okay, I'd like to try to get as much on the record --

MR. CARR: Sure.

Q. (By Examiner Stogner) As far as these six injection wells, the initial injection wells, are they identified on this C-108?

A. Yes.

Q. Are they the first six, or --

A. Page 4 lists those six wells.

Q. Okay. Now, you're limiting your injection into just the Yates interval; is that correct?

A. That's correct.

Q. Now, you show a couple of wells that have perforations in the Seven Rivers, but those have already been blanked off with a cast iron bridge plug; is that right?

A. In most cases it's been cast iron bridge plug and cement, yes.

Q. Do you know if they were squeezed?

A. Some of them have been. Some of them had retainers and then were squeezed out of these wells. I don't --

Q. Do you know if there's any wells, any of the

planned producers or current producers, presently producing from that Seven Rivers interval?

A. Yes, it's actively being produced and will continue to be -- It's planned to continue being produced during this flood. It's made about a half million barrels of oil to date, and I think there's about another 87,000 in the primary.

Q. Realistically, how many wells are producing from the Seven Rivers within the unitized area, now? Not all of them are producing from that Seven --

A. No, just -- A close guess would be about six or seven wells right now are producing from the Seven Rivers. Most of those are commingled, but two or three of those are isolated.

Q. Okay now, when we say "commingled", the West Teas (Yates-Seven Rivers) is considered one pool --

A. Yes.

Q. -- one source of supply?

A. That is correct.

Q. So when you say "commingling", we're not talking in the legal sense, other than in the engineering sense, that you recognize there's two formations?

A. Right.

Q. What has been the completion technique in these producing wells in this pool?

A. They've generally required a frac stimulation. We, in the development plans, have been aware of the sensitivity to the Capitan and to the Seven Rivers, which has got a fairly strong water drive on it, and have designed smaller frac jobs for those recompletions into the Yates 3 Zone, the -- overlying the Seven Rivers.

Q. Are there any wells presently open-hole completed and producing?

A. I don't believe there are anymore. There were earlier in the life of the field, but I don't think -- They're all cased-hole completions at this time.

Q. Have you or anybody with Falcon Creek Resources discussed this proposed project with the Hobbs District Office, in particular the geologist down there, Mr. Paul Kautz? Do you know?

A. Yeah, I have talked to him in the process of putting this together. I don't know that we've discussed this particular issue.

EXAMINER STOGNER: Mr. Carr, I don't think there's anything further at this particular time that we can put in the record, other than reviewing the information or --

MR. CARR: Mr. Stogner, we want you to know that if on your review there are questions, if you want to reopen the case or if you'd like to communicate with us,

we'll be delighted to supplement the record, however you would desire.

EXAMINER STOGNER: Well, it just depends. If we find anything, then we can act accordingly at that point, worst-case scenario being reopening of the case and taking additional testimony subsequent to our contact with you upon specifics.

MR. CARR: That would be fine.

Q. (By Examiner Stogner) What's the time interval that Falcon Creek Resources is planning on starting with the workovers for the injectors?

A. We would start those as soon as we got approvals.

EXAMINER STOGNER: Well, it's in my best interest to get this thing moving too, so let's make sure that me and you communicate on a regular basis in the next two weeks.

MR. CARR: I will. I will contact you next week and -- in terms of additional information or drafting or anything that you need in regard to this matter.

EXAMINER STOGNER: Okay. With that, is there anything further in any of these three cases?

MR. CARR: Nothing further at this time.

EXAMINER STOGNER: And for the record again, original Case 12,272 will be dismissed, and I will take Cases 12,331 and 12,332 under advisement, with possible

additional information needed, and that will be contacts through you.

If there's anything further, then we'll proceed on.

MR. CARR: Thank you, Mr. Stogner.

(Thereupon, these proceedings were concluded at 10:35 a.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. _____ heard by me on _____, 19____.

Oil Conservation Division, Examiner

CERTIFICATE OF REPORTER

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

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

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

WITNESS MY HAND AND SEAL February 21st, 2000.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 2002