STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ORIGINAL

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 14145

APPLICATION OF FASKEN OIL AND RANCH, LTD. FOR COMPLIANCE ORDER REQUIRING CIMAREX ENERGY CO. OF COLORADO TO COMPLY WITH THE DIVISION'S OIL PRORATION RULES FOR THE APACHE RIDGE-BONE SPRING POOL, LEA COUNTY, NEW MEXICO

AND

APPLICATION OF CIMAREX ENERGY CO. OF COLORADO FOR SPECIAL POOL RULES, LEA COUNTY, NEW MEXICO

CASE NO. 14124

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: Richard Ezeanyim, Technical Examiner
Terry Warnell, Technical Examiner

June 26, 2008

Santa Fe, New Mexico

This matter came for hearing before the New Mexico Oil Conservation Division, Richard Ezeanyim, Technical Examiner, and Terry Warnell, Technical Examiner, on June 26, 2008, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South St. Francis Drive, Room 102, Santa Fe, New Mexico.

REPORTED BY: JOYCE D. CALVERT, P-03
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Examiner Hearing
CASE NO. 14145 & 14124

E X H I B I T S

A P P E A R A N C E S

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MR. EZEANYIM: Let's go back on the record now. And before I call the next case, I need to make some observations. As you see, we lost our legal examiner. And I think there was some conflict there, so he's not going to sit in. So I know most of you here are attorneys. Don't bombard us with all this legal rambling, because we will not understand. We are all engineers here, me and Terry. So you if you tell us anything, we may not understand it.

And also the reason -- and I'm also talking to the witnesses -- please tell me exactly what you are saying. Don't go around it and around it and all that. I get bored. I don't like all -- too much, you know -- just tell me exactly what you want, technically. That way we won't go around it and waste all that time and come back to the first thing.

So first, legal people, don't bombard us too much because we don't know what to do. We're not attorneys. We're engineers.

Second, the technical witnesses, tell us exactly what you want and then I will go from there. And then, since we don't have an attorney here, if one of you guys think I need one, I might have to recess at that point and find an attorney. I think we're going to proceed today. Let's start lunch about 11:30 and see how it goes and see what happens as we go. But let's see what's going to happen on these two cases.

These two cases will be combined for the purposes of

testimony. If there are no objections, then we might proceed. Any objections?

MR. BRUCE: No objections.

MS. MUNDS-DRY: No objections.

MR. EZEANYIM: At this point, I call Case No. 14145. And this is the Application of Fasken Oil and Ranch, Limited, for Compliance Order Requiring Cimarex Energy Company of Colorado to Comply With the Division's Oil Proration Rules for the Apache Ridge-Bone Spring Pool, Lea County, New Mexico.

This will be combined with Case No. 14124, Application of Cimarex Energy Company of Colorado for Special Pool Rules, Lea County, New Mexico.

I call for appearances.

MR. BRUCE: Mr. Examiner, Jim Bruce of Santa Fe, representing Cimarex Energy Company of Colorado. I have three witnesses.

MR. EZEANYIM: Any other appearances?

MS. MUNDS-DRY: Mr. Examiner, Ocean Munds-Dry with the law firm of Holland and Hart here representing Fasken Oil and Ranch, Limited, this morning. I also have three witnesses.

MR. EZEANYIM: Any other appearances, then? May all the witnesses stand up and state your name, starting from there to this one.

MR. FELCH: Mike Felch.

MR. McCLUNG: Don McClung.

MR. WORTHINGTON: Ralph Worthington.

MR. HARMON: Dexter Harmon.

MR. BROWN: Carl Brown.

MS. KVASNICKA: Sally Kvasnicka.

[Witnesses sworn.]

MR. EZEANYIM: Before the attorneys start, are there any opening statements? And then, you know, the two cases are combined. And I think we are -- you know, we are going to be juggling between the two. Do you people have any opening statements?

MR. BRUCE: I really didn't, Mr. Examiner. If Ms. Munds-Dry does, I might say something brief, but I'd rather have my witnesses state it.

MS. MUNDS-DRY: Well, I don't want to risk tempting your patience, Mr. Ezeanyim, but I would like to frame the issues briefly, if I could.

MR. EZEANYIM: Okay.

MS. MUNDS-DRY: Mr. Examiner, the Oil and Gas Act, as you probably know, requires the Division to set an allowable production that will prevent the general premature abandonment of the wells in the field. Also under the Oil and Gas Act, it is said that you set the allowable production on a reasonable basis so as to protect and recognize correlative rights.

It also defines excess oil or overproduction, which you know is at issue in this case, as illegal oil. And that's

what we believe has happened in this case. Cimarex has violated the Division rules. I think you will get no argument there. They overproduced and have not made up that production, and are, therefore, producing illegal oil.

Really, the issue here -- and I think the evidence will show -- is that they have overproduced four wells which you've seen as Fasken -- or is the subject of Fasken's application, and they have not submitted a plan for adjustment other than they seek to be forgiven by the Division in this case.

The evidence will show that Cimarex has produced approximately 530,000 barrels of oil at its Pennzoil 36 State No. 1 for approximately 10 years with no offset production. This happened because Cimarex's predecessor, and then Cimarex, failed to correctly report the perforations which they were producing from. Again, this is a failure to report and a very serious violation.

We think the evidence will also show today that this has caused Fasken to not complete its offsetting well and not in a correlating interval, and this has violated Fasken's correlative rights. Cimarex is asking you today for a 4.7, five times allowable, increase. This is a huge increase, and you will note they are not asking you for an increase in spacing. They are asking for a huge increase in the allowable with no corresponding spacing.

Cimarex has overproduced these four wells and has not made up this production, and is instead coming to you seeking forgiveness. This is after they've gone on a drilling frenzy for the last eight months and drilled all the way around Fasken's acreage. On a volumetric basis, Cimarex has already produced more oil from this well than was originally in place. That's why Fasken is very concerned about Cimarex's application, and also brought its own application seeking a compliance order that these four wells be immediately shut in.

Instead of coming to the Division with a plan for making up the production, they are seeking a retroactive allowable adjustment back to August 1st, 2007, in order to just simply wipe out its overproduction. No matter what is said here today, Mr. Examiner, there's no excuse for what they've done, and they are in violation with Division rules. And they are simply accelerating their rate of recovery and not the ultimate recovery from this reservoir.

This is well within your jurisdiction, Mr. Examiner, and we believe these wells should be immediately shut in.

MR. EZEANYIM: Okay.

MR. BRUCE: Well, Mr. Examiner, I guess I'll have to respond to that. First off, I'll say that Fasken claims Cimarex is in a drilling frenzy. What they really mean is that Cimarex has developed its acreage, period. That's all. The fact of the matter is Fasken has not developed it's acreage.

If Cimarex is in a drilling frenzy, then Fasken is in a drilling stupor.

Secondly, insofar as correlative rights go, correlative right is the opportunity to recover the fair share of oil and gas reserves under your property. If an operator doesn't take that opportunity, there's no violation of correlative rights.

Third, when they say that Cimarex has overproduced four wells. Cimarex has overproduced two wells. Two wells were overproduced by a prior operator. Those wells are now producing under allowable. And insofar as she mentioned, perforations that weren't properly reported, all of these wells -- although some data was missing -- all of the data, production data, perforations data, shows these wells were completed in the Bone Spring Formation. And despite watching all this data, Fasken sat on its lease year after year after year after year, and didn't develop it. They could have gone and drilled wells. They just simply didn't do it.

The fact of the matter is, we did apply shortly after the first good well was drilled in this pool last September. At that point, we weren't certain what this one new well was going to do, so we dropped the application. Perhaps we should have gone forward at that point. The fact of the matter is, the engineering evidence will show that there is no harm to the reservoir. We do not have to show that increasing the

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allowable will increase the reserves. The standard for a case like this is to show that there's no harm to the reservoir. And our engineer will show that there is no harm to this reservoir by increasing the allowable. Thank you.

MR. EZEANYIM: Okay. Both of you are the applicant, so I want you to decide who goes first. I don't care which testimony goes first, because the two cases are combined.

MR. BRUCE: I was planning on going first simply because I applied first.

MS. MUNDS-DRY: I think that makes sense for him to go first.

MR. EZEANYIM: I wanted to see about that. Go ahead, Mr. Bruce.

DON McCLUNG

after having been first duly sworn under oath,

was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. BRUCE:

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

A. My name is Don McClung.

Q. Where do you reside?

A. I live in Odessa, Texas. I work in Midland, Texas, for Cimarex Energy.

Q. What is your job with Cimarex?

A. I'm a senior landman there.

Q. Have you previously testified before the Division?

A. In the early '90s when I was with Metro Energy.

Q. And were your credentials as an expert landman accepted as a matter of record?

A. Yes, they were.

Q. Does your job at Cimarex cover this area of southeast New Mexico?

A. Yes.

Q. And are you familiar with the land matters involved in Cimarex's application?

A. I think so, yes.

MR. BRUCE: Mr. Examiner, I tender Mr. McClung as an expert petroleum landman.

MS. MUNDS-DRY: No objection.

MR. EZEANYIM: Mr. McClung, are you a CPE?

THE WITNESS: Yes. Yes, sir.

MR. EZEANYIM: Okay. You are so qualified.

Q. (By Mr. Bruce): Mr. McClung, could you identify Exhibit 1 for the Examiner?

A. Exhibit 1 is a plat depicting the different Bone Spring pools in the general area. And basically, this was taken off of the OCD website that depicted the different pools.

Q. And the Apache Ridge-Bone Spring is highlighted in green?

A. Yes. Right. Yes, it is.

Q. And what does Exhibit 2 reflect? Is that the acreage currently assigned to the Apache Ridge-Bone Spring Pool by the Oil Conservation Division?

A. Right. Showing in the outline on Exhibit 1 in green, right.

Q. Now Mr. McClung, subsequent exhibits by other witnesses will show a number of additional wells drilled and classified as being Apache Ridge-Bone Spring pool wells outside of these pool boundaries, but as of right now, depicted on Exhibit 1 and Exhibit 2 are the current boundaries under Division pools; is that correct?

A. That's correct.

Q. What are the well spacing rules for the Apache Ridge-Bone Spring pools?

A. The spacing rules are 40-acre spacing with 330-foot offsets from the quarter/quarter section.

Q. And what is the depth bracket allowable?

A. 9,000 feet.

Q. And so what, under Division rules, what is the allowable per day?

A. 275 barrels of oil per day.

Q. What is the GOR?

A. 2000 to 1.

Q. What does Cimarex seek in this case?

A. What we are basically asking for is, we saw an order enacting special rules and regulations for the pool providing for a depth bracket allowable of 1300 barrels per day with a limit in the gas/oil ratio of 3,000 cubic feet of gas for each barrel of oil produced.

Q. Okay. With respect to Fasken's application, will other witnesses address that?

A. Yes.

Q. What is Exhibit 3?

A. Exhibit 3 is the outline of the Apache Ridge-Bone Spring pool with the one mile radius outside. And then I have cross-hatched showing the acreage owned by Cimarex and by Fasken in that area.

Q. Now, I believe that in the regulations -- the Division's notice regulations require you to notify other Bone Spring operators within a mile of the pool, providing those wells are not allocated to another Bone Spring pool; is that correct?

A. That's correct.

Q. Who are the operators in the Apache Ridge-Bone Spring pool?

A. There are only two that we came up with, a Matador Petroleum there in Section 6, 2034, and then Fasken Oil there in Section 31 of 1934.

Q. And only two other than Cimarex?

A. Right.

Q. And was notice given to Fasken and Matador?

A. Yes.

Q. Is that reflected in the notice marked as Exhibit 4?

A. Exactly, yes.

Q. What is Exhibit 5, Mr. McClung?

A. Exhibit 5 is page excerpts from the Joint Operating Agreement that was entered into dated February 17th, 1988, with Fasken, concerning the west half of Section 31.

Q. Okay. Now, there are no depth restrictions on this Joint Operating Agreement?

A. No, sir, there are not.

Q. And so the signature page you have here is from Union Oil Company of California. Is Cimarex Energy Company the successor to that interest?

A. Successor in interest, yes.

Q. So Cimarex has an interest in some of Fasken's acreage?

A. Right. We have a lease in the northeast of the northwest quarter of a 40-acre tract that we are half owners of. So that gives us a 6 1/4 interest there in the west half of Section 31, as to all depths.

Q. And is or has Cimarex been interested in potentially developing the west half of Section 31?

A. Yes, we have.

Q. And what does Exhibit 6 reflect?

A. Exhibit 6 reflects an e-mail that I had received from our -- we work in teams there at Cimarex. And so the other two witnesses are on that team, the engineer and the geologist. In this case, the geologist, Ralph Worthington, had sent me an e-mail suggesting that I call Sally Kvasnicka there at Fasken to see if they would be interested in doing something there in Section 31. And the very top part of that e-mail on Exhibit 6 will show that he asked me to call to see what we might be able to do with them. And then he also set out what we would be interested in doing, both the Morrow well in the southeast quarter and the Bone Spring in the northeast quarter.

And so it's my habit that I've developed over the years -- I don't like to send anybody a letter cold, so I like to call them to let them know what's coming so it doesn't surprise them in the mailbox. So I called Sally and asked her if they'd be interested in working with us in some form or fashion -- farmout, term assignment -- just getting something going there in the west half or in Section 31.

And the second page of that exhibit is basically, after she had told me they weren't interested in doing anything with us, I had sent her an e-mail to confirm that conversation, and just asking her that, please, keep us in mind if they change their mind so we could pursue those ideas.

Then the second part of that e-mail, I'm good friends with Sally's brother, and I was concerned about his health, so I make that comment in my e-mail.

Q. Now, Cimarex owns an interest in the -- contractural interest -- in the west half of 31. Has a well proposal for a Bone Spring well in the south half -- in the west half of Section 31 -- ever been sent to Cimarex from Fasken?

A. Yes. We received one of those, I believe, in late December, and it was asking us if we would approve an unorthodox --

Q. No, no, no. In the west half of 31, have you received --

A. No. I don't think there was one. This was for the Ling 4, I believe, in the east half.

Q. But in the west half you have not received a Bone Spring well proposal?

A. No.

Q. Were Exhibits 1 through 6 prepared by you or under your supervision?

A. Yes.

MR. BRUCE: Mr. Examiner, I move the admission of Cimarex Exhibits 1 through 6.

MR. EZEANYIM: Ms. Munds?

MS. MUNDS-DRY: No objection.

MR. EZEANYIM: Exhibits 1 through 6 will be admitted.

[Cimarex Exhibits 1 through 6 admitted into evidence.]

MR. BRUCE: I pass the witness.

MS. MUNDS-DRY: I think I just have one question, Mr. McClung. You've admitted into evidence Exhibit No. 5, which is a copy of the JOA between Fasken and, I believe, Cimarex.

THE WITNESS: Yes.

MS. MUNDS-DRY: Under the JOA, Cimarex can propose a well if it's not an operator, can it not?

THE WITNESS: Yes.

MS. MUNDS-DRY: Thank you. That's all the questions I have.

MR. EZEANYIM: Okay. This witness can be excused.

MR. BRUCE: Mr. Examiner?

MR. EZEANYIM: Yes.

MR. BRUCE: Did you want to proceed with the geologist at this time?

MR. EZEANYIM: Yes. Let's proceed. Until we're done, we're not going anywhere.

MR. BRUCE: Mr. Examiner, I've got to grab some geological exhibits.

MR. EZEANYIM: Okay. We are still on the record. Let me make a suggestion here now. What I would suggest -- I

know most of you may have plans that you want to take a flight or something. I would like us to defer going to lunch and get this case out of the way before we go to lunch, unless anyone has an objection.

But as we go on, we can take 5 or 10-minute breaks and finish it before we go for lunch. Does anybody have an objection to that? No lunch until we conclude this case. However, we may take 5-minute breaks until we're done.

MS. MUNDS-DRY: I might pass out with hunger, but I'll try to stay with you, Mr. Ezeanyim.

MR. EZEANYIM: Yeah.

MR. WARNELL: Does anyone have a flight this afternoon or this evening?

MR. EZEANYIM: Let's try that and see how it goes. Okay. Go ahead with your geology witness.

MR. BRUCE: Okay.

RALPH WORTHINGTON

after having been first duly sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. BRUCE:

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

A. Ralph Worthington.

Q. Where do you reside?

A. In Midland, Texas.

Q. Who do you work for and in what capacity?
A. I work for Cimarex Energy Company as a regional geologic manager.
Q. Does your area of responsibility at Cimarex include this part of southeast New Mexico?
A. Yes, it does.
Q. And are you familiar with the geology involved in this case?
A. Yes, I am.
Q. Is this, in fact, your prospect?
A. Yes, it is.
Q. Have you previously testified before the Division as a geologist?
A. Yes, I have.
Q. And were your credentials as an expert accepted as a matter of record?
A. Yes, they were.
MR. BRUCE: Mr. Examiner, I tender Mr. Worthington as an expert petroleum geologist.
MR. EZEANYIM: Any objection?
MS. MUNDS-DRY: No objection.
MR. EZEANYIM: Mr. Worthington, are you a certified geologist?
THE WITNESS: Yes, I am.
MR. EZEANYIM: Okay. Very good. You are so

qualified.

Q. (By Mr. Bruce): Mr. Worthington, could you first move to your Exhibit 7 and discuss the contents of that exhibit for the Examiner.

A. Yes. This is kind of a base map that outlines the pool and identifies the different wells within the pool and around the pool, and it also identifies a couple of lines of cross sections that I have following exhibits and stuff like that. The color on the map indicates Cimarex acreage position, either all or in part, for each one of those tracts.

Q. So Cimarex owns at least an interest or some interest in the acreage colored yellow?

A. Yes.

Q. Now, with respect to the Bone Spring wells, I want to get a couple of things out of the way. There's been talk about some of the two older wells in the pool, looking at Section 30, which is the well drilled by Mallon Oil Company.

A. In Section 30, it is the Mescalero 30 No. 1 in the southeast/southeast, the API mini at the top is 29266.

Q. And approximately when was that well drilled?

A. I think that was in the early to mid-'80s.

Q. And over in Section 36, which well was the one drilled by Mallon?

A. It is the Pennzoil State No. 1 with the API mini of 29918 in the northeast of the southeast.

Q. And what is the approximate vintage of that one?

A. Again, that would be a late '80's, early '90s, I think.

Q. Both of those wells, were they drilled to deeper depths than the Bone Spring?

A. Yes. They were drilled as a Pennsylvania Morrow objectives and producers.

Q. Approximately when were they completed in the Bone Spring -- re-completed in the Bone Spring?

A. Mescalero 30 No. 1, I believe, was first completed there in about 1985. And the Pennzoil State No. 1 was completed, I believe, in '97.

Q. Let's move on to your Exhibit 8. What does that reflect?

A. This map is essentially the same base map, same color code. In this case, what it shows close to each well is the date of the initial production from the Bone Spring Formation. And then below that is the cumulative production with the oil shown in green, the gas shown in red, and the water shown in blue.

The highlighted circles, the colored green circles on the map, indicate those wells that are in the pool. The other wells, I might say, on this map -- on all my maps you'll see, are just the wells that went deeper than 9,000 feet. There are some other wells in the area here that are not shown on the map

that were drilled shallower than 9,000 feet.

Q. Do you have anything further on this map?

A. I would maybe point out that there are several active locations within the pool area --

Q. Are those --

A. -- that have not yet be drilled. And those would be indicated by the open circles.

Q. I'm looking at the plat and I see some in Sections 25, 36, and then in the east in Section 30.

A. That's correct, 31.

Q. Would those be drilled at least to a depth sufficient to test the Bone Spring?

A. Yes.

Q. Are all of those Cimarex?

A. No. The well in Section 31 is a Fasken location.

Q. And what is the proposed depth on that one?

A. The proposed depth is somewhere below 13,000 feet to test the Morrow Formation.

MR. WARNELL: Where is that now?

THE WITNESS: There's a well in the northwest of the southeast quarter of Section 31, the API mini on that is 38748.

MR. WARNELL: Okay.

THE WITNESS: I didn't put the well name on this. It is on the other name. It is identified as the Ling Federal No. 4.

Q. (By Mr. Bruce): One other thing on the map: The Fasken well in the northwest/northeast of Section 31, you do not have any production data on that?

A. I do not have any production data past the initial week's completion or something that Fasken provided to us.

Q. Okay.

A. So I did not put the cumulative production on that.

Q. Okay. Let's move on and discuss the producing zones in the Bone Spring wells in this area. What is Exhibit 9?

A. This is what I've chosen as a type log that tries to represent the formation, the different units within the formation, that we'll be talking about, and perhaps illustrates the complexity of the formation itself. This is a porosity log on the left and a resistivity log on the right of our Cimarex Pennzoil B 36 No. 7, which is in the northeast/northeast of Section 36. I've labeled to the right there the tops that correlate to each one of my zones and indicated what that color actually indicates to me. This is the way that we have identified the productive interval, or what we best feel that identifies the actual reservoir within that rock.

Q. Okay. Now, all of these -- this is -- generally, how thick is the Bone Spring Formation?

A. The Bone Spring in this formation will be a little over 3,000 feet. It varies across the basin from 2,000 feet to 4,500 feet, and in this area it would be about 2,000.

Q. And these zones you have here, are they in the Upper Bone Spring?

A. Technically as described, no. The Upper Bone Spring would be above this zone. That would represent perhaps half the Bone Spring thickness. Below the Upper is the First Bone Spring. You would get the First Bone Spring Sand, the second carbonate, the second Sands, the third carbonate, and the third sand.

Q. Okay. Now, let's go on to how many wells to date in this particular pool has Cimarex drilled itself?

A. We have drilled ourselves, I believe, 11 wells in this pool, and we completed 10 of them as producing.

Q. And you have -- and two were taken over or were acquired by Cimarex?

A. Yes.

Q. Okay. And you have mapped the various thicknesses of these zones?

A. Yes, I have. And each one of these I'll refer back to this type log. And the legend has on there the zone of interest that we're talking about. The first map is a map showing an isopach thickness relative to the structural position of that reservoir, this being called the Basal Sand.

And if you look on our type log, it is the porosity thickness of the interval colored blue at this base of that type log.

Q. Now, this is both a structure and an isopach, correct?

A. Yes, it is.

Q. How important is the structure in this area?

A. It appears to be fairly important. Although I think, generally, the Bone Spring would be considered stratographic in nature. The trapping is stratographic, based on the variability of the different reservoirs within the Bone Spring. And I say it's fairly important because the well that we plugged as a dry hole, the Mescalero No. 37, in the southwest/southwest of 30 is off structure and did not have any shows of interest in this zone.

Q. And that's the one with the API number 38595?

A. Yes.

Q. When was that well drilled?

A. That well was drilled over the new year, so December of '07 going into and completing in January of '08.

Q. Okay.

MR. EZEANYIM: Mr. Worthington, this well has a 7 percent porosity. You don't consider that. You have a cutoff of 8 percent, right?

THE WITNESS: That's correct, 7 percent porosity. Now, we had analyzed this based on a lot of sidewall core data

along with the prior knowledge of trying to complete these zones. And it's just when you get the sands in the First Bone Spring Sand and it's less than 8 percent porosity, there's just not much of a chance of making economic production.

Q. (By Mr. Bruce): And what is the next plat?

A. Just moving onto the different zones in here, this next map, again, is another porosity isopach overlying the same structural data that was shown on the previous map. In this case, this isopach represents the porous dolomite in the lower part of the Bone Spring Sand that I've informally called Airstrip Dolomite. And on my type log I've colored that yellow. And to identify that zone as a productive zone and the net pay cutoffs that I used, I used a 4 percent porosity cutoff and then a clean gamma ray signature. And clean being undefined, just being a lower gamma ray than the shale intervals.

Q. In going through those -- and I realize you're going through a number of sands and dolomites -- is there any thickness that appears to -- that you really need to be productive in that zone?

A. We haven't found them. I think that's the key is that we try as best we can to relate the mapping, the isopach values, the thickness to production potential or capability, and I think it's highly variable.

Q. So you don't -- there's just no correlation you

can make between the thickness of the sand dolomites --

A. Not very strong.

Q. -- and the end product?

A. Not very strong.

Q. Okay. And then Exhibit 12?

A. This is an isopach map, again, with the structural data underneath. And this one focuses on a zone near the top of the Airstrip Dolomite or the base of the First Bone Spring Sand. And it's colored -- it's very light blue on our type log. This is important because of a production test that we did on our Pennzoil B 36 No. 7 and identified how prolific that particular zone was. So that's -- we actually went in and tried to determine the limits and thickness of that and how it related to the other wells.

Q. And the last two plats show that those particular zones had quite an aerial extent to them?

A. Yes.

Q. This one does not?

A. This one seems to be very limited -- or at least, as best I can correlate them.

Q. Okay. And when you were looking at the production plat, this did appear to be a fairly prolific zone; is that what you are saying?

A. That's correct. And my engineer will go into a little more detail on the production.

Q. Yet, it is not productive in the 36 State No. 1 in the northeast/southeast of Section 36 or in the Mescalero 30 No. 1 over in Section 30?

A. That's correct. And as best I can tell, it's not even present.

Q. So again, it shows the high variability?

A. Yes.

Q. And Section 13 is more of the same?

A. More of the same. And now what we're looking at is, we're moving up into the lower part of the First Bone Spring Sand interval above the Airstrip Dolomite. And in this area, generally, there appears to be two depositional sand units, the lower of which has some pretty decent porosity.

And I know it's pretty difficult to see underneath the dark coloring, but the porosity within this sand can get up to 15, 16 percent. And we tested that in our 36 B No. 7 well and found that it was a pretty significant contributor, again. And so that's why we tried to identify where it was in the area and whether or not it showed up in the other wells.

Q. Okay. And is the variability further shown on your cross sections?

A. Yes, it is. Two cross sections I have here are an east/west and a north/south cross section through our field, and particularly the east part of Section 36. And starting with the west/east cross section, the scale on this is

approximately 2 1/2 inches equal 100 feet. For each well, I've got a porosity log on the left, a resistivity log on the right.

My color scheme is the same as on my type log with highlighting the porous zones within the reservoir. The datum here is the base of the sand unit. The First Bone Spring and/or the top of the Second Bone Spring carbonate. So everything is dated off of that.

I've also identified the perforated intervals as indicated by the red markings on the center line there between two logs, and it also shows the areas where we took sidewall cores for depth.

Q. Now, besides showing -- I mean, one issue looking at this cross section, one issue of the variability of the zones is from all the wells; is that right?

A. It appears that they are very difficult to correlate from one well to the next.

Q. And based on the data that you've seen from the well, even the wells side by side in those particular zones, even if they're present, are highly variable in productivity.

A. That's correct. These wells are approximately 40 acres apart. Just on that short distance, there is a lot of variability.

Q. Let's move onto your second cross section, Exhibit 15.

A. This next cross section would be my north to --

or south to north cross section with south on the left and north on the right. The same color scheme, the same data, the same intervals are shown on this, with one addition: The well on the right is a Mescalero 30 No. 7 and stresses how important the structure is for this well. What I've got to the right of that log is a digital mud log here. The left side of that is the rate of penetration as we drilled it.

The right side are the oil and gas shows that we encountered while we drilled that. And as you can see, the only gas show that we got while we drilled that zone was in the very upper part of the First Bone Spring Sand, and there were no shows within the main producing interval that we've been concentrating on and that we were targeting.

Q. And that is the well that was dry in the Bone Spring?

A. We've cleared that dry in the Bone Spring without testing, yes, I think so.

Q. So you didn't even attempt a completion?

A. That's correct.

Q. Overall, from a geologic perspective, could you summarize what you see as the difficulties in interpreting this reservoir which may help the hearing examiners in understanding the variability, not only in the geology, but the prospective?

A. Well, I think the number one thing is the variability of the reservoir. As we develop prospects, we try

to identify which ones are going to prospective and be potentially productive, and those are the ones we target in our drilling efforts. And what we found as we drilled and developed this lease, is that it was very difficult to predict from well to well what the results were going to be.

And I think the production from the lease bears that out. Yes, we've got four good wells out here, but we've also got half a dozen that are not -- are not very good. And so it became very difficult. But as we learned more, we have learned more and more about each one of these reservoirs that in some places they appear to be all productive, or in other areas just one or two of the zones may be productive. But currently, they are economic.

Q. And again, there's no direct correlation between the thickness of this sand or carbonate and its productivity?

A. Not a direct one, no.

Q. Were Exhibits 7 through 15 prepared by you or under your supervision?

A. Yes, they were.

Q. And in your opinion, is the granting of this application in the interest of conservation and the prevention of waste?

A. Yes, it is.

MR. BRUCE: Mr. Examiner, I move the admission of Exhibits 7 through 15.

MR. EZEANYIM: Any objection?

MS. MUNDS-DRY: No objection.

MR. EZEANYIM: Exhibits 7 through 15 are admitted.

[Cimarex Exhibit 7 through 15 admitted into evidence.]

MR. EZEANYIM: Cross examination?

MS. MUNDS-DRY: Thank you, Mr. Examiner.

CROSS-EXAMINATION

BY MS. MUNDS-DRY:

Q. Mr. Worthington, you mentioned on your Exhibit No. 7 -- you address when the Mescalero and the Pennzoil 36 B No. 1 were completed.

A. Yes.

Q. In the Pennzoil No. 1, I believe you said it was drilled by Mallon.

A. Yes.

Q. And in what interval was that well re-completed?

A. It was re-completed from the Morrow into the Bone Spring.

Q. Okay. What interval within the Bone Spring?

A. Specifically, the Second Bone Spring Sands.

Q. And do you know the depth interval?

A. I can't be exactly sure, but it's somewhere below 10,000 feet.

Q. Do you know how that was reported to the

Division?

A. No. I don't know how it was reported.

Q. Okay. Did you review the records of that well history when Cimarex acquired the well?

A. No.

Q. Who is responsible for reviewing that well history?

A. I'm not exactly sure.

Q. Okay. On your Exhibit No. 15, would you agree with me that it's really the dolomite that's the important zone that you're looking at in these wells?

A. It appears to be the most important. The sands are very important also.

Q. How so?

A. Well, I don't have the exhibit here to introduce the production tests. That will follow with my engineer. But for example, that Lower First Bone Spring interval tested 100 barrels of a day and 3 barrels of water. So that's a pretty important reservoir and commercial by itself if we were to drill that as a stand-alone objective.

Q. Would fracturing in that zone make a difference?

A. I'm sorry?

Q. Does fracturing in that zone make a difference in production?

A. Naturally or stimulated?

Q. Naturally.

A. I'm not sure.

Q. Okay. Is that something that maybe your engineer can address?

A. I don't know if he can or not. I don't know that the research or the literature or anything has demonstrated that fracturing within any of these sands contribute much to the production. There was a paper put out by a researcher at Sandia Labs that suggested micro-fracturing may be important. But generally, I think we have to artificially stimulate the well.

Q. Stimulate the fracturing. Okay. You mentioned that it's been very difficult for Cimarex to identify when you'll get a good well as you've been developing this reservoir.

A. Uh-huh.

Q. But you did say the Mescalero has been re-completed since 1985. You have that long history --

A. Yes.

Q. -- to evaluate.

A. Yes.

Q. And you also have the Pennzoil 36 No. 1 since 1997 to evaluate.

A. Uh-huh.

Q. So you had 10 years on the Pennzoil 36 No. 1,

that history.

A. Yes.

Q. And I take it, based on those two histories, you were comfortable enough in developing your drilling plan that you drilled, I think, six, seven wells in the last eight months?

A. Yes.

Q. So you felt pretty good that you were going to make some good wells?

A. Right.

MS. MUNDS-DRY: Okay. That's all I have. Thank you.

MR. EZEANYIM: Okay. Terry?

MR. WARNELL: Seven wells you drilled?

THE WITNESS: Just in the last few months in that particular half section, yes.

MR. WARNELL: How many of those are completed?

THE WITNESS: All of them. Overall, we've drilled 11 wells in the pool, and all but one were completed in the Bone Spring.

MR. WARNELL: That's all I've got.

EXAMINATION

BY MR. EZEANYIM:

Q. Okay. All your testimony here demonstrates that you have had a better day in the Bone Spring?

A. Yes.

Q. So you don't know when you drill the well, you don't know whether that it is going to be productive or not; is that right?

A. Well --

Q. Well, you don't know whether it's going to be productive, your engineer will say that. I mean, if you're not at least 80 percent sure you're going to do something --

A. Right. I think there's some percentage or some risk factor that's applied to each one of the wells on the certainty of what we think is going to be production and productivity of the well.

Q. So, that is hard to predict from well to well what will happen whenever you drill them. And you say you drilled 11 wells?

A. Right.

Q. How many of those have been completed now? How many of those are completed wells?

A. All of them are completed, 10 of them in the Bone Spring.

Q. Ten of them. Then the other one is in the Morrow?

A. When we declared the Bone Spring to be dry, we deepened that well down to the Pennsylvania and Strawn Formation and completed the Strawn.

Q. Is there any well that you drilled that did not

produce from the Bone Spring?

A. No, other than that one.

Q. So otherwise you drilled within the Bone Spring?

A. Yes.

Q. And they were very prolific?

A. A couple of them are very prolific. Several of them are marginal wells, and a few of them are pretty good wells. So we've got a whole range of distribution of productivity from those wells.

Q. Yeah. I like good wells.

A. Absolutely.

MR. EZEANYIM: Okay. I have nothing further.

MR. BRUCE: I call my engineer.

MR. EZEANYIM: Go ahead. Let's proceed, please.

MIKE FELCH

after having been first duly sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. BRUCE:

Q. Would you please state your name and city of residence for the record.

A. Mike Felch, Grapevine, Texas.

MR. EZEANYIM: What is your name? Mike Felch?

THE WITNESS: Mike Felch.

MR. EZEANYIM: Mike Felch, all right. I'm sorry.

Q. (By Mr. Bruce): Who do you work for and in what capacity?

A. I work for Cimarex Energy as a senior reservoir engineer.

Q. Have you previously testified before the Division?

A. No, I have not.

Q. Would you please summarize your educational and employment background for the Examiner?

A. Yes. I earned a Bachelor of Science in petroleum engineering from the University of Texas. I've been working for 30 years. I've worked for Marathon, Teneco, Terra Resources, Hunt Oil, Ascent Energy, and now Cimarex. And I've covered many basins, the Williston Basin, Wyoming, Gulf Coast, South Louisiana, Peru and North Texas.

Q. And does your area of responsibility at Cimarex currently include this area of Southeast New Mexico?

A. Yes, it does.

Q. Are you familiar with the reservoir engineering pertaining to the Apache Ridge-Bone Spring pool?

A. Yes, I am.

Q. And have you prepared exhibits for submission to the Examiner?

A. Yes, I have.

MR. BRUCE: Mr. Examiner, I tender Mr. Felch as an

expert petroleum -- expert reservoir engineer.

MR. EZEANYIM: Mr. Felch, why did you go to the University of Texas? You are my enemy now.

THE WITNESS: I have many enemies since going to the University of Texas.

MR. EZEANYIM: Well, I went to A&M. I'm not going to hold it against you. Are you registered in New Mexico?

THE WITNESS: No. I'm not.

MR. EZEANYIM: That's okay. You are well qualified.

Q. (By Mr. Bruce): Mr. Felch, before we get into your exhibits, let's maybe summarize a couple of positions that you will assert at this hearing.

First of all, with respect to increasing the allowable -- first, will increasing the allowable increase the rate of recovery from this pool and harm the reservoir?

A. No, it will not.

Q. Will -- second issue is, with respect to Fasken claiming the adverse effect on their correlative rights, based on the engineering that you've seen, the variability of production from this reservoir and taking into account Mr. Worthington's geology, do you see any adverse effect on their correlative rights from increasing the allowable?

A. No, I do not.

Q. Do you see any harm to the reservoir because you have overproduced a couple of wells?

A. No.

Q. Do you oppose the relief sought by Fasken in its applications?

A. Yes, I do.

Q. Let's move on. First, what type of reservoir is this?

A. It's a solution-gas-drive oil reservoir.

Q. In such reservoirs, does rate of production affect recovery?

A. No, it does not.

Q. What is Exhibit 16, Mr. Felch?

A. This is a copy of a sheet in the Petroleum Engineering Handbook, and handbook is a misnomer. It's an 800-page monster that covers many, many aspects of petroleum engineering.

MR. EZEANYIM: I know what you mean.

A. Yes. And this is from the chapter on solution gas drive reservoirs. I have highlighted some of the comments under "Insights From Simulated Studies." It basically states that an informative study by a certain gentleman who used a gridded radial simulator to study the effect of rate and spacing on performance. And they determined that ultimate recovery essentially is independent of rate and space.

Q. (By Mr. Bruce): Okay. Now, I believe that normally, if you have a nice homogenous reservoir, there's

often a gas cap in a solution drive reservoir?

A. There could be, but it would require structural -- a good structural component, a thick reservoir and very good vertical permeability.

Q. Do you see good vertical permeability in this?

A. We don't have indications of that, and we don't have a lot of structure. And they're often not very thick, either. So we don't have the characteristics that would tend to have a gas gap formed.

Q. Okay. Looking at the wells you drilled mainly in Section 36, do you see evidence of a gas cap?

A. No, we do not.

Q. Let's discuss production from the wells. I refer you to your Exhibit 17. What does this package contain?

A. It contains production plots of rate versus time for all the wells in the pool. The very first one there is the grand total for all the wells in the Apache Ridge-Bone Spring field.

Q. Maybe starting off in '97, at that point, were there only a couple of wells in the pool?

A. That's correct. There were only two wells, the Pennzoil Com, State Com No. 1, and the Mescalero 39 No. 1.

Q. And they were substantial producers?

A. The plat is dominated right there. For a number of years, it was dominated by the Pennzoil Com No. 1. It was a

very good producer.

Q. And maybe you could run through or pick out a couple of examples on this plat and tell the Examiner what you'd like him to see on those exhibits.

A. I guess, as a general sense, you'll see a lot of variability in production rates. That supports what Mr. Worthington said in terms of variability of the geology of the wells that we've encountered.

Three pages in is the Laguna 16. That's one of the second or third wells we drilled in our drilling development that really started in earnest in mid-July. For example, you see a 20-barrel a day well there. And let me please explain the curves: Green is oil -- these are all daily rates -- green is oil, blue is water, red is gas, and purple is GOR. The scale starts at 1 and goes to 10,000 at the top.

Q. Okay. So this was the first well you drilled?

A. This is not the first well. It's the second or third well. But what I wanted to show going through it, is you will see varying GOR at a widely varying rate, which does support Mr. Worthington's geology.

Let's flip to the next one. It's Mescalero 35 No. 1. I do want to have a little explanation on the -- it's a strange looking curve. The well was originally completed in 1985. They only produced it for four months. It was only completed in the upper portion of the Bone Spring.

They then went down to the Morrow, kept it in the Morrow for a number of years. They kept the Bone Spring open between packers. They never squeezed off the zone. Then back in '98, they came back to that interval. In fact, in '98 when they came back, that is when they perforated what we call the Dolomite Section. That's where you see it producing about 75 barrels a day. It was not stimulated at that time. It was flowing.

The well declines to 10 barrels a day. They then remove the packers. And, in fact, gentleman, if you turn one more page, I think I have descriptions there that are going to make it a lot easier. There you go. There's some notes. But I've taken off the '85 to '98 to make the curve look a little easier.

You see in the middle they pull the packer, they go ahead and produce that Upper First Bone Spring. It declines significantly. And then with an acid job in 2003, the well starts making 250 barrels a day. I don't think there's any question that that's an effective stimulating of the dolomite interval.

A buildup was run on that formation when it was initially completed and the skin value was extremely high, 40 or 50, something like that.

Q. Looking at the rates since -- when did Cimarex or, I think -- its predecessor was Gruy Petroleum. When did

they take over the well?

A. It was June -- when did Gruy take over? I think it was 2003. I'm not sure when Gruy took over.

Q. Okay. But it was maybe four years ago, five years ago?

A. Yes.

Q. Okay.

A. Gentlemen, other than that, if we want to flip through you can see the variability in GOR and the variability in oil rate. GOR you can see will range anywhere from a low of 1,000 to a high of 2500 to 3,000. Oil rate will vary from 10 to 100 barrels a day.

MR. EZEANYIM: Ten to what?

THE WITNESS: 10 to 150, 200 barrels a day. We have two extremely good wells that we'll talk about in detail. But there is wide variability.

MR. EZEANYIM: What color is your GOR? Is that purple?

THE WITNESS: Right. The GOR is purple. And it's generally at the higher end of the plot.

MR. EZEANYIM: Yeah. Okay.

A. We can go to the -- let's go to the Pennzoil B 36 State No. 2 well. These are listed in numerical order. That is one of the very prolific wells we have out here. We have two wells that are capable of producing above the allowable.

MR. EZEANYIM: What page are you on?

THE WITNESS: That is going to be about seven pages in.

MR. EZEANYIM: These pages are not numbered.

THE WITNESS: Page 11, upper right, looking for Pennzoil B 36 State No. 2.

MR. EZEANYIM: State 2 or State 1?

THE WITNESS: State 2.

MR. EZEANYIM: Okay.

A. This is one of the two wells capable of producing above the allowable. You'll see a new line here at the bottom that is flowing tubing pressure.

MR. EZEANYIM: Let me ask a question right off the bat. When you say a couple wells can go over the allowable, it's not the well, it's the unit. The allowable comes from the unit, right?

MR. BRUCE: Yeah. But each of these -- there is only --

MR. EZEANYIM: One well.

MR. BRUCE: -- one well per 40-acre unit.

MR. EZEANYIM: Okay. One well for 40 acres. Okay. That's why you need one well. Okay.

A. Right. And this well you'll notice, once again at the bottom, the tubing pressure, this well is still flowing at 700 pounds tubing pressure. It's producing top allowable

rates, and right at 550 to 600 MCF a day, and no water. And you will see that early on, yes, we were above allowable for the first several months there. One month we did have an average of 500 barrels a day.

Q. (By Mr. Bruce): Has that well been restricted?

A. Yes, it was. It was restricted the next month.

MR. EZEANYIM: To what?

THE WITNESS: They were attempting to restrict it to 275. They have had difficulty as they have adjusted their chokes to try and keep it at that rate.

MR. EZEANYIM: So what is it doing now?

THE WITNESS: It better be 275 barrels a day, because that's what they've been instructed to do. And they have tried to keep it there.

Q. (By Mr. Bruce): Has it been difficult with the choke size, et cetera?

A. It has. The well slugs. It changes. It's been difficult. The difference in just 1/64th can mean a lot on these kind of wells on the choke size.

Q. So you weren't able -- you couldn't just get it down to 275 barrels a day and then leave it alone?

A. Right. There isn't a dial on the wellhead that dials in the rate.

MR. WARNELL: How are you simulating or completing these?

THE WITNESS: These well are very --

MR. WARNELL: Acidizing?

THE WITNESS: -- low volume acid jobs with ball sealers. They are very good wells. It takes a very small cleanup job.

A. And if you would, we could then go to the B 36 State No. 7 well. It is your second to last page. This is now a daily production plot. This well only has two months of reported data to the state so that's why you're seeing the daily rates. The legend is at the top. The colors are approximately the same as you saw before.

Of note for this well -- you'll note at the very beginning, this well, we had it on pump. When we were initially swabbing this well, it had no indication that it wanted to flow. We put it on pump. It was on pump for the first 10 to 11 days making variable rates of 80 to 100-and-something barrels a day. And then it started to flow up the casing. And you'll note the large jump in oil rate there.

We did produce that well at 800 barrels a day. Flowing tubing pressure was about 500 pounds. So once again, this is the other well that we have that's capable of well in excess of top allowable.

Q. (By Mr. Bruce): So the Pennzoil B 36 State No. 7 and then the No. 2 are capable of producing in excess of 275

barrels a day?

A. That's correct.

Q. Are the other two substantial producers in the pool, the Mescalero 30 No. 1, and then the Pennzoil 36 No. 1, what are their approximate producing rates?

A. They're about 40 barrels day now -- or less. In fact, Pennzoil Com No. 1 is down to about 15 barrels a day. But let me check the plot for the 30 No. 1.

Q. They are producing well below allowable?

A. Well below allowable.

MR. EZEANYIM: So when did the other two that overproduced? What time?

THE WITNESS: Ten years ago.

MR. EZEANYIM: Okay. But they are producing about 40 barrels a day now?

THE WITNESS: One is about 15. The other one is about 50.

MR. EZEANYIM: Okay.

Q. (By Mr. Bruce): Do you have anything further on this exhibit, Mr. Felch?

A. No, sir.

Q. You talked about variability producing from the zones. Let's move to your Exhibit 18. What are these? Who did them, and what do they show?

A. Okay. These are production logs run by a service

company called Tech Well Surveys. These were run early on in the life of the B 36 No. 7, which is the first one, and the 36 No. 2, the last one. The B 36 No. 1 was run in the last month or so. That well had been on production for about a year and a half when this production log was run.

The intent of running these is to attempt to find the contribution from each interval in terms of fluid and gas -- oil, water, and gas. The 36 No. 7 is the top sheet. What you'll see is there is one interval that was contributing 530 barrels a day and about 400 MCF at the time the production log was run. This production log was run when the well was making about 800 barrels a day and about 2 million a day of gas.

Of note at the bottom where it's labeled Airstrip Dolomite, this is an interval that would appear to correlate very well with the Pennzoil Com No. 1, that original well in this lease that made the 500,000 barrels. And note that that well was making 87 oil and about 1.4 million a day of gas at the time of this production log.

Q. From that zone?

A. From that interval. It has a very high GOR. In fact, it was acting like a gas lift for the well.

The next one -- I'd actually like to flip to the last sheet. It's the B 36 No. 2. Once again, it's the other prolific well in the field. And note that most of the production was coming from two very thin intervals which we

correlate as the -- we call the Upper Airstrip. A number of intervals were perfed; very little contribution from the well on those perfs. Virtually all of it from those two very thin zones.

If we were to compare these intervals on the cross section that Mr. Worthington showed you, you'd see there would be virtually no correlation with the lower dolomite intervals in the original well, yet I'll show you bottom hole pressure data that shows that this well's bottom hole pressure was virtually equal to wells completed in that dolomite interval.

Q. In looking at the first pages of this exhibit, Mr. Felch, it appears that the substantial gas production comes from the lower zones?

A. It does. That's correct.

Q. And is that one of the reasons you don't see a gas cap in this?

A. That is correct. And that is also substantiated by producing GORs.

Q. Let's move on to your exhibit --

MR. WARNELL: One question. Excuse me. You said you've got production logs?

THE WITNESS: Yes, sir. The data you see to the right of the log is derived from the results of production logs.

MR. WARNELL: What kind of production logs did you

run? Is it just spinners or --

THE WITNESS: No. Full sweep. Full bar spinner, gradient meter, a capacitance tool or the dialectic tool; also pressure and temperature. So it was a full sweep.

MR. WARNELL: So if we needed, we could get that information?

THE WITNESS: We have that information if you'd like to see it, yes.

MR. WARNELL: Okay.

Q. (By Mr. Bruce): What does Exhibits 19 reflect, Mr. Felch?

A. Exhibit 19 are node plots using software called PERFORM. What this has used is the flowing bottom hole pressure from the production logs, and it's a tool to predict maximum rates at current times and also at future lower bottom hole pressure.

And what you'll see at the bottom there where it says "Inflow," those values down there are future reservoir pressures. And then the intersection of that curve labeled A, which is the outflow curve or essentially tubing friction curve. The intersection of that curve with the numbered curves 1 through 4 that correlate to the bottom hole pressure, you see at the bottom at that intersection, that is the predicted liquid rate.

Now, one thing I will note is that you'll note under

"Tubing," I've scratched out Economides. The actual correlation used for the tubing was the gray correlation. The program has a little glitch.

Now, the next page essentially takes this data and makes it a little bit easier to see. It's your predicted liquid versus your bottom hole pressure. So it's just taking those intersection points and making another plot. And what that plot shows is -- this is the B 36 No. 2. This well is capable of producing above the allowable rate well up until bottom hole pressure reaches 1200 pounds. Current bottom hole pressure is around 1800 pounds.

Q. And what oil rate are you requesting in this case?

A. We are seeking 1,300 barrels a day, and that you'll see on the next plot.

MR. EZEANYIM: Okay. I was going to say. Let's see.

Q. (By Mr. Bruce): Go ahead, Mr. Felch.

A. You know, I think we're missing node projections for the B 36 No. 7. Can I check a folder over here?

MR. EZEANYIM: Go ahead.

THE WITNESS: I apologize. Obviously, we did a poor job of getting copies of all our data.

MR. EZEANYIM: Do you have it?

THE WITNESS: We do have copies of what we should have had six more copies of.

a71d8009-9b47-40ae-a096-2d52502e00fa

MR. BRUCE: I can go make additional copies.

MR. EZEANYIM: Let's finish this. We'll make a copy when we take a break.

Q. (By Mr. Bruce): Okay. Mr. Felch, you may have to testify from memory. Your Exhibit 19A, what is that?

A. Okay. That shows the same nodal analysis for the B 36 No. 7 well. One of the plots will show the same inflow curves versus outflow. The other one is the sensitivity plot which shows rate versus future bottom hole pressure. You'll note that the predicted rate for a tubing pressure of 100 pounds was around 1,370 barrels a day, showing what that well is capable of right now if we are allowed to produce the well with 100 pounds tubing pressure. That is the basis for the 1300-barrel-a-day request.

MR. EZEANYIM: And this is No. 19A. How did you produce 19A? The intersection of that graph, your first one, is that what is plotted on 19 here?

THE WITNESS: Yes. It should be --

MR. EZEANYIM: The intersection of --

THE WITNESS: Of those four separate bottom hole pressures, correct.

MR. EZEANYIM: I'm trying to understand your legend here.

THE WITNESS: Does the legend say "Inflow," and beneath it there's a number, correct?

MR. EZEANYIM: Yeah.

THE WITNESS: Well, to the left of that under "Inflow," it should say "Future Reservoir Pressure."

MR. EZEANYIM: Yeah.

THE WITNESS: Okay. Under "Inflow," those values are future reservoir pressures. So it will show you what that well can produce at that bottom hole pressure.

MR. EZEANYIM: Okay.

THE WITNESS: Okay.

MR. EZEANYIM: Okay. Go ahead.

MR. BRUCE: And during a break, we can make copies for everyone.

MR. EZEANYIM: On this one you supplied, which well is this?

THE WITNESS: That's the B 36 No. 7. The previous one I gave you was No. 2.

MR. EZEANYIM: So these are the two that are overproducing?

THE WITNESS: That's correct.

MR. EZEANYIM: Okay. You may proceed. Go ahead.

Q. (By Mr. Bruce): Okay. Move on to your bottom hole pressure, Mr. Felch.

A. Okay. Exhibit No. 20 is a listing of bottom hole pressure data we've acquired in the field. It shows the well, the date it was acquired, what that bottom hole pressure value

was. It shows you the type of the bottom hole pressure test. You'll note some of them are extrapolated P stars from bottom hole pressure buildups. Some are static fluid levels. Some are 72-hour dip-in.

A dip-in is a well has been shut in not long. We run a gauge to the bottom of the hole, let the gauge stabilize for an hour, then just pull the gauge out. All right? Those are essentially the various type of tests we have got.

To the right, it shows what formations were open in the well bore at the time that bottom hole pressure test was taken.

MR. EZEANYIM: Okay.

A. The next page is going to show a plot of that data. I'll briefly touch on the first one. Because of the time scale on this plot, it's going to really cram the later data. What it will show is the initial wells in the pool were the Pennzoil State Com No. 1. We obtained two early production tests on that well and one on the Mescalero -- I said "we," and it wasn't "we," it was the original operator -- on Mescalero 30 No. 1.

You will note those bottom hole pressures are close. You do have some indications of completion. Those wells are about a mile and a half apart from each other. As we turn the page, the time scale is going to change so the data moves out a little bit. It starts in 2006.

Now, what is interesting on this plot is if we go straight up from the time date that says 8/24/2007, you'll see two data points. One says Pennzoil B 36 State No. 2. The other one is Pennzoil B 36 State No. 1. On Mr. Worthington's cross section, the B 36 State No. 1 will show it's only perforated in the dolomite section, some very minor sands slightly above the dolomite. B 36 State No. 2, the productive intervals there on his cross section will come in much higher in the section. They would not appear correlative, yet those bottom hole pressure points overlay each other.

You'll note the 36 State Com No. 1, that data point there, that is a static fluid level. Those tend to have a little more variability or uncertainty surrounding them, but you'll see it's very close to those other wells.

As we move to the right and stay around that 2000-pound bottom hole pressure line, you'll note a number of other wells coming in along that bottom hole pressure. The Mescalero 30 No. 6 is located probably a mile from those wells in Section 36. You'll note the 36 State Com No. 2, the B 36 No. 7 well, which I just showed you the production log, notice it falling right in line here also.

Now, there are some other extraneous points. We have some strange data points that are somewhat difficult to explain. The very low bottom hole pressure points you see at the Pennzoil B 36 State No. 3. And then the Mescalero B 29

No. 1, that's a far distance to the east, several miles to the east. We also get data points that are up there around 3500, 4000 pounds.

In the end, what I'll say is I can't really explain this, but what it certainly means is a lot of these reservoirs are in communication. A lot of these reservoirs are in pressure communication, even though stratographically they certainly look like they do not correlate.

Q. (By Mr. Bruce): Looking at the first page of the chart, the Pennzoil B 36 State No. 1 was the initial well, correct, the large producer?

A. Yes, it was.

Q. Where is -- and then up above at higher pressures you have the Pennzoil B 36 State No. 5. How far away is that well from the No. 1?

A. It's on one or two locations. I'm pulling a blank. One second.

Q. Most of the --

A. It's the southern 40-acre offset.

Q. So it's a quarter mile away?

A. Yes.

Q. And yet you see a higher pressure in there?

A. Yes, we do.

Q. Even though there seems to be some pressure communication, it doesn't seem to affect productivity from

offset wells; is that correct?

A. We have some highly productive wells at these pressures; that is correct.

Q. What is Exhibit 21?

A. Exhibit 21 is approximately 18 production plots of wells from fields in proximity to Apache Ridge-Bone Spring. These are other Bone Spring fields including the Airstrip Field, the Lee Field, Teas, and also the Scharb Field. What these are is -- the purpose of these plots is to show that typical Bone Spring solution-gas-drive reservoirs -- reservoir wells -- with good productivity and high EURs have GORs that climb rapidly to 3,000 to 6,000 cubic feet per barrel. And you'll also note that some of these wells, they don't last but about 8 to 10 years, but they recover 300-350,000 barrels.

I did not plan on going through 18 production plots, but if you would like, we could just flip through. Just to note, the GOR is the dashed black line at the top. In the upper right is the cum oil.

Q. So looking at those over time, they just naturally have an increase in GOR?

A. They naturally increase in GOR; that is correct.

Q. And as a result, Cimarex is requesting an increase in GOR?

A. Right. We believe that this is a prevalent and a natural thing for the Bone Spring reservoir.

Q. We're going to go in and do some volumetrics now, but before we get into it, even though you have this data here, do you think volumetrics really tells you anything about this pool?

A. I think they're very difficult. It's extremely difficult to define in place reserves and what you will recover, and it's very difficult to use the classical reservoir engineering techniques due to the complexity of the reservoir.

Q. Why don't you move on to your Exhibit 22 and discuss its contents for the Examiner.

A. The first page on Exhibit 22 shows volumetrics for the Apache Ridge Field. These utilize Mr. Worthington's isopach maps. They also utilize log analysis using software to define average porosity and average water saturation. I've listed ultimate recovery for both 15 percent and 20 percent recovery factors, mainly because I don't know which it is, and I'm not sure we can define what it is. But those are typical recoveries for solution-gas-drive reservoirs.

Those values are listed by formation for the total field. Volumetrics would indicate 35 million barrels in place. The current cumulative is a million barrels or about a 3 percent recovery factor for the oil in place. And ultimate recovery looks like it will vary between 5.3 to 7 million barrels.

Q. So there's still 4 to 6 million barrels of oil to

recover?

A. There's a lot of oil left to be recovered.

Q. What does Page 2 show?

A. The next page shows the exact same thing applied to just Section 36 where we have drilled most of our wells, where we are seeking relief. The grand total all in place there is 8.8 million barrels. We show recoverable reserves between 1.3 to 1.8 million. The current cum is 750,000. The current recovery factor is about 8 1/2 percent.

Q. Again, still a lot of oil to be recovered?

A. That's correct.

Q. Now, before we get into Exhibit 23, do conventional drainage area calculations pertain in this pool, in your opinion?

A. No, they do not.

Q. Now, did you perform calculations on the drainage area?

A. Yes, I did.

Q. Is that reflected in Exhibit 23?

A. Yes, it is.

Q. Before we really get into what you want to start, let's look at some of these wells starting in the northeast corner. The Mescalero 30 No. 2, again, that has cummed about 340,000 barrels?

A. That's correct.

Q. And what is its current producing rate, daily producing rate, approximately.

A. About 60 barrels a day.

Q. And immediately to the west is the Mescalero 30 No. 6. That's a relatively new well?

A. Yes, it is a very new well.

Q. What is its current daily rate?

A. My memory is not that good, Mr. Bruce, so I will refer to the curve. And I know it ID's at about 150 barrels a day, and it's producing at about 110.

Q. Still a pretty good well?

A. Pretty good well.

Q. Moving over to Section 26. Of course, you have the Pennzoil No. 1 in the center of the circle, and that well has produced, what, 534,000 barrels?

A. That's correct.

Q. And I think you stated that well is now producing about 15 barrels a day?

A. That's correct.

Q. Just to the north, immediately to the north of that, the B 36 No. 1, another new well, fairly new well?

A. November 2006, correct.

Q. And what was its initial potential?

A. It IP'd 150 barrels a day flowing.

Q. And do you know what its producing rate is

approximately right now?

A. About 105 barrels a day. Still flowing.

Q. To the north of that, you have the Pennzoil No. 36 No. 7, which is one of the very prolific wells.

A. That is correct.

Q. As you said, producing 275 barrels a day and capable of producing in excess of 1,000 barrels a day?

A. That is correct.

Q. And then off to the west, the 36 No. 2. Again, that is one of the prolific wells capable of producing in excess of 1,000 barrels a day?

A. That's correct -- or very close to it.

Q. And throttled back to 275 barrels at this time?

A. That's correct.

Q. Now, if you don't think drainage, tractional drainage calculations apply -- oh, one other well on here over in Section 31, the Ling No. 3; do have information on the approximate production rate of that?

A. The last data I saw was that well was producing 250 barrels a day, pumping.

Q. Getting back to my prior question: It's your assertion that the usual drainage calculations just don't pertain. What do you mean to show by this?

A. This well -- the top page you see are the calculated drainage areas. The next page -- or two pages in

will show you what that data was based on. I did it both on cumulative production and estimated ultimate recovery.

This shows the total SoPhiH at the well that was used in the calculation, what the calculated area was, and what that drainage radius would become. I did it for both 15 and 20 percent recovery factors. That is the basis for the circles on the front.

The reason they don't work is if these calculations were correct, when we drilled the B 36 No. 1, at the time it was drilled, it should have been drained. It should have been an extremely poor producer, if at all. Yet, it flowed 150 barrels a day.

Q. And it's still flowing?

A. And it's still flowing. It's now done that for a year and a half. 30 No. 6 should have been drained. It's 150 barrels a day. 36 No. 5 should have been drained. It's making about 50 barrels a day. These calculations, these conventional calculations for this reservoir, they don't work.

Q. And the 36 No. 3, which is virtually as prolific as the Pennzoil No. 1, should have been drained?

A. That's correct.

Q. I mean, I hate to ask you, but how do you explain that?

A. It's very difficult. I'm not sure. The geology of the area indicates that there can be on-lapping, maybe some

erosive things happening where sands and dolomites are in communication, but that's conjecture. It's very difficult to explain that, but it has certainly happened.

Q. But as a result, especially looking at the Pennzoil No. 1 and the offsetting 36 No. 2, certainly just using those two well, you don't see any adverse effect on the correlative rights of the offsetting wells?

A. No, sir.

Q. Or offsetting undeveloped acreage?

A. No, sir.

Q. And again, increasing the oil allowable, the daily oil allowable, would not cause any waste?

A. No, sir.

Q. Now, if you're not having effect on the immediate offsets, do you see any adverse effect on the correlative rights of Fasken's acreage?

A. No, sir.

Q. And even though looking at the Ling 3 and the Mescalero 30 No. 1, although it doesn't quite reach there, would you expect to see a 250-barrel-a-day well if that whole, in essence, 160 acres had been drained?

A. No, sir, I would not.

Q. Are there other opportunities for development in this reservoir, do you believe?

A. Oh, there are many opportunities, sure.

Q. Just a couple of final things looking at this Exhibit 23. The wells in Section 36 which adjoin Fasken's acreage, what is their location from the east line of the section?

A. 660 feet.

Q. All of them?

A. That is correct.

Q. Now, you could have moved those wells 330 off the section line?

A. Yes, we could have.

Q. You did not?

A. No, we did not.

Q. Certainly Cimarex has not prevented Fasken from proposing wells on this acreage?

A. No, we certainly have not.

Q. One final exhibit, Exhibit 24. Did you compile this data, Mr. Felch?

A. It was done under my supervision.

Q. And what does it show?

A. We were interested in the level of activity by company since Cimarex acquired Magnum Hunter in June of 2005. And what this shows is the number of wells drilled, work orders performed, permits applied for, and then it shows something called "Total Activity," which will sum all those categories, and also the number of active rigs in the State of New Mexico

since June of 2005.

And it shows that Cimarex as drilled 99 wells. We have 106 permits pending; 12 of those have already been converted to spuds, by the way, since I put together this data. So the total activity value there would be 216. And for the equivalent evaluation for Fasken is 20, so we're about 10 times more active.

Q. So you've taken advantage of your leasehold situation to develop them?

A. Yes, we have. We aggressively developed them to the benefit of the working interest owners and the royalty owners. And at the bottom there, you will note that we've spent $24 million since November of 2006. That's net to Cimarex which is in excess of probably $32 million gross in developing the Apache Ridge Field.

Q. Okay. That figure is just for the Apache Ridge Field?

A. Just Apache Ridge. And just since November of 2006. And it excludes workovers and well treatments. That's just putting the bit to the ground.

Q. Were Exhibits 16 through 24 prepared by you or under your supervision?

A. Yes, they were.

Q. In your opinion, is the granting of Cimarex's application in the interest of conservation and prevention of

waste?

A. Yes, it is.

Q. And in your opinion, should Fasken's application be denied?

A. Yes, it should be.

MR. BRUCE: Mr. Examiner, I move the admission of Exhibits 16 through 24.

MR. EZEANYIM: Any objections?

MS. MUNDS-DRY: No objections.

MR. EZEANYIM: Exhibits 16 through 24 will be admitted.

[Cimarex Exhibit 16 through 24 admitted into evidence.]

MR. EZEANYIM: At this point, do you mind if we take 10 minutes before you cross-examine?

MS. MUNDS-DRY: Not at all, Mr. Examiner.

MR. EZEANYIM: Take a 10-minute break and come back. I think we are making some progress here.

[Recess taken from 1:11 p.m. to 1:26 p.m., and testimony continued as follows:]

MR. EZEANYIM: Please let's go back on the record. And I think at this point, there will be a cross-examination.

MS. MUNDS-DRY: Yes, Mr. Examiner.

CROSS-EXAMINATION

BY MS. MUNDS-DRY:

Q. Mr. Felch, I may seem disorganized, but that is just a function of my notes, so bear with me.

Let's turn to your Exhibit 17, if you would, please. I think you showed us that -- you first discussed the Mescalero 30 No 1 --

A. Okay.

Q. -- and how that well is produced. Is this map showing me that that well was overproduced from the beginning of it's production life?

A. Just one second, please. It would appear that -- the plat with the annotations?

Q. Yeah. I'm just looking at the first -- really, we're probably at the annotations.

A. There were four months in 2005.

Q. Okay. So the overproduction began in 2005?

A. Only occurred in 2005.

Q. Only in 2005, okay. And was that overproduction ever made up?

A. Made up? I'm not sure I understand the phrase "made up."

Q. Are you familiar with the OCD rules as it relates to oil allowables and how you make up overproduction and underproduction?

A. I would say no.

Q. Okay. Do you know how many barrels of oil that well has overproduced today?

A. No.

Q. So let's turn to Pennzoil 36 No. 2, which is where? Three or four pages, maybe, back, I think.

A. Yes.

Q. When did this well begin to overproduce?

A. I'd say the first three or four months of production.

Q. Right out of the gate?

A. Yes.

Q. Do you know if that overproduction was ever made up?

A. No.

Q. You don't know? Let me just make sure I understand.

A. That's correct. I don't know.

Q. Would the Penn 36 No. 1 have produced the No. 2 and the No. 7 if it had just been opened up and let flow, do you think, based on this?

A. I don't know. I don't have flowing tubing pressure from that time. I don't know if it was wide open or not.

Q. But do you think it would have produced like the

No. 2 and No. 7?

A. It is producing from a different interval, so I can't even guess.

Q. On the next to the last page of this exhibit, for the Pennzoil B 36 State No. 7.

A. Yes.

Q. Could you explain to me why from -- oh, it's approximately May 15th '08, to the end of your graph here -- why the increase in GOR keeps going even though you've choked back the well?

A. Continued depletion of the reservoir.

MR. EZEANYIM: What did you say?

A. Just continued depletion. You're withdrawing fluids, bottom hole pressure goes down, GOR increases.

Q. (By Ms. Munds-Dry): And I believe it was your testimony that the No. 2 and the No. 7, you believe, are producing now at the correct daily allowance?

A. That's correct.

Q. And on the No. 2, has the production or the overproduction been made up?

A. No, it has not.

Q. And for the No. 7?

A. No.

Q. Are you aware that the OCD rules require that the production be made up in the following month?

A. No.

Q. Okay. So you don't know; just so I understand your answer.

A. That's correct.

Q. Did you ask for a test allowable for the Pennzoil 36 State No. 2?

A. No, we did not.

Q. How about for the Pennzoil 36 State No. 7?

A. No, we did not.

Q. Are you also aware that OCD rules require you to come up with a plan for adjustment if you do have overproduction?

A. No.

Q. You do not know?

A. That's correct. I think I'm answering your questions.

Q. I want to make sure I understand your answers.

A. Okay.

Q. Is it fair to say that Cimarex's plan of adjustment is to seek an increase in the daily allowable?

A. No.

Q. It's not fair to say that?

A. No. That is not our plan for adjustment.

MR. EZEANYIM: Can you repeat that question?

Q. (By Ms. Munds-Dry): Sure. My question was: Is

it fair to say that Cimarex's plan of adjustment is to bring an application for an increase in the daily bracket allowable?

MR. EZEANYIM: Okay. What's your answer?

A. No.

Q. (By Ms. Munds-Dry): What is your plan of adjustment, then, for making up overproduction?

A. We don't have a plan for adjustment --

Q. Would you agree --

A. -- at this time.

Q. At this time, okay. Do you plan on coming up with a plan for adjustment?

A. We won't need a plan of adjustment if this application is approved.

Q. Right. Okay. Will you please turn to your Exhibit No. 18. In this Airstrip Dolomite zone that you discussed in your testimony, why has this zone had higher GOR, do you think?

A. I don't know.

Q. Why high gas production? Any thoughts?

A. I honestly don't know.

Q. Okay.

A. It is a reflection of the complexity of these multiple reservoirs here.

Q. Is it a function of the depletion of the reservoir?

A. Higher GORs are usually an indication of lower bottom hole pressure.

Q. Let's turn to your Exhibit 19, if you would, please. Do you know what the original reservoir pressure was for this pool?

A. The absolute initial pressure?

Q. Yes.

A. I have estimated it to be 3771, I believe; 3,771 pounds. That was done by an extrapolation of bottom hole pressure versus cum for those initial bottom hole pressure and cum points.

Q. Okay. Do you have any individual zone pressures?

A. There are several noted on that large 11 X 17, and if they were individual, it's noted on that plat. Some will say Basal Sand, 1BSS, meaning the upper portion of the First Bone Spring.

Q. In particular -- and we may have to go look at it, because I just don't remember -- did you give an individual known pressure for the dolomite?

A. I believe the Mescalero 30 No. 1 is a good reflection of the dolomite. Same with the initial pressures on the Pennzoil Com No. 1. Quite possibly the B 36 No. 1 is a good reflection of just the dolomite also.

Q. Okay. On the second page of your Exhibit No. 19, would you agree with me that this decrease in pressure is a

result of reservoir depletion?

A. Which -- I'm sorry. Are you on Exhibit 19?

Q. On the second page.

A. Yes. I'm sorry. Were you still on the second page of Exhibit 19?

Q. Yes.

A. I'm sorry about that. Long delay. I thought you were looking for something. No. Those aren't actual values. Those are: What if the bottom hole in the future reaches that value, what is the rate that well can make? And yes, in the future, the bottom hole pressure will go down with further withdrawals.

Q. Okay. Let me make sure I understand what we're looking at here in both your Exhibit 19 and in 19A. Are these flowing bottom hole pressures?

A. No. That is reservoir pressure, reservoir pressure.

Q. And is this predicting in the well bore by well bore?

A. That is in the reservoir in general.

Q. Okay. Would you please turn to your Exhibit No. 20? The second page is your bottom hole pressure versus time graph. I think you answered this, but just in case I missed, why don't you think the pressure is low in the Mescalero B 29 No. 1?

A. Now, that value there is the last pressure point on a 72-hour buildup, okay? And I believe that's how it's noted on the list. It says 70 PBU. So that's the only one listed that way. That interval has extremely low permeability on the buildup plot.

That well is -- essentially, the data is pointing straight up. It's impossible to extrapolate. So that's an unusual buildup. The pressure is probably higher. I don't know how much higher it is. I do know the dolomite was not productive there.

Q. Okay. And I believe you said that this graph does show us that even though you can't explain it, a lot of these reservoirs are in communication. What did you mean by "in communication"?

A. Somehow intervals that are on a stratographic cross section appear significantly higher or lower within the total Bone Spring section. They have very similar bottom hole pressures. So there is some type of communication.

Q. What type of communication, do you think?

A. Contact between the formations, be it the Upper Airstrip, must somehow be communicating with the Airstrip Dolomite, and the Airstrip Dolomite down below is in communication with what we call the Basal Sand.

Q. Okay. Would you please turn to your Exhibit No. 22? What log criteria did you use to formulate

these volumetrics?

A. Porosity cutoff was 8 percent, and that's using the limestone markers. What we found is that a cross plot porosity on limestone is a very good -- has very good correlation with core data, with the side wall core data we took. A percent cutoff is a .1 millidarci minimum. That's based on some flow equations that says that will give you three to five barrels a day. It's not an economic well, but it will contribute under certain conditions.

Water saturation, essentially, was not a cutoff because we rarely found anything much greater than 60 percent. It's well known the Bone Spring can produce at high calculated water saturations. So it's mainly a porosity cutoff to determine net pay. In other values there is RW .035, and I used the Humble formula for a formation factor.

Q. Okay. Anything else?

A. The logs? No, that's it.

Q. Okay. Will you please turn to your Exhibit 23. The circle for the Mescalero 30 No. 1, how many acres do you show here total?

A. On the top seat from cumulative would be 115 acres.

Q. What's the average SW that you used?

A. There were a number of formations evaluated here. That varied by formation.

Q. Okay. Let's go through it by formation. I want to make sure that I get your terminology right because Fasken has slightly different internal terminology than you do. So let's start at the bottom and work up.

A. I'll have to refer to the sheet. My memory isn't quite that good.

Q. Okay.

A. Okay. Bottom up to bottom would be the Basal Sand.

Q. Yes, sir.

A. 35 percent -- this is water saturation.

Q. Okay.

A. For the dolomite section, 18 percent. For the Upper Airstrip, 25 percent. For the FBSS, or it might be called the Lower First Bone Spring on the cross sections --

Q. Okay.

A. -- 52 percent.

Q. On your Exhibit 23, can you tell me what percent of your field cumulatives are from dolomite?

A. No.

Q. So you looked at all of the zones together to achieve these cumulatives? How did you come about those?

A. These cumulatives are by well.

Q. Do you know why the original application for special pool rules was dismissed by Cimarex?

A. Is dismissed the correct word? We pulled it back.

Q. Okay. Pulled it back.

A. Yes.

Q. Okay.

A. We weren't sure what we had, and we knew we were going to drill some more. We just really weren't sure. It was the first time we had seen that Upper Airstrip and that kind of production in that area, and we really weren't sure what we had. So we wanted to drill some more wells and see if we could figure this out.

Q. You did have the Pennzoil 36 State No. 1, though, right?

A. Yes. But these intervals weren't present in Penn Com No. 1.

Q. How many wells did you drill in order to make that determination?

A. Since the No. 2, since the B 36 No. 2?

Q. Yes, sir.

A. Eight.

Q. Did you know that the perforations in the Pennzoil 36 No. 1 were incorrectly reported?

A. Not until mid-May of '08.

Q. Why not until then?

A. Quite frankly, I don't go to OCD files and check

what records have been filed for wells that are 10 years old.

Q. Do you -- when you're planning future drilling, do you look at information on wells that are offset by Cimarex properties?

A. Yes.

Q. You are aware there's no offsetting well in the Bone Spring in Section 31 for the Pennzoil 36 State No. 1?

A. Was I aware that there was no offsetting well in Section 31?

Q. Yes.

A. There is an offsetting well. There was no offsetting production.

Q. Okay.

MS. MUNDS-DRY: I think that's all my questions, Mr. Ezeanyim. Thank you.

MR. EZEANYIM: Mr. Bruce?

MR. BRUCE: If I have any questions, I'll ask after.

MR. EZEANYIM: Any questions?

MR. WARNELL: No. I think -- I have one question that keeps in the back of my mind on the different pressures, the pressure variances. Do you think that's in any way related to what type of test you're doing, whether it's a dip-in or a 72-hour shut-in or -- have you gone to longer shut-ins or shorter shut-ins?

THE WITNESS: We haven't. Some of the pressure tests

are erratic on the derivative curve, okay? They have very good senna log plots for the ultimate pressure.

The well that is -- for me, the key well for me is the B 36 No. 2. That's the well I showed you that overlaid another well. That pressure buildup plot is what I would call very conformable. The derivative curve is classic, flattening. It shows two layers. There's only two layers contributing and there's nothing unusual about the plot.

So I felt very good that, yes, there's communication with the buildup. That thing was very solid, and it reflects the two contributing zones, and it looks very similar in pressure to the other wells. So we have not done anything unusual, packer plug, isolate things, because that well was a good buildup.

MR. WARNELL: Okay. I don't have any other questions.

MR. EZEANYIM: Yeah. Ms. Munds, could you repeat your last question? I wanted to hear it again. Your last question was, do you have an offsetting well in some unit. And the answer was yes, but there's no production. Before I ask why no production, what were you trying to get at?

MS. MUNDS-DRY: Well, if I remember my question, I was asking him whether there was an offset well to their production in the Pennzoil 36 State No. 1.

MR. EZEANYIM: Okay. And the answer was no, there

was no production.

EXAMINATION

BY MR. EZEANYIM:

Q. Why is there no production there? Is it a dry hole? What's going on?

A. Well, my understanding was the question is in Section 31, which is Fasken's lease.

Q. Yeah.

A. At the time the Pennzoil Com No. 1 -- that was the question, right?

Q. Yeah.

A. The Penn Com No. 1 was drilled where there were offsetting wells. And, I believe, there's actually two or three well bores in that lease, the Ling 1 and Ling 2. So there were offsetting wells producing from the Morrow.

Q. But not from the Bone Spring?

A. But not from the Bone Spring.

Q. And no production from --

A. No production, but there were wells, yes.

Q. I see what you mean. I wanted to clarify that. Okay. Good. Thanks. Well, what type of interval is this? Is this a gas cap interval?

A. We don't see a gas cap.

Q. You just see solution gas?

A. Yes.

Q. Well, sometimes solution gas can be a gas cap. Is it -- so the drive mechanism is the solution. Do you have a water drive or a solution drive?

A. From my interpretation, a depletion drive is the same as a solution gas drive for an oil reservoir. I just want to make sure of the semantics.

Q. You could have all three present. You can have a depletion drive, you can have a solution, you can have a water drive. So they are not exactly the same. I mean --

A. Okay. Well, no, we don't see any water influx. We don't make much water at these wells.

Q. So you are saying -- okay. If we go back to solution drive, you are saying it's 100 percent drive in that reservoir; is that what you're saying?

A. It is a classic solution-gas-drive reservoir, correct.

Q. Okay.

A. We don't see any extraneous reservoir energy.

MR. EZEANYIM: Okay. You may be excused.

MR. BRUCE: I just have a follow-up question.

REDIRECT EXAMINATION

BY MR. BRUCE:

Q. Mr. Felch, Ms. Munds-Dry asked you about any plan of adjustment or anything like that. And, of course, Cimarex will do whatever the Division requires.

A. That's correct.

Q. Do you think it's a good idea, though, to completely shut-in the wells?

A. Just shutting in wells always carries risks. Everybody has a well that was flowing great oil, shut it in to do something, and then they try to get it to come back on, and it doesn't come back on, and they can't explain why. That's happened to me a number of times in my career. It's very painful. So completely shutting in a well, it can have consequences.

Q. Adverse consequences?

A. Yes. Can I predict that they would happen here? No, I can't predict that. But I'm not a big fan of shutting in wells.

MR. BRUCE: That's all I have, Mr. Examiner.

MR. EZEANYIM: Okay. Very well. But Mr. Felch, you come from Colorado. I think you have a quite sizeable operation in New Mexico, right?

THE WITNESS: Yes, we do.

MR. EZEANYIM: Okay. Now, I know somebody cross-examined you about our rules. So you should be able to know what our rules are.

THE WITNESS: You're right.

MR. EZEANYIM: I forgot about 505 and 506, I think. I know you are thinking, well, I don't have to care about the

rules. But you should care about these rules. You should be able to know whether you are in overproduction or underproduction and then decide what to do. And you also have no plans for adjustment until the OCD tells you to do that. Is that your testimony? Is that what you said?

THE WITNESS: That is correct. I think it's fair to say we don't have a plan for adjustment until we understand the outcome of this hearing.

MR. EZEANYIM: That's all I wanted to say. Okay. You may step down.

MR. BRUCE: That concludes my case, Mr. Examiner.

MR. EZEANYIM: Thank you very much. Now we come to Ms. Munds.

MS. MUNDS-DRY: I'd like to call Sally Kvasnicka, please.

SALLY KVASNICKA

after having been first duly sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MS. MUNDS-DRY:

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

A. Yes. My name is Sally Kvasnicka.

Q. And where do you reside?

A. I reside in Midland, Texas.

Q. And by whom are you employed?

A. Fasken Oil and Ranch, Limited.

Q. In what capacity?

A. I am the manager of the land department.

Q. Have you previously testified before the Division, and were your credentials accepted as a matter of record?

A. Yes.

Q. Are you familiar with the applications that have been filed by both Cimarex and Fasken?

A. Yes.

Q. Are you familiar with the lands that are the subject portion of this pool?

A. Yes.

Q. I don't know if you've been in front of Mr. Ezeanyim before. So maybe you could give us a brief overview of your work history.

A. My work history: I have been a petroleum landman for roughly 28 years, starting with Texas Oil and Gas in Midland, primarily working Texas. Then in 1984, I resigned and was going to be a stay-at-home mother for awhile, and the oil prices went down, and I had to go back to work. I've been working with the Fasken Family and Fasken Oil and Ranch since May of 1987, for 21 years.

Q. As a landman?

A. As a landman.

MS. MUNDS-DRY: I would tender Ms. Kvasnicka as an expert in petroleum land matters.

MR. BRUCE: No objection.

MR. EZEANYIM: She's so qualified.

Q. (By Ms. Munds-Dry): Would you briefly state what Fasken seeks with this application?

A. We are seeking immediate relief of the current overproduction by shutting in four of Cimarex's wells. And those wells are the Mescalero 30 Federal No. 1 in the southeast quarter of Section 30; the Pennzoil B 36 No. 1, 2 and 7 -- and those wells are in the northeast quarter of Section 36.

We are also requesting that they be shut in for a period determined by the accumulative overproduced oil volumes divided by the most recent monthly daily oil rate or current rate -- current depth bracket allowable, whichever is lesser.

Q. And I know we're going to call experts to testify, but could you give us a brief summary of why Fasken objects to Cimarex's application?

A. Cimarex is seeking a 4.75 increase in the allowable, which will increase the ultimate recovery, and it will drain reserves from the offsets. It will allow Cimarex to recover more than its share from the pool. It will cause further damage to the reservoir, cause economic waste, and harm correlative rights.

Q. And I believe this has been reviewed, so I don't

want to belabor the point, but can you tell me what the applicable rules are for the gas/oil ratio and the daily bracket allowable?

A. Well, the spacing is 40 acres, the gas/oil ratio is 2000 to 1, and the current allowable is 275 barrels a day per well.

Q. Thank you. Would you please turn to what we've marked as Fasken Exhibit No. 1?

A. Yes.

MS. MUNDS-DRY: And Mr. Examiner, I realize that my office labeled this January 26th, and I think it's very clearly in June, so I apologize for that mistake.

MR. EZEANYIM: Okay.

Q. (By Ms. Munds-Dry): Would you please review this for the Examiner?

A. Yes. The red boundary, the red solid line, is the current boundary of the Apache Ridge-Bone Spring pool.

Q. What's the yellow line?

A. The yellow line is the proposed addition to that, before the OCD, to that pool. The red boxes are the wells that are pending permitted wells, but not yet drilled. And the green are the wells that have been drilled and are producing.

Q. And what formation are those wells producing from?

A. These are all from the Bone Spring.

Q. Okay. Would you please turn to Exhibit No. 2 and review that for Mr. Ezeanyim and Mr. Warnell?

A. Yes.

MR. EZEANYIM: Are these wells Fasken's wells?

THE WITNESS: No. Fasken only has acreage in an acreage position in Section 31. The only well that we have producing in the Bone Spring is in the northeast quarter of Section 3. It's our Ling Federal No. 3 well.

MR. EZEANYIM: Okay. So the rest are owned by Cimarex?

THE WITNESS: And Matador to the south.

MR. EZEANYIM: Okay.

A. Exhibit No. 2 shows the acreage that Fasken holds. There's an operating agreement that covers the east half dated July 1st, 1995, covering all depths where Fasken is the operator. The west half is governed by operations of a JOA dated February 17th, 1988. And again, it covers all depths and Fasken Oil and Ranch is the operator.

Q. (By Ms. Munds-Dry): And I believe, Mr. McClung testified that they have a percentage of ownership in the west half.

A. Yes. It's a little bit more than 6 percent and as a non-operator.

Q. Let me ask you: How did Fasken become aware of Cimarex's overproduction in the four wells that are the subject

of our application?

A. We became aware at the time that we received data from Cimarex from a subpoena once we received this application.

Q. And why did Fasken bring its own application for a compliance order in this case?

A. Because we realized that overproduction was exceeding the daily allowable.

Q. And when you realized that information, what did you do at that point? Did you contact the district office?

A. Yes. We contacted Chris Williams at the district office, and he said that we should request a hearing.

Q. Are you familiar with the Division rules regarding oil allowables and gas oil ratios?

A. Somewhat, yes.

Q. What do the rules require when an operator has overproduced?

A. That they balance the following month.

Q. Has that been done for any of the four wells, as far as you know?

A. From Cimarex's testimony, it has not.

Q. And I believe you heard the testimony. Mr. Felch said they did not request a test allowable?

A. Yes. And to our knowledge, you know, the oil that's been produced over and above is considered illegal oil by OCD standards.

Q. Okay. I'd like to ask you whether you know if notice of this application was given to the operators in the pool?

A. We have -- as you know, Ocean Munds-Dry has stepped in for Tom Kellahin, and we do not physically have evidence that that was given. But they are here today, and we can supplement the record, if necessary.

MS. MUNDS-DRY: Mr. Ezeanyim, as you know, Tom Kellahin had a health issue and had to have heart surgery, so we're trying to get the documents from him. But because he's obviously been taking care of more pressing things -- we'll certainly provide that to you when we get our hands on it. We just had a little trouble because of the situation.

MR. EZEANYIM: Okay.

MR. BRUCE: Mr. Examiner, that's not an issue.

MS. MUNDS-DRY: We just wanted to make sure you understood that we're trying to get it. We just haven't had success.

Q. (By Ms. Munds-Dry): Were Fasken's Exhibits 1 and 2 prepared by you or under your direct supervision?

A. Yes.

MS. MUNDS-DRY: Mr. Ezeanyim, we move the admission of Exhibits 1 and 2 into evidence.

MR. EZEANYIM: Objections?

MR. BRUCE: No objections.

MR. EZEANYIM: Exhibit 1 and 2 are admitted.

[Fasken Exhibits 1 and 2 admitted into evidence.]

MS. MUNDS-DRY: And that concludes my direct. I pass the witness.

CROSS-EXAMINATION

BY MR. BRUCE:

Q. Ms. Kvasnicka, in looking at your Exhibit No. 2, I believe it's what you call your Ling Federal lease that covers all of Section 31 except for the northeast quarter/northwest quarter?

A. That's correct.

Q. I'll hand you what's been marked Cimarex Exhibit No. 25, which I will represent to you is a copy of the serial register page from the Bureau of Land Management regarding this particular lease. And the lease number is NM 14492; is it not?

A. That's correct.

Q. This shows that the lease was issued in 1973.

A. That is correct.

Q. And based upon your knowledge of Fasken land files; is that correct?

A. Yes.

Q. This lease was originally issued to David Fasken, was it not?

A. Actually, it was originally issued to David Ling,

and Fasken acquired an assignment from David Ling through an acquisition.

Q. Okay. In what year?

A. I do not know offhand. I can -- we can supplement the record, and I can get that information to you at a later date.

Q. I would appreciate that. Has it been more than -- well, let's look the it this way: Was it Fasken that drilled the Ling Federal Well No. 1?

A. Yes. It was David Fasken.

Q. And was that the well that established first production from this lease?

A. Yes, it was.

Q. And this serial register page reflects that it was held by production in 1983?

A. Yes.

Q. So Fasken had to have acquired its interest at least 25 years ago?

A. Yes.

Q. Moving on to your Exhibit 1, I notice you have two wells, I think, the Ling Federal No. 5 and the Ling Federal No. 6.

A. Yes.

Q. Had those wells been permitted?

A. The wells -- APDs have been filed. We are

awaiting receipt of approved APDs.

Q. Okay. Have you proposed those wells to Cimarex?

A. As soon as we receive the approved APDs, AFEs will be sent. Hopefully next week.

Q. Now, you also stated that Fasken had no knowledge of -- well, any of the production out here until Fasken received the subpoena data, which I believe was at some point in May of 2008, correct?

A. Yes.

Q. And you've heard some -- you've sat through the entire hearing today?

A. Yes.

Q. And you've heard some questioning about the original application that was filed last fall regarding this pool?

A. Yes. The one that Cimarex later withdrew?

Q. Yes. I'm handing you what's been marked Cimarex Exhibit 26. Fasken -- Mr. Carlisle of Fasken sent a letter to the OCD saying that it was going appear in that case; did it not?

A. Obviously, this is the first I've seen this letter.

Q. Okay. So assuming this letter is correct, and it would be in the Division's file for Case 14012, Fasken was at the very least aware in September or October of last fall that

Cimarex was requesting a 1300-barrel-a-day allowable; is that correct?

A. If the Case No. 14012 stated that same allowable as it is today.

MR. BRUCE: Mr. Examiner, I'd ask that the case file, which is only a few pages long, in Case 14012 be taken -- be incorporated into the record. The application in that case does show that the same relief requested in Cimarex's case today was requested last fall.

MR. EZEANYIM: What case number is it?

MR. BRUCE: 14012.

MR. EZEANYIM: Okay. What are you requesting?

MR. BRUCE: Just that it be incorporated in the record to show that the same relief was requested.

MR. EZEANYIM: Okay. Do you have any objection?

MS. MUNDS-DRY: No objection.

MR. EZEANYIM: That means that Case No. 14012 will be made part of the evidence in this case.

[New Mexico Oil Conservation Division Case No. 14012 is admitted into evidence.]

MR. BRUCE: I have no further questions.

MR. EZEANYIM: What do you want to do with the --

MR. BRUCE: If I could move the admission of Exhibits 25 and 26.

MR. EZEANYIM: Any objection?

MS. MUNDS-DRY: No objection.

MR. EZEANYIM: Okay. Exhibits 25 and 26 are admitted.

[Cimarex Exhibits 25 and 26 admitted into evidence.]

MR. EZEANYIM: Go ahead.

MS. MUNDS-DRY: I would like to call Dexter Harmon.

MR. EZEANYIM: You have already been sworn?

THE WITNESS: Yes.

MR. EZEANYIM: Go ahead.

DEXTER HARMON

after having been first duly sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MS. MUNDS-DRY:

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

A. Dexter Harmon.

Q. And where do you reside, Mr. Harmon?

A. Midland, Texas.

Q. And by whom are you employed?

A. Fasken Oil and Ranch, Limited.

Q. And how are you employed with Fasken?

A. I'm the exploration manager.

Q. Have you previously testified before the Division?

A. I have.

Q. And were your credentials accepted and made a matter of record?

A. They were.

Q. And I don't know that you've been in front of Mr. Ezeanyim. Could you give us a brief summary of your work history?

A. I worked for Newman Oil Company for 17 years, and for the past 12 years I've worked for Fasken Oil and Ranch.

Q. That's quick and concise. Thank you. Have you reviewed the application filed by Cimarex, and are you familiar with the application filed by Fasken?

A. I am.

Q. And are you familiar with the geology of the subject portion of the pool?

A. Yes.

MS. MUNDS-DRY: Mr. Ezeanyim, we would tender Mr. Harmon as an expert in petroleum geology.

MR. EZEANYIM: He's so qualified.

Q. (By Ms. Munds-Dry): Would you please turn to what's been marked as Fasken Exhibit No. 3 and review that for Mr. Ezeanyim?

A. Exhibit No. 3 is just a base map. And on the base map, it shows all the -- it shows the nine section area centered around Section 31 and all the wells that have been drilled in the area. Above each well is the well name. To the

right of the well is the well number. And below each well you'll see how deep each well was drilled.

I might point out that our No. 3 well in Section 31 was drilled to 10,706 foot. That was earlier this year in January and February. And we drilled that well that deep because we thought the producing zone in the Pennzoil 36 State No. 1 well, which was reported in the New Mexico records, was producing from a zone at 10,600, so we wanted to drill that well deep enough to catch that zone and see if we have it there.

Q. Mr. Harmon, this shows all wells in this nine section area. It's not limited to the Bone Spring?

A. It's all wells.

Q. Okay. Would you please turn to Exhibit No. 4 and tell Mr. Ezeanyim and Mr. Warnell what these show us.

A. Exhibit No. 4 a set of four cross sections that I prepared in this area that show the correlations and the names. If you'll look ahead at Exhibit 6, you can see where these cross sections are in the area with the map.

Q. That's Exhibit No. 6?

A. Kind of look ahead a little bit and there's a map where these cross sections are.

Q. What does this first cross section show us?

A. The first cross section I'd like to talk about is the green cross section. It starts with the Cimarex Pennzoil

36 State No. 1 well that was drilled by Mallon. And you'll see that each one of those cross sections, the stratographic cross sections, is hung atop what I informally call the Upper Bone Spring Dolomite.

And the way these things are constructed, the first column of the log is the gamma ray and you have the depth column with perforations in it. And then the next column is the porosity column, and then it's got density neutron and cross block porosities. And then the last column is the resistivity. That usually has a shallow and medium and deep resistivity.

I've correlated all the zones in the First Bone Spring Sand interval, and I have informal names for each of the zones. Starting at the bottom, the first you come to is the Bone Spring Orange Sand. And then above it is the First Bone Spring Dolomite. And then the next thing on the cross section is labeled as the Upper Bone Spring Dolomite. And then I've got three sands above that, the C, B and A, First Bone Spring Sands. And that's how I correlate all the wells across the area.

Q. Mr. Harmon, I know that you're internal names are probably different, but does this correspond with what Cimarex classified as their various zones?

A. There's a little bit of difference, but generally --

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Q. Okay.

MR. EZEANYIM: What are the differences?

THE WITNESS: The way he separated some of his zones and the way I correlate and which onces I correlate are a little different. Where he picks his tops and where I pick my tops.

A. So the green cross section starts with the Pennzoil 36 No. 1 and has the Fasken Ling 2 on it and Fasken Ling 1, the Fasken Ling 3, which is our new well, and it ends up with the Mescalero 30 Federal No. 1 well, which is the other older Bone Spring producer in this area.

Q. (By Ms. Munds-Dry): Okay.

A. The next cross section I'd like you to look at is the purple cross section. You'll see that also Cimarex wells in Section 26 -- that's kind of the north/south cross section and it starts up on the north end of the B 36 No. 7 well and goes to the Cimarex B 36 No. 1 and then to the old Pennzoil 36 No. 1 well, which is the original well out there, and down to the Pennzoil B 36 No. 5 and then it goes over and catches the B 36 No. 4 well.

One thing you'll see on this cross section that wasn't on the first one, if you look at the No. 7 well, there are little green Xs in the porosity column of the log and that's from the sidewall core and porosity values that Cimarex provided us.

MR. WARNELL: What turns on the red flag?

THE WITNESS: The red flags are a flag of zones that have greater than 3 percent porosity, resistivity less than 500 ohms and a gamma ray less than 70 API units. And what I really use those red flags for is dolomite zones. Those are my cutoffs. They really don't apply to the sand zones. The sand zones have different cutoffs. But in my program, you only can choose three and that's what it plots on there. When you look at those, just look at them in the context of the dolomite zones and pretty much ignore them in the sand zones.

I could print this again with my sandstone ones, but -- the next cross section I'd like to enter into evidence is the red cross section which is a cross section that goes from the west to the east across Section 30, north of the Fasken lease. And it starts with their No. 7 well, which they testified that it's dry in the Bone Spring. It goes to the 30 No. 2 well over to the 30 No. 6 well, and then it goes to the big producer in the southeast corner, the 30 No. 1, and then north of it to the 30 No. 3 well.

I'm just giving you all these so you can see the correlations and we're going to map each one of these zones next so you can see these correlations of the maps on each one.

Q. (By Ms. Munds-Dry): Okay. The last cross section?

A. The last cross section is the blue cross section

which is over to the east and it's Section 29 to 30. I got a lot of the wells out in this area.

Q. Okay. Mr. Harmon, if you could refer to your Exhibit 5 and explain the geology in this area for the Examiner.

A. This is a geologic model after Cook & Others published in 2004. It shows a carbon shelf slope that is basically a depositional model. And I think it applies to this Apache Ridge-Bone Spring pool. And I think what we have are a bunch of sand and carbonate free flows in this area. And I've been able to correlate these zones and break this up into individual debris flows that I've named.

The first debris flow is a sand debris flow, and I call it the Barn Sand at the bottom. And we'll see a map on that. And then the next one that I can correlate across the area is the First Bone Spring Dolomite, and it's an easy zone for me to correlate across the area. And then right above that between that and the Upper Bone Spring Dolomite, I think we had a couple of slumps in this area.

And on this carbonate depositional model, you can see that that occurs where you have slumps, and you have just part of the stuff break away and create accomodation space. And that space is then filled in wherever these slumps are. It's filled in and then the next layer is deposited on top of that. And so the zone between the First Bone Spring Dolomite and the

Upper Bone Spring Dolomite we call the Tween zone.

And that's one of these slumps that has occurred in this area and has been filled in. And sometimes it's filled in with dolomite and sometimes it's filled in with sand. And then once it gets filled in, the Upper Bone Spring Dolomite was deposited across the top of that. And then you start -- then you had the C sand deposited, and then the B sand, and then the last one was the A sand, which comes and goes in the area.

Q. All right. Do you want to turn now to your Exhibit No. 6 and review that for the Examiner?

A. No. 6 we've already looked at and it shows lines of these cross sections. And then I've drawn in red two of these slump areas. When those slump areas occur, you get the extra accomodation space that's then filled in with extra rock until you get the next thing deposited on top of it. So the slumps occurred after the First Bone Spring dolomite was deposited. And the one to the north was filled in with dolomite, and that's why you have that thick dolomite in the B No. 7 well.

And then the other slump that occurred right after the deposition of the First Bone Spring Dolomite is in the southern part of the 36, and that was mostly sand-filled. And once those got sand-filled, then we had deposition of the Upper Bone Spring Dolomite above those.

Q. Okay. Let's go now to Exhibit No. 7.

A. Exhibit No. 7 I'm just going to start at the bottom and map some of these things. And Exhibit No. 7 is what I call the Orange Sand. And I think Cimarex called that their Basal Sand. And basically that -- on this map, we have the gross thickness of the Orange Sand to the right in blue.

And then below it in red is the net porosity of the thickness. And that is porosity greater than 8 percent -- is our cutoff percent for sandstone. And then below it in purple color is the PhiH map, which is the porosity times height that we use to make our reservoir calculations. And basically, I just showed this one map of the Orange Sand, the PhiH isopach map and you can see that it is thick down here in the southeast/southeast Section 36 and it kind of thins out to the north and east.

If you look back on the purple cross section, you can see that that's a very thick Orange Sand well there, the No. 5.

Q. Okay. What is --

A. It kind of thins out north of there.

Q. Sorry. I didn't mean to cut you off there. What is Exhibit No. 8?

A. Exhibit No. 8 is a map of the First Bone Spring Dolomite debris flow. And it's a carbonate debris flow. And so the first map you see is the gross isopach. That's the thickness of that debris flow. And basically you can see it's a northeast/southwest trend. It has a limited depositional

area. The thing is a little over a mile wide. And as you get to the northwest and southeast it's not deposited at all.

Q. The next map?

A. The next map is the net isopach of that First Bone Spring Dolomite. And you can see the net is less than the gross and you can see where the net porosity develops in that. You might also say that's the dolomite that's producing in the Pennzoil No. 1 well that produced for the last 10 years, the 500,000 barrels. But that net isopach shows the porous parts of the zones. And then the last map is the PhiH isopach map and we use that to make our oil and place reservoir estimates.

Q. Is there one more there, the structure map?

A. The structure map is, you know, current day structure on top of this First Bone Spring Dolomite zone and you can see the influence of these slumps getting in high and low areas of the northwest/southeast direction.

Q. For these maps, how did you calculate net pay?

A. Net pay was like I said before, it was porosity greater than 3 percent, cross block less than 70, API unit gamma ray, and also less than 500 ohms resistivity.

Q. Okay. Let's turn, then, to your next Exhibit No. 9.

A. Exhibit 9 is a map of that what we call the Tween zone. It's the slump areas between the First Bone Spring Dolomite and the Upper Bone Spring Dolomite. And the first map

just shows the -- you know, this is a limited aerial extent. It's only where the slumps occurred, so I showed the gross thickness and the net porosity.

On the first map, I didn't bring the isopachs of those. But the second map is the PhiH map, and you can kind of see the shape and the calculations of the PhiH in that zone between the two debris plugs, kind of the fill zone.

Q. Okay. Exhibit No. 10, what does this show the Examiner?

A. Ten is a set of maps that -- same type of maps for the Upper Bone Spring Dolomite. And the first map is the gross isopach. And you can see this is a wide spread debris flow pretty much in all of the wells.

This second map in there is the net isopach. And that really shows that even though this is a widespread fairly thick zone that lots of places don't have much porosity in this Upper Bone Spring Dolomite. The porosity varies a lot around the area.

The next map is the PhiH isopach map which gives the use for reservoir estimates, in place estimates. The last map is a structure map on top of this First Bone Spring Dolomite. And this really looks like more of the regional structure in this area. It's, you know, a dip to east/southeast, and that's more of the regional structure.

Q. After reviewing the geology in this area, what

conclusions can you make?

A. I think a lot of different zones, both carbonate and sand debris flows make up the First Bone Spring Sand in this area. And the Apache Ridge that the Bone Spring Field pool produces from. The most prolific zones are the dolomite zones. All you have to do is acidize them to get them to produce. And sands are tighter and they take higher porosity to produce and always need to be frac'd to get them to produce.

And I agree with the Cimarex that all of these dolomite zones seem to be in communication with each other based on the pressure information that we've seen. It's a big reservoir that's in communication.

Q. Will you be calling your engineer to review our own pressure information?

A. Yes.

Q. Were Exhibits 3 through 10 prepared by you or complied under your direct supervision?

A. Yes.

MS. MUNDS-DRY: We move the admission of Exhibits 3 through 10 into evidence.

MR. BRUCE: No objection.

MR. EZEANYIM: Exhibits 3 through 10 will be admitted.

[Fasken Exhibits 3 through 10 admitted into evidence.]

MS. MUNDS-DRY: That concludes my direct examination. I pass the witness.

CROSS-EXAMINATION

BY MR. BRUCE:

Q. I don't know what exhibit this is, Mr. Harmon. I forget. Any one of these plats, the red line cross section -- I think you can grab any one. Just one question on them.

Am I correct in looking -- say, the two wells on the left, are you're using different scales? Up in the upper left you have 0 to 150 and the next well over you have 0 to 100.

A. There are two curves. There is on 1 to 100 and one 0 to 150.

Q. Are they different scales?

A. Yeah. They're two different scales.

Q. Okay. Does that make it more difficult to really compare them?

A. There's two different gamma rays there. There are a couple of wells out here that we had to normalize as far as gamma ray cutoffs. One of the worse ones was this Pennzoil 36 No. 1. That gamma ray is just terrible, and we had to normalize it to get it back to all the other wells.

MR. WARNELL: By "terrible" you mean it has a real high count rate?

THE WITNESS: Yeah. Real high count rate and it doesn't match any of the other wells out here. Some, you know,

you take a high cleaning zone and a shaley zone and you have to normalize it. But I put, you know, on this cross section that's what it is, but we normalized it when we used it for our cutoff values.

Q. (By Mr. Bruce): In preparing these, did you use the data turned over by Cimarex to you?

A. Yes.

Q. I mean, they turned over a lot of data that what most operators would normally consider proprietary, did they not?

A. They did. It was very good data. The side wall core data was excellent, and it helped us calibrate the cross block porosities for the frac points to use. It was very good data.

Q. Now, one of Fasken's alligations is that in essence, that it didn't know of any of the production out here until it got this data last month, but you are the exploration manager, correct?

MS. MUNDS-DRY: Mr. Examiner, I'm going to object o the characterization, because I think we're talking about overproduction.

MR. EZEANYIM: I'm going to have to rule for the witness to just go ahead.

Q. (By Mr. Bruce): And I don't mean to mischaracterize it to Ms. Munds-Dry or Mr. Harmon, however you

care to characterize it, but --

A. We were unaware of the overproduction.

Q. Okay.

A. We were aware of production out here.

Q. Okay. Certainly -- well, tell me this: When you are looking at developing one of Fasken's leases as exploration manager, you don't just look at your lease, you look at offsetting data, do you not?

A. We do.

Q. You would look at what's in the public records like on the OCD, its website?

A. Yes.

Q. And do you use -- I don't know if the name has changed, but PI -- Petroleum Information?

A. It's called IHS now, but we do use that.

Q. Okay.

A. That's where these numbers came from, and those are the only numbers that are in IHS right now.

Q. The production?

A. Yes.

Q. Okay.

A. That's the only public information right now.

Q. Okay.

A. And that's posted on these, so all the production information we got from Cimarex is from you guys.

Q. Okay.

A. It's not public.

Q. But you've -- and how long have you been -- I know you said, but I forgot now -- how long you have been at Fasken now?

A. Twelve years.

Q. Twelve years, okay. I remember when you started there, Mr. Harmon.

But certainly, you were aware, were you not, that the Mescalero 30 Well No. 1 was completed in and producing substantial rates from the Bone Spring Formation?

A. Yes, from the Bone Spring.

Q. And so have you looked at that particular well before, even before Cimarex started developing this acreage to formulate a plan for maybe developing the Bone Spring on your acreage?

A. Yes.

Q. And that well was completed in the Bone Spring. Let me hand you something, Mr. Harmon. This is kind of out of order. I'll hand you what's been marked Cimarex Exhibit 28. I'm skipping one at this point.

As Mr. -- and I will represent to you that these are documents from the OCD's ONGUARD system for Mescalero 30 No. 1, even though that well produced from, I believe, the Morrow for a number of years. When it was originally drilled in '85, it

was also perforated in the Bone Spring, was it not?

A. It was.

Q. And I think Mr. Worthington testified it only produced for a few months, but its initial rate was recorded as 408 barrels a day. And then there was subsequent completion in, what, 1997 or '98 in the Bone Spring? You had this data available to you, did you not?

A. We could get at this data, yeah. This is all filed with the state.

Q. And the Bone Spring perforations are pretty much at the same level we're talking here today about?

A. They were both in the sands and the dolomite, yes.

Q. And I'll hand you what's been marked Cimarex Exhibit 27 concerning the Mallon Oil Company, Pennzoil State No. 1. Again, I will represent to you that these are just taken off the OCD's website. But certainly, Mallon Oil Company did report a Bone Spring completion to the OCD.

A. Yeah. And if you'll look on the second page, it reports the depth at 10,509 to 10,600 foot.

Q. And also at 10,020 to 10,036?

A. That's right.

Q. Now, that was incorrect, but that was not done by Cimarex?

A. It's incorrect.

Q. But was the production from the Bone Spring reported on various sources, either on the OCD or the Petroleum Information, IHS?

A. I guess it was.

Q. So you could have -- obviously, could have seen that this well was producing substantial amounts of oil from the Bone Spring?

A. We did. We correlated the well that they reported producing oil at with our No. 2 Ling Well and our well does not have that zone in it. We always thought it was coming out of that zone at 10,600.

Q. But it was still Bone Spring?

A. Yes.

Q. And you did not take any action to offset that well in the Bone Spring?

A. We had an offset well, but it didn't have the zone in it.

Q. There was nothing to prevent you from drilling another well in the west half of Section 31, was there?

A. No.

Q. Or for that matter in the northeast quarter of Section 31 to offset the Mescalero Well?

A. No.

Q. Finally, I'll hand you what's been marked Cimarex Exhibit 29, which again, comes from the OCD's website. On the

B No. 1 Well, which I think Mr. Felch testified is the direct north offset to the Pennzoil 36 No. 1, the well that has been flowing 100 to 150 barrels a day, that information has been of record since -- well, for a year and a half now, correct?

A. Yes.

Q. And so there was data out there whereby Fasken could have determined that there was significant offset Bone Spring production going back at least 10 years?

A. That's correct.

Q. And yet, not until you drilled the Ling Federal No. 3 in the northwest of the northeast, what, early this year --

A. Yes.

Q. -- did you drill a well? That was the only --

A. Our most recent drilling, yes.

Q. And Cimarex had -- you've also -- I think the Ling Federal No. 4 is a Morrow test in the southeast quarter of Section 31?

A. That's correct.

Q. And that well is at an unorthodox location?

A. It is.

Q. And Fasken sought and obtained a voluntary waiver from Cimarex regarding the drilling of that well?

A. If you say so.

Q. Okay.

A. I'll accept that.

Q. And Mr. Worthington, in all fairness, is pointing out to me that, of course, all of this information hasn't been online until the last -- I forgot how many years -- there were before that paper filings in the various OCD offices, were there not?

A. What information?

Q. Well reports, completion reports, production data.

A. Right. It's public information. Is that what you're asking?

Q. Well, it hasn't been fully available online until maybe the last five or six years.

A. Something like that.

Q. Really, just one other question: As you know, the Cimarex Well in the southwest/southwest of Section 31 was dry in the Bone Spring. Do you have an opinion as to why?

A. Which one?

Q. The well in the southwest quarter/southwest quarter of Section 31, the -- the 30 Well, No. 7.

A. Why is it dry?

Q. Why, in your opinion, was it dry at the Bone Spring. There is reservoir there, is there not, dolomite and/or sand?

A. There's dolomite. There's no porosity or

permeability. They did side wall cores on the thing and it's tight.

Q. Yeah.

A. No porosity or permeability. They might have been able to make a little out of the B and C Sands. But they didn't try those.

MR. BRUCE: Okay. That's all the questions I have. And I would move the admission of the Cimarex Exhibits 27, 28, and 29.

MS. MUNDS-DRY: No objection.

MR. EZEANYIM: Cimarex Exhibits 27, 28, and 29 will be admitted.

[Cimarex Exhibits 27 through 29 admitted into evidence.]

MR. EZEANYIM: Do you have anything else?

MS. MUNDS-DRY: I have just two quick questions.

MR. EZEANYIM: Okay.

REDIRECT EXAMINATION

BY MS. MUNDS-DRY:

Q. Mr. Harmon, Mr. Bruce gave you Exhibit 27, which is the copy of the filings at the OCD for the Pennzoil 36 State No. 1.

A. Okay.

Q. I believe your testimony was that Fasken did look at these particular reported intervals in their offsetting

wells.

A. Yes.

Q. And you didn't find any shows in there?

A. Right. We don't have the zone that's in this well.

Q. When you did find out about the intervals that the well was actually completed in, what did Fasken do?

A. The very next day we moved the pulling unit out on our No. 3 Well and perforated that dolomite zone.

Q. And as far as you know, has this completion report ever been corrected in the OCD records?

A. Not to my knowledge.

MS. MUNDS-DRY: That's all I have, Mr. Ezeanyim. Thank you.

MR. EZEANYIM: Okay. You may sit down.

Call your next witness.

MS. MUNDS-DRY: Mr. Ezeanyim, can we take a quite break just so my witness can refresh himself for just a second?

MR. EZEANYIM: Okay. Five minutes.

[Recess taken from 2:48 p.m. to 2:56 p.m., and testimony continued as follows:]

MR. EZEANYIM: Okay. Let's go on the record. Let's continue with the last witness.

CARL BROWN

after having been first duly sworn under oath,
was questioned and testified as follows:

DIRECT EXAMINATION

BY MS. MUNDS-DRY:

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

A. My name is Carl Brown.

Q. Mr. Brown, where do you reside?

A. I reside in Midland, Texas.

Q. And by whom are you employed?

A. Fasken Oil and Ranch, Limited.

Q. And how are you employed with Fasken?

A. I'm a petroleum engineer.

Q. And have you testified before the Division?

A. Yes, I have.

Q. And were your credentials accepted and made a matter of record?

A. Yes, they were.

Q. For Mr. Ezeanyim and Mr. Warnell's benefit, could you give us a brief history of your work experience?

A. Yes. I graduated from Texas Tech University in 1997 with a Bachelor of Science in petroleum engineering. I began my career with Sun Oil Company in Colorado City, Texas. I moved to Midland, Texas three years later in 1981. I worked for maybe petroleum for seven years there in Midland. And then

after that in 1988 became employed by Fasken Oil and Ranch. And I've been associated with production for Fasken anywhere from South Texas mostly Permian Basin, Southeastern New Mexico, some in North Dakota and a little bit up in Nevada.

Q. Are you familiar with the application that's been filed by Fasken and also the one filed by Cimarex?

A. Yes.

Q. And are you familiar with the reservoir in the subject portion of the pool?

A. Yes, I am.

MS. MUNDS-DRY: We tender Mr. Brown as an expert in petroleum engineering.

MR. EZEANYIM: Mr. Brown is so qualified.

Q. (By Ms. Munds-Dry): Mr. Brown, would you please provide the Examiner why Fasken objects to this application?

A. The dolomite zones in the Apache Ridge-Bone Spring pool are capable of efficiently draining over 160 acres per well. The Pennzoil 36 State No. 1 has produced over 500,000 barrels from an unreported dolomite zone perforations for about 10 years. And the well has drained in excess of 640 acres, in my opinion.

Cimarex has drilled the Apache Ridge-Bone Spring pool to a 40-acre well density adjacent to Fasken's acreage. The Cimarex application to increase the depth bracket allowable for each 40-acre proration unit to 1300 barrels per day if 4.7

times the 40-acre bracket allowable of 275 barrel a day and two and a half times the 160 acre depth bracket allowable of 515 barrels a day.

If this increase is allowed, Cimarex, in my opinion, will accelerate the drainage of Fasken acreage, rapidly deplete the reservoir and adversely affect future recoverable oil from Fasken's offset acreage.

Q. Thank you, Mr. Brown. Would you please turn to what's been marked as Fasken Exhibit No. 11 and review that for the Examiners?

A. This exhibit is a table of all the wells that are in the Apache Ridge-Bone Spring pool. And there are 17 wells listed here. And, of course, I've got the location, operator, lease name, well number, the API series, current status. And in the middle there is the first production date, perforated interval, a current production rate, and cumulative oil. And I've used a May number because the one well we produced had two months, and I have a May data point. So I moved everything to a May cumulative.

Most of the oil in this example I want to show you has been produced from two wells. If total cumulative to date is well over a million barrels. Over 800,000 barrels is from two wells, one being the Mescalero 30 Federal No. 1, which is about the sixth one down. Another four down or so is the Pennzoil 36 No. 1, which made the 530-some thousand barrels.

MR. EZEANYIM: Who owns those wells?

THE WITNESS: I'm sorry?

MR. EZEANYIM: Who owns those two wells?

THE WITNESS: Those are owned by Cimarex.

MS. MUNDS-DRY: Mr. Ezeanyim, I think you can see that there's a column here that says "operator" to the left of the well name.

MR. EZEANYIM: Okay. But they're not the wells that produce, the No. 2 and No. 7. Or is there something wrong?

MS. MUNDS-DRY: There's actually four wells. The first one is the Mescalero 30 Federal No. 1 that Mr. Brown is reviewing now.

MR. EZEANYIM: Correct me if I'm wrong. There are four of them, but there are two that are really very prolific. Is that the No. 2 and the No. 7?

MR. FELCH: That is correct.

MR. EZEANYIM: And now you show on No. 1 is not as prolific. It is the Pennzoil No. 1? Which is the Federal No. 1? Are they somewhere else?

MR. FELCH: They are not the same as the No. 2 and the No. 7. These are the wells that Fasken is asking for relief for overproduction that occurred historically a number of years ago.

MR. WARNELL: When you look at No. 7 well there, it was just completed in March. So you've only got like two

months of production. That's why it doesn't --

MR. EZEANYIM: Okay. So there are other wells. I just wanted to understand what you're doing. Okay. Go ahead.

Q. (By Ms. Munds-Dry): Anything else you wanted to point out to this well data sheet?

A. No. Just those cumulatives in that most of the wells or oil produced to date is from the two wells, the Mescalero 30 Federal No. 1 and the Pennzoil 36 State No. 1.

Q. Okay. Let's turn to your next exhibit which has be marked as Exhibit No. 12, I believe.

A. Exhibit No. 12 is a map of the area showing these cumulatives that we just mentioned underneath the well symbol. And it shows the relative location of the production.

Q. And this shows just Bone Spring wells?

A. This is the Apache Ridge-Bone Spring cumulative production.

Q. And for the Mescalero -- let's start with the Mescalero 30 Federal No. 1. How many barrels of oil has that well produced?

A. About 296,000 barrels.

Q. And for the Pennzoil 30 State No. 1 in Section 36?

A. 536,000 on this map.

Q. And how about the Pennzoil B 36 State No. 2, which is in the --

A. Well, I've got listed here 69,000 barrels.

Q. And the Pennzoil B 36 State No. 7?

A. There's 28 or 29,000 barrels of production cumulative from that well. It's only been online for a couple of months -- or three.

Q. All right. Would you please turn to what's been marked as Fasken Exhibit No. 15 and review that for the Examiners?

A. This is a production plot, monthly oil production versus time on a scale for the Apache Ridge-Bone Spring, total production. I think Mr. Felch presented similar information. What is difficult to see is the legend for the curves, but the heavy green line is the oil rate. The gas is the one above it. It comes out sometimes red. It's supposed to be. And then below that in the blue is the gas/oil ratio. And the water is the dashed line.

It just shows also that the initial production from the Bone Spring pool -- Apache Ridge-Bone Spring pool began August of '85. And to date there's something like 17 total wells that have contributed to this total production. Up in the upper right-hand corner I've got a cumulative of the total pool at this time of over a million barrels, 1,062,000.

MR. EZEANYIM: Before you go away from that, if you can tell me the gas/oil ratio. Is one that is below that --

THE WITNESS: Yes, I'm sorry. It's in blue, you

know, water -- lower most.

MR. EZEANYIM: Is that the gas?

THE WITNESS: Yes. The lower most curve.

MR. EZEANYIM: Are these the same wells that were shown by Mr. Felch?

THE WITNESS: It's the same Apache Ridge-Bone Spring wells contributed --

MR. EZEANYIM: Then what is wrong here? He shows that it's above everybody, but now it's below here. But it's the same number of wells.

THE WITNESS: Well, it's --

MR. EZEANYIM: I'm --

THE WITNESS: The ratio is the same.

MR. EZEANYIM: What?

THE WITNESS: The scale is the same. I think his scale is different and separated where he can see it better, I'm not sure.

MR. EZEANYIM: Right. It really doesn't matter what the scale is. But whatever scale you put it in there should be -- I don't know which one is correct.

THE WITNESS: Well, it's about 2000 to 1 gas/oil ratio daily for current ratio.

MR. EZEANYIM: No. This is the testimony of two engineers now. I'm getting conflicting information. I don't know why you want me to process it. The information says the

gas/oil ratio is very high. And then this one says the gas/oil ratio is low. Which one do I believe?

THE WITNESS: Well, this is the total field production and represents the last, you know, every month's gas/oil ratio.

MR. EZEANYIM: Well, Mr. Felch might answer if it's not for you. He is here now. He can make comments on that, if you don't mind. Because I want to understand what's going on.

MR. FELCH: And I don't understand where the discrepancy is. I'm sorry.

MR. EZEANYIM: You are showing, I see, because they are clearly marked that the gas/oil ratio is above all your oil and gas production. But here it's lower. Regardless of what scale you use, it should be, you know, it should be higher than your gas and your oil.

THE WITNESS: I have the answer for that.

MR. FELCH: It is a scale factor. I was using daily rates and this is monthly rates. That's the difference.

THE WITNESS: Yes.

MR. EZEANYIM: Okay. You have to give me the units.

THE WITNESS: You're right. I apologize. It's monthly rates. I mentioned it was monthly rates.

MR. EZEANYIM: And you --

MR. FELCH: My plot is daily rates. His plot here is monthly rates.

THE WITNESS: And this data is directly from IHS energy public information, except for the last three months which I've extraplated.

MR. EZEANYIM: Okay. It makes sense now.

Q. (By Ms. Munds-Dry): Okay. Mr. Brown, would you please, then, turn to the next page in our packet to Exhibit No. 13.

A. Well, this is a table of this monthly production that we just saw on the previous graph, it's just in tabular form.

MR. EZEANYIM: Go ahead.

Q. (By Ms. Munds-Dray): This is a tabular form?

A. Tabular form of the graphical data just shown on the previous page.

Q. And to get to the bottom line, you turn to the last page on the table and tell what this shows.

A. Well, that's the total current cumulative oil production, gas and water, for the Apache Ridge-Bone Spring pool.

Q. What's it show for total cumulative oil for, I guess, last reported in May of 2008?

A. May of 2008, 1,062,108 is the cumulative. Again, the last three months are extraplated data.

Q. And what was the cumulative in February of 2007?

A. February 2007, 797,228 barrels.

Q. What was the well count in February of 2007?

A. There were six wells in the pool.

Q. And in May of 2008?

A. May of 2008, 15 active.

Q. Please turn to the next page and discuss this graph.

A. This graph, Mr. Examiner, is barrels of oil per day on a cartesian scale. The green line is barrels of oil per day versus time. And the pink line, red line, is a daily oil/gas ratio. And this is from production of the fields since December 1996, which is the majority of the field production history. I show you this because this form and this type of graph may come up a few more times.

Q. Okay. Let's turn to what's been marked as Fasken Exhibit 17. Please review this for the Examiners.

A. This is a graph of barrels of oil per day for the field, gas/oil ratio, and a cumulative gas/oil ratio on a log rhythmic scale plotted against cumulative oil production. We'll show this again later too, a similar plot.

Q. Can we make sure we're looking at the same thing? What are you --

A. I'm sorry.

Q. That's part of Exhibit 13, I believe. I just want to make sure we're all -- do you have exhibit -- what do you have next there?

A. Well, I started out with daily plot and then the cumulative plot. There may be one that we didn't --

Q. That one didn't make the final cut.

MR. BRUCE: You are going do use this one?

MS. MUNDS-DRY: This one we are, yeah. You do have this one?

MR. WARNELL: Which one is that?

MS. MUNDS-DRY: This is still a part of 13.

MR. WARNELL: 13. All right.

MS. MUNDS-DRY: Sorry for the confusion.

Q. (By Ms. Munds-Dry): 14 I have. Mr. Brown, you have this packet for the production history for each of the wells?

A. Yes. The initial well is the Pennzoil 36 State No. 1. This is the monthly production history for every Apache Ridge-Bone Spring well. There's 17 of them. And like Mr. Felch, we'll just talk about one or two. First, for the Pennzoil 36 State No. 1, this is monthly production.

MS. MUNDS-DRY: That's about halfway through, I believe, Mr. Examiner.

MR. EZEANYIM: Okay. Go ahead.

Q. (By Ms. Munds-Dry): Go ahead, Mr. Brown.

A. This is the Pennzoil State 36 No. 1 beginning production in 1997 and we have a cumulative oil on this well, 536,000 barrels. What I'd like to point out is that there's a

long production history back to 1997. And it's a sustained, very flat decline curve indicating a large drainage area. And early in the first few months there was an overproduced time period.

Q. Mr. Brown, before we leave this graph, do you think that this well, the Pennzoil 36 State No. 1, which I believe you said it has produced and it's represented on this map a cumulative of 536 barrels, do you think it could have produced above the top allowable if it had been allowed to go?

A. Well, early on it was flowing over, yes, after we got the records. But it should be able to produce in excess of the daily allowable if allowed to.

Q. Okay. What's the next well you want to look at?

A. I want to point out one more thing on this map, the gas/oil ratio, the most recent data since 2007, we have quite an increase from about 1200 to 1 GOR on this Pennzoil State 36 No. 1 up to about 3000 to 1. So we have some increase in gas production indicating the reservoir's reduced pressure.

Q. Okay. Which graph do you want to go to next?

A. Well, I was in order of the overproduced well, again the Pennzoil 1, the B2 and the B7 and this Mescalero 30 No. 1. So those were my four daily plot -- or monthly plots here. There's not a lot of character on these plots, but this is for posterity and completeness.

Q. Okay. Look then, at the Mescalero.

A. The Mescalero 30 No. 1, the monthly plot.

Q. This is the Federal No. 1?

A. Can we go back to the Mescalero 30 Federal No. 1? I just want to point out the gas/oil ratio increase on it also in recent times from about 1500 to 1 to around 4000 to 1, indicating again the reservoir reduced pressure and increased gas.

Q. Mr. Brown, I believe that Mr. Harmon testified, and Ms. Kvasnicka testified that they received data by subpoena. After we received that data, how did we examine and look at these issues that were created with Cimarex's application? What did you discover from that data?

A. The overproduced production?

Q. Yes, sir.

A. Well, that's what we discovered from Cimarex's daily drilling and well histories. The wells had been overproduced, particularly the B7 and the B2, and then in recent months, the Mescalero 30 No. 1 and the Pennzoil 36 No. 1 had been produced previous -- history.

Q. And where did we learn about where the Pennzoil 36 State No. 1 was actually produced?

A. Perforations. We found out in April where the perforations were actually in the what we call the First Bone Spring Dolomite. That Pennzoil 36 State No. 1 that we thought was producing from the 10,000-foot zone, we found out in April

that it was actually perforated and had been all along in the dolomite, the First Bone Spring Dolomite.

Q. And I believe Mr. Harmon testified that we went out and re-completed in that zone?

A. Yes, we did. We already had the Ling Federal No. 3 producing from the A and B Sands, and with that information, we did make a Bone Spring -- dolomite completion in our Federal 3.

Q. Did Fasken do anything else in response to that information?

A. The subpoena information, we got two wells that we've permitted and will be sending AFEs to partners in the next few weeks. But also, in the past history of this lease, you know, Fasken acquired this, we drilled two Morrow wells, the Ling Federal 1 and the Ling Federal 2, which produced at 14 BCF out of the section in the Morrow zones. And the Ling No. 2 is still making 300 MCF day, 10 BCF, an excellent gas producer.

Fasken has been diligent to develop the deeper gas horizons. In 1997, the Ling Federal No. 1 which had depleted in the Morrow, we attempted a Strawn completion and it was unsuccessful. And we attempted, then, the Bone Spring completion in that well. It's a very small -- not a lot of net pay. It was unsuccessful. Our top of cement was very close so we could not complete in the sands above that. But the Ling Federal No. 1, we attempted a Bone Spring re-completion

workover in 1997, and then again in 2007. So we've --

Q. Did you say 2007 or 2003?

A. 2007.

Q. Okay.

A. We did it twice.

Q. Okay.

A. And tried to block squeeze twice, but the zone is not very thick and there's not a lot of net feet in it so it was unsuccessful.

Q. So would you agree with Mr. Bruce's characterization that we were in a drilling stupor?

A. Yes, I would.

Q. Would you please turn to what's been marked as Exhibit 15 and let's review this packet for the Examiners.

A. First is a log of the Pennzoil 36 State No. 1 and is similar to Dexter's logs. There's a gamma ray on the left side, perforations in the center, porosity on the second tract, the third tract is the resistivity information. And the perforations are noted there in what we call the First Bone Spring Dolomite and the Orange Sand.

Q. Okay. What's the next page in this packet?

A. The next page is the first page of the Cimarex well history that we received from Mr. Worthington, I believe, prior to the subpoena data, but it was a trade of information.

And if you'll note on this well history for the

Pennzoil 36 State Com No. 1 down to the bottom, there's a reservoir summary on this page. The Bone Spring, there's perforations noted at 10,020 to 10,600, which we've talked about in the OCD filings. The date perfed was December 1996.

The Second Bone Spring set of perfs at 9,516 to 9,554, and the data of those perforations is 10,097. Of course the IP test reflects the productivity and prolific nature of this dolomite, 389 barrels a day. The next page is a detail of the well history.

If you'll skip down to October 17th, 1997, that day there was a workover where the Bone Spring -- I think what they termed the Airstrip Dolomite was perforated at 9516 to 9530 and 9538 to 9554. It includes the Airstrip and the Orange Sand. The well was acidized with 4,000 gallons and it was returned to production as a flowing oil well.

If you'll look down at the date of February 12th, 1998, there was a shut-in bottom hole pressure for that well at 3449 PSI. This data point is on Mr. Felch's plot and we'll show that also.

Q. Okay. What's the next page show?

A. The next page is the form C-103, a sundry notice, filed by Mallon Oil Company April 19th, 1997, showing the re-completion from the previous perforations in the Atoka zone of 12,427 to 437. And a re-completion to the Bone Spring zone of 10,590 to 10,600 and 10,020 to 10,036.

Q. Okay. Next page.

A. The next page is a form C-105, well completion report. I think we've seen this one -- this data already. The filing of the Bone Spring initial Bone Spring perforations at 10,590 to 600, 10,020 to 36 filed in May of 1997.

Q. Okay. Next page.

A. The next page is a form C-102 well location acreage dedication plat. Mallon filed this in May 1997 for the Bone Spring. They did dedicate 320 acres, which is erroneous. That was still a gas well dedication acreage. But this was corrected later. I think Cimarex showed us the corrected plat, and we'll see that here in a minute also.

Q. Okay. Next page.

A. Next page is a C-104, request for allowable and authorization to transport. It shows the perforations at 10,590 to 10,6000 and 10,020 to 36. This is again the Apache Bone Spring Field, the Pennzoil 36 State No. 1. And this was filed October 24th, 2007 after the perforations were done in the 9500 foot zone in the Airstrip Dolomite zone. So Mallon reported this as an incomplete perforation record.

Q. Does that say 1997? I know it's kind of hard to read.

A. It think that's what it says. It's very difficult. It's from the downloaded -- it was prepared in June, filed and received here in '97.

Q. Okay. What's the next page to show us?

A. The next page also shows a form C-102, well location and plat. We've seen this also. It was a correction of the previous. It shows dedicated 40 acres filed October 24, 1997. Again, that's a week after the perforations in the -- the upper perforations were shot in the Airstrip Dolomite zone.

Q. And the final page in this packet?

A. The final page is just a change of operator form, C-104 showing that Gruy Petroleum Management, I think the Cimarex predecessor, became the operator as of September 1st, 2001.

Q. Are you aware of the interval that was perforated in 1997 was ever reported to the Division by Mallon or Cimarex?

A. I am not aware if there has been any reporting at all for those perfs.

Q. Okay. Mr. Brown, if you would please turn to Fasken Exhibit 16 and review that for the Examiners.

A. I may need a copy of that one. This is just a tabulation of the pressure volume temperature data for the reservoir and the fluids, the Apache Ridge-Bone Spring pool. The reservoir temperature is 140 degrees, oil gravity of about 40 degrees API. Initial reservoir pressure at a datum of 5850 subsea. I'm using 3814 PSI. I think Mr. Felch was very close to that at 3770.

The bubble point pressure -- and I'll show you that

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estimate -- at 2500 PSI; formation volume factor 1.50; solution gas/oil ratio of 1,110 standard cubic feet per barrel; oil viscosity of about .8; gas gravity .81; formation water gravity of 1.09; and total dissolved solids of the formation of water, 162,000 parts per minute. So this was the basis for the rest of the data here.

Q. That we're about to review?

A. Yes.

Q. Okay. Let's turn, then, to Exhibit No. 17.

A. Exhibit No. 17, the first page is a tabulation of the Apache Ridge-Bone Spring pool bottom hole pressure data. And we've seen this table almost exactly from Mr. Felch, and this data was provided by Cimarex, and I agree with Dexter that data gathering by Cimarex has been excellent and good information.

What you have here is these pressures -- and they are bottom hole pressures -- they're in order of the date taken with the oldest being the first and youngest or the most recent being the last. And what I have here is the well, the date that the perforations were made, what the perforations were that contributed to this pressure, and what the date of the buildup is where the pressure was taken.

And then we made a -- well, we have also a depth of where the pressure was taken in the well bore. We made a gradient correction and put everything in a similar datum of

minus 5850 subsea. And I wanted to point out two things -- two pressures from the one well, the Pennzoil 36 No. 1. The very first line, look at the date, February 1998. The pressure on the far right at minus 5850 is 3,424 PSI.

In about the middle of the page for the Pennzoil 36 State No. 1 at a date of October 17, 2007, the bottom hole pressure at minus 5850 is 1638 PSI. And that was the well that made 500,000 barrels in excess.

Q. Okay. Let's turn to the next page then, which is the bottom hole pressure history.

A. This is a graphical plot for the bottom hole pressures for each well versus the time for it taken, almost identical -- I guess it is identical -- to Mr. Felch's plotted graph. What I want to note there is in the far left, the highest pressure -- I've got some pressures that are connected by a dashed line, and that's the Pennzoil 36 No. 1 well -- the initial pressure in about February 1998 is 3400 pounds.

I don't have it written there, but that's the number -- the oldest and the highest pressure for the Pennzoil 36 State No. 1. And if you'll note down to about 2007, the end point of that dashed line that represents the lowest measured pressure in 2007 is 1638 PSI.

What's important on this map to show is that just above that last Pennzoil 36 State No. 1 point, the lowest point there, is a grouping of data points for the wells and the

bottom hole pressures for the wells at the date about 19 -- or 2007, in the year 2007.

And there's about seven wells, that group there, in the vicinity of this well. They're not only from the Pennzoil side, but also the Mescalero 36 -- or the 30 -- lease. But the grouping of the data of about seven wells show bottom hole pressures between 2200 PSI in the Pennzoil 36 State 7 to 1638 PSI in that Pennzoil 36 No. 1.

So the reservoir pressure had been depleted at this time in its production history after 800-something thousand barrels or more had been produced. The reservoir had been depleted from its initial pressure, which we agree was about 3800 PSI, down to in the vicinity of 1900, 1950 PSI by virtue mostly of the production from the two big wells, the 500,000-barrel well and the 300,000-barrel well.

Q. Which two wells are those?

A. The 530,000 cum well is the Pennzoil 36 State No. 1, and then the Mescalero 30 Federal No. 1 produced 296,000 barrels. So those wells were the previous -- the two wells that contributed to the greatest production history. And I believe those are the ones that contributed to this production decline or the pressure decline and reduced production pressure in the total reservoir.

And this also agrees with the contention and agreement with the geological and also Mr. Felch that the

dolomite zones are pressure communicated even though there's -- we can correlate two or three zones across the field, the pressure communication is there. We're depleting the entire dolomite reservoir from the well bores that are produced from it at this level here, from 3800 PSI to about a little less than 2000 PSI.

The last thing on this plot is a couple of anomalous points. The very top is a blue X and that's the Mescalero B 29 No. 1. That's a pressure out of the upper sand. That's a frac job, so that's not relevant. The next well is -- or the next point down is the Pennzoil 36 State No. 5, which is 3300 PSI, and it's an anomalous point. I think it's in Mr. Harmon's sand, and that's why the pressure is high there.

And then this bottom one, that open square, the Pennzoil 36 State No. 3. That pressure, there's something wrong. There's a line running or some mechanical problems, in my opinion, there. That's why it's set a 500 PSI. I don't think production had anything to do with that.

Q. Okay. Let's turn to your next page here, this nine section map.

A. This map is a nine section map with Section 31 being in the center, and it shows the bottom hole pressure measurements in blue below the well symbol for the wells that we've had on the graph. What I want to point out is the two wells we've been discussing, the Pennzoil 36 No. 1 in Unit I in

Section 36 at a pressure of 1638 PSI.

Up in section 30, the Mescalero 30 Federal No. 1. I've got a pressure of 1800 PSI on it. That's an estimated because the Mescalero 30 No. 6, which I think is in the southwest of the southeast, that was an actual measurement, 1812 PSI. So the No. 1, which produced and depleted that zone, it had to be less pressure.

Q. Okay.

A. So from Pennzoil 1 to the Mescalero 30 No. 1, we've got similar pressures across the field in the direction that's across the Fasken Section 31.

Q. Okay. Let's turn to your next map.

A. This next map is the nine wells, and it's just a contour of those pressure points. It's a visual to show you what the original reservoir pressure was on the outside and then it shows the reservoir pressure reduction and about where that pressure reduction has occurred. And this agrees similarly with the net pay isopachs that we've used and that Dexter used and we'll be using for our oil in place.

A couple of things I want to point out to this map. If you'll note the Pennzoil 36 No. 1 Well, Section I of Section 36 -- Unit I of Section 36 -- a pressure of 1638 PSI. The north offset to that well is the Pennzoil B 36 No. 1, which was drilled in late 2006, that pressure was taken -- this pressure was taken sometime after that, but at 1,984 PSI,

that's 1320 feet away. So this Pennzoil Well made 500,000 barrels over 10 years. And the new well north of it 1320 feet away encountered a reduced pressure like you'd expect from a dolomite zone.

And the well north of that one, the northeastern well, that Pennzoil 36 B 7, a high productivity well, that well was drilled in 2008, I believe. That pressure number is -- and it measured a pressure of 2254 PSI. So by virtue of the production history from the 500,000-barrel well to the Pennzoil 36 No. 1 and that Mescalero 30 No. 1, the 300,000-barrel well, those are the main causes for the reduction of pressure in these subsequent drillings. And that north well is half a mile. So that tells you how far away those dolomites can drain.

Q. Okay. I'll ask you, then, to turn to Exhibit 18 and, in the interest of time, if you'll give us a brief summary of what this first page is showing us.

A. The first page is just -- it's a page out of the Craft & Hawkins reservoir engineering -- petroleum engineering book, textbook. What it shows -- and the point of this red line is to show you how a solution-gas-drive reservoir behaves -- how the pressure behaves versus cumulative production.

If you're producing above the bubble point, you'll have a liquid expansion time period. That's the first little

segment there and it's a steep decline in pressure. When the bubble point is reached, the pressure reduction versus cumulative is a fatter plateau, less reduction. It's a time when gas expansion is taking place in the reservoir and the void is taken up by increased gas space.

And then after -- at some point, a critical gas saturation is reached and we have free gas producing and there's a more rapid decline in pressure and cumulative production. So this is just a classical example of pressure behavior versus cumulative for a solution-gas-drive reservoir.

Q. Okay. Let's turn to your next page.

A. This is a graph of the Pennzoil 36 State No. 1 production plot, a cartesian plot, daily oil production rate in green and it's the daily oil/gas ratio in the pink. What I want to show is there is two line segments that I've draw on this gas/oil ratio curve. The first one being what I represent -- or what I believe the reservoir pressure -- the initial solution gas/oil ratio is in this reservoir 1110 standard cubic feet per barrel.

The next little segment is a decline in gas/oil ratio indicating you're beyond the bubble point, you have no free gas. The only gas you're producing is what's in the oil and not as much gas can be in the oil at lower pressure, so they have decline in the gas/oil ratio.

And then the third segment of the GOR increase,

there's an increase in the GOR after a certain percentage of the critical gas saturation that is reached and you have free gas that will flow again.

But the point I want to make in that little box there is that I believe the drainage area of this Pennzoil 36 State No. 1, the drainage area that this well has been producing out of, the 500,000 barrels, mostly dolomite, that drainage area, the pressure was reduced to the bubble point at about the year 1999.

Q. Why is that important to point out for the behavior of the reservoir?

A. Well, it gives me a field estimate of when the bubble point happened. And since we don't have any true lab result information for the reservoir oil, we had to infer it from some other way.

Q. Okay. What's your next graph about?

A. The next flood -- and I think there's a corrected copy.

This is again, the pressure versus time plot. And I've noted in a thick dashed line the pressure reduction from initial to the final point on the Pennzoil 36 State No. 1. And then the red line -- if you'll look on it on the plot -- is what I think is a more reasonable pressure reduction versus time behavior for this solution-gas-drive reservoir in this well bore.

And so this is important. I'm going to use this for material balance to estimate drainage area oil in place for the reservoir. And this is the pressure versus time and translated into pressure versus cumulative that we'll be using.

Q. Okay. Your next plot?

A. The next plot is just a graph of the reservoir formation volume factor versus pressure. I've shown three curves in absence of any lab-derived pressure volume temperature -- let me go back for a second. What we're leading up to is material balance analysis.

There's two inputs that are important: Pressure volume temperature of the reservoir fluid, and reservoir pressure versus cumulative. And that's what we're talking about here. There's a -- correlations are typically used for bubble point, and you can see some popular correlations that are used. Our data for a Vasquez-Beggs bubble point, the blue line would show -- excuse me. I've got these backwards. I apologize.

The green dots are actually the Vasquez-Beggs bubble point at 3750, the higher point. And the blue is the Lasater-Standing correlation at 3,063 PSI. And the red is a corrected bubble point versus pressure curve that I got from the software that we use for the material balance. And it has a feature where you can correct for field-observed bubble point. And that's what this represents.

Q. Okay. Next graph?

A. The next graph is just a plot of bubble point versus pressure. Z factor versus pressure and oil solution gas ratio versus pressure.

Q. All right. And the final graph in this packet of exhibits?

A. That's a plot of daily production rate and gas/oil ratio versus cumulative. It also shows our estimated reservoir pressure versus cumulative superimposed there with the brown dots.

Q. Okay. Mr. Brown, let's turn to Exhibit No. 19 to review your material balance analysis.

A. What I want to point out here is this is the results output for the material balance program we utilize. It's an IHS Energy product available commercially. It's called OilWat. This program was developed by Texaco in the 1990s, and there's an SPE paper that details how it was developed. That SPE paper number is 24437, for your information. Mr. Felch used a PERFORM analysis. I think that's from the same company, IHS Energy. This is a similar program from IHS Energy, but it's a material balance program. The first printout here, the first plot, to estimate -- the idea is to estimate what the reservoir pressure -- the original in place is for the solution gas reservoir.

What I want to show is this is the plot of production

which is F versus E sub T total is what it is. It's a production versus expansion plot. And it's a graphical estimate with the slope of that line fitting the data points is equivalent to the original in place.

And what we have here, this data set is calculated original oil in place of about 9.187 million barrels of original oil in place. That's from the material balance. And a material balance is basically an inventory of what was in the reservoir originally and what's in the reservoir later.

And there's also a good agreement in the points that do not allow standard deviation, which gives credence to it. So I think this is a good estimate of reservoir original oil in place using material balance.

Q. Okay. Next page?

A. The next page is just a table of those plotted data points. The next page is just a plot of the pressure data points versus cumulative and in the dashed line is the simulated pressure points. And we have a good pressure match there.

Then the next graph is, again, this barrels oil per day -- on a log rhythmic scale -- versus cumulative oil. You have the oil rate in green, gas/oil ratio, cumulative gas/oil ratio. And I also have some extrapolations for the pressures that -- we have the pressure also, the pressure versus cumulative. And in the pressure versus cumulative has a --

well, the material balance program, the OilWat program will predict future pressure response as continued cumulative oil is produced. So I'm showing the estimated reservoir pressure response as more oil is produced from this reservoir. And we are taking in from current pressure of about 1900 PSI down to a 500 PSI ultimate abandonment pressure. So it's an extrapolation.

But what I want to show you is the current cumulative is about 1.06 million barrels of oil produced. The in point at 500 PSI on this estimate would suggest a cumulative production for this reservoir at 1.75 millin barrels, about 700,000 barrels more. If you take that 1.75 million barrel ultimate recovery, divide it by the material balance of 9.18 million barrels of oil in place, we're estimating recovery factor based on material balance.

Q. Okay. Your final page in this exhibit?

A. This page is just a calculation of statistical oil recovery percentage for oil and gas for solution-gas-drive reservoirs. This was done by API Bulletin D14 under the supervision of J.J. Arps in 1967. You see the inputs that are there and we input the data for the Apache Ridge-Bone Spring information. It calculates an expected recovery factor of 17 percent. So we're in the ballpark. Material balance is 19. This statistical says 17 percent, so that's what we can expect as recovery, about 19 percent of the oil in place from a

solution-gas-drive reservoir.

Q. Mr. Brown, please turn to Exhibit No. 20 and review for the Examiners this packet.

A. This is the log date sheet?

Q. I believe so. You have that?

A. Yes. I'm just making sure we're on the -- okay. That concluded the material balance estimate. Mr. Felch said the volumetrics was difficult to show the oil in place. Another step could have been taken, and I did that in the material balance to show oil in place of 9 million barrels.

We have done also a volumetric oil in place calculation. This is the basis for Mr. Harmon's PhiH isopach maps. It's just a tabulation of the individual well log information, the log-derived data for each dolomite zone. Of course, the dolomite zone is the most prolific and contributed the largest amount of cumulative production in the field.

So you'll see that we have a list for every well in the field, the section, township, range, the operator, lease name, well number, the API series, perforated interval.

And the last half of this table just shows for each of our dolomite zones that Dexter has identified, the net pay, average porosity, and then the PhiH. These are the data points that went into the isopach maps.

Q. Okay. Let's turn to the next page.

A. Okay. This is a graph and I have a -- not a

graph, but a map. And I have some circles on here. The circle of the well -- the blue circle -- the well shows where the blue circle, these are sand -- Bone Spring Sand producers only. They're not produced from the dolomite. And I have a line drawn here which represents the structure subsea of about minus 5875.

Below that it is our opinion that there's a dolomite pinch out. There's not much of a contribution from the dolomite. The permeability is poor. So the oil in place for volumetrics is calculated above this oil/water content -- not oil/water content. Excuse me -- pinch out. Down-dip pinch out, subsea level.

Q. Okay. Next page?

A. I'll need a copy of those, I think. The first table here, this is the Apache Ridge-Bone Spring pool, the original in place volumetrics. And what I've done here is I've showed the dolomite pay criteria again that Mr. Harmon had mentioned. I'm using a saltwater -- a water saturation estimate of about 25 percent. I think Mr. Felch used that in one of these zones calculating resistivity or saturation is everywhere, but this is a reasonable estimate.

A minimum cross block porosity is 3 percent. Of course, we verified that from the core data provided, some very good data. And a maximum gamma ray of 78 API units. Maximum resistivity of 500 ohms. In looking at the data, we saw that

anything above that indicated too much title rock and perm was too low to include as pay.

So if you look on the far left side of the table, I show township and range. But these are volumetrics by section. And if you'll look at the bottom line, really, the -- well, by section and how each -- and how many wells are in this section that contribute to the dolomite zone, and we've got volumetric oil in place for each dolomite reservoir or zone, the Upper Bone Spring, the zone we call the Tween, it's between, and then the First Bone Spring Dolomite. We have a total volumetric original oil in place under each lease in each section totalling 9,251,000 barrels, the volumetric estimated reservoir oil in place. I did the material balance independent of what Dexter did. This volumetric was calculated after the material balance was done. It's an odd coincidence, but it's 9 million barrels of original oil in place. I think it's substantial that it's similar. That's the main point of that.

Q. Okay. Let's turn to the next page.

A. The next is a continuation of the same table, but I've added to the volumetric oil in place. I've added a column for cumulative oil for each section. There's a current recovery calculation. Now this is based on the estimated 19 percent recovery -- oh, excuse me. The current recovery factor is based on the total cumulative oil divided by the volumetric oil in place.

And you'll see there's two numbers of importance there. In Section 30, there's been cumulative production of over 300,000 barrels. The original oil in place in the dolomite in that section, 1.9 million barrels. That represents a current recovery now at 17 percent. That's why the pressure is down less than -- or about half of what it started at.

Also in Section 36 note, please, the volumetric original oil in place under Section 36 is 2.8 million barrels. And current cumulative is 716,000 barrels, which is good performance. And that is a current recovery factor compared to a volumetric of 25 percent.

So the next column is estimated recovery assuming 19 percent of a recovery factor for solution gas. And you'll see that under Section 36, the Cimarex productions has exceeded the volumetric oil in place from an expected 19 percent to well over -- up to 25 percent. And in that Section 30, the current production is at 17 percent of the volumetric oil in place. And it will probably exceed the 19 percent.

So the collusion there and the bottom line that I made is that all the production from the primary recovery is greater than 19 percent and must be coming from adjacent tracts.

MR. EZEANYIM: Excuse me. Before you go, I don't know how long you're going to be, but I need to do something by 4 o'clock and I don't want to be late. Could you hold your

thought and the witness on Exhibit 21? Is that where we're going?

MS. MUNDS-DRY: Yes.

MR. EZEANYIM: Okay. Let's leave it there, and we need to take a 30-minute break. I thought by now we would be done. I know you have some more to do, and you're going to get this, so after I get done with what I'm going to do, we'll continue.

MS. MUNDS-DRY: Okay.

MR. EZEANYIM: I thought we would be done by now.

MR. BRUCE: I can tell you I'm not going to have too many more questions.

MR. EZEANYIM: Okay. Very good. When we come back, we'll do that. I think she still has more time to go. We'll be back around 4:30.

[Recess taken from 3:59 p.m. to 4:56 p.m., and testimony continued as follows:]

MR. EZEANYIM: Okay. Let's go back on the record and continue from where we stopped. Where did we stop, Ms. Munds?

MS. MUNDS-DRY: Mr. Examiner, I think we were just turning to Exhibit 21.

Q. (By Ms. Munds-Dry): Mr. Brown, would you explain this exhibit?

A. This is the pressure building? Okay. This is the first page. It's the main --

MR. EZEANYIM: Excuse me. Mr. Brown, could you speak a little louder so I can hear you? A little louder.

A. All right. This is a pressure buildup analysis on the Pennzoil B State No. 1 that was conducted back in November 2006 early in the life of this new well, and the pressure buildup indicates -- these are the results, the first page, at that far right side in the red boxes -- a permeability of 28 millidarcie and this is mostly a dolomite completion.

And so it shows an excellent permeability of the reservoir. The initial or the PI, the final pressure of the buildup, the extrapolated pressure for this well is 2110 PSI. And this well -- or this analysis was done -- after a 36-hour production test at 112 barrels a day rate. And with that shut-in, production time and a 72-hour buildup, we have a radius of investigation of 1680 feet, which is well beyond a 160-acre area. That transient can affect the distance.

This also -- I'll have to jump right to the last page of this analysis, and this is a log-log with a derivative curve and it kind of shows the well model that we're using. It's a little hump in the derivative curve is indicative of a two porosity system. And we're talking about that. We have a fracture system with matrix feed and I think that's how this dolomite is modeled best.

Q. Are you turning now to the document that looks like this article?

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A. Yeah. The next two pages are just an excerpt from an SPE paper number 84282. It just shows an actual example of use for this next methodology technique. I'm going to mention calculating reservoir volume of contact drainage area. This is what's termed as a material balance decline type curve methodology.

In that red box there it tells you the MBDTC. That's the acronym for the Material Balance Decline Term technology. Basically look down at the third or fourth paragraph where it says, "the application of" -- what we're doing is plotting data from daily production rate and bottom hole production pressure with time.

And there are different type curves. It can be functions that can be calculated, and three are mentioned here; normalized rate, rating interval, rate derivative. And with three different normalized functions, this kind of data you can get a -- obtain a unique match or a type curve match. And so this next page shows you a graph, a couple of graphs that this company utilized. I think it was Anadarco. And this was also a Blessing curve. It was devised by Texas A&M's Tom Blessing, Dr. Blessing. So that picture there, the red, blue and the black lines, that's the next -- the picture of kind of the utilization or methodology I employed here.

We took the data, the production data, from the Pennzoil 36 State No. 1 and there are some bottom hole flow

pressure points early in the life of the production. This is the well that made 500,000 barrels, the only well producing in a dolomite zone basically, for a 10-year period up until the Mescalero 30 No. 1 came online.

What I've shown here and we've used the inputs for this for a thickness of 33 feet, porosity of 9 percent and a water saturation of 25 percent, but the match of the data is such that 500,000 barrels of cumulative production came from a contacted volume estimated here at 5.9 million barrels that would be an area of over 662 acres. That doesn't mean that you're depleting that to zero pressure, but you're affecting the draining of this production and the way its declining to that distance, that size. The volume is independent of the thickness and inputting the 33 feet comes out with the acreage.

Q. Okay. Next page?

A. The next plot is just a simulation of this methodology. It takes the parameters calculated and tries to recalculate and simulate the pressure response and then the daily production rate. And early in the life, up until the first half of the production, you see this little dashed line, the simulated response for rate versus time. It matches pretty well with actual -- the little dashed line is a simulation of what the actual data production data was in the red dots. The red dots signify barrels per day versus daily history. And so the methodology, the type curve match that I have on the

previous map or graph, results in simulation of similar rates that what we saw from the history there in the well.

Q. Okay. What's this map showing us on the next page?

A. The next exhibit is a map of -- one we've seen before. This is the pressure contour map that shows the reduction in pressure of the wells around this field. It's also -- it's got superimposed on it is an elliptical shape in a black hatch that signifies the 640 acre area elongated in a northeast/southwest direction at about a 45 degree angle which is similar to the way the Apache Bone Spring dolomite was laid down. This is a graphical -- it's superimposed on the map this contacted drainage area from this elliptical area centered on this Pennzoil 36 No. 1 Well in Unit I of 36.

Q. Okay. Your next map.

A. The next map is that elliptical volume and shape superimposed on the First Bone Spring -- excuse me -- the Upper Bone Spring Dolomite PhiH contour map. And I didn't print out at mop for each of the three zones. It would be similar to this, but it shows you the proximity of the material balance decline type curve methodology for drainage -- contacted drainage volume from the Pennzoil 36 State No. 1.

Q. Again, this shows 640-acre drainage?

A. That's 640-acre drainage.

Q. What's the next graph?

A. You have a plot there?

Q. Do you have that one?

A. I probably should have gone there. This graph is again, a plot of daily production rate on a logarithmic scale versus time. It has the estimated reservoir pressure. These are my pressure decline points, pressure versus time, reservoir pressure response estimate. It also shows the -- in the dashed lines it shows the material balance decline top curve simulation of the pressure and the rate on this format. It just shows you that the simulation of the data results on the method simulate closely the actual pressure and rate.

Q. What's this next page show?

A. Next page is a table of the material balance decline type curve analysis for the Apache Ridge-Bone Spring pool. It's, of course, based on that one well, the Pennzoil 36 State No. 1, which made over 500,000 barrels for a 10-year period. And then the input data shows the operator, the lease name, the well name, the input data, the net h, the thickness of 33 feet, porosity 9 percent, water saturation 25 percent.

And the results -- the output results show a permeability of that information of 5 millidarcie perm, skin almost zero, drainage acreage 662 acres, contacted oil volume 5.9 million sub tank barrels. And then the next column there is the 640-acre volume, the same elliptical volume superimposed on the PhiH maps you take the upper between zone and the lower,

the First Bone Spring Dolomite. You calculate the oil in place under just the 640-acre area and get a total there volumetrically under that 640-acres of only 4 million barrels.

Now the conclusion of that to me is that we're contacting 5.9 million barrels, but my volumetrics I can only account for -- within that 640 acres, I can only account for 4 million barrels. Then I expect that the 640-acre contacted volume is a minimum. If you look at the last three columns there, I have cumulative oil through February of '08 for this well, 533,000 barrels. I've got a recovery factor derived. That's based on 19 percent -- well, excuse me. The recovery factor is 10 percent and that's from the total field production -- percentage production of the original volumetric oil in place for the total field. So assuming this well also had produced 10 percent of the ultimate recover, or 10 percent of the recovery factor for that 500,000 barrels, you would expect to have at least a 5 million barrel oil the place. Still, again, the ellipse is a minimum of 640-acre area for that 5.9 million barrel volume is the minimum contacted area.

MR. WARNELL: Mr. Brown, can I ask a question here real quick before we get too far ahead?

THE WITNESS: Yes.

MR. WARNELL: I must have missed something, but back on your Exhibit 21 on that pressure buildup, as you recall. You pointed out the permeability 28.1 millidarcies and made the

comment how high that is for dolomite. But yet on the sheet on the data that we just looked at, you've got a perm there of 5.3.

THE WITNESS: Yes, sir. Those are two different wells.

MR. WARNELL: I thought they were the same wells. I'm sorry.

THE WITNESS: The pressure buildup is based on the B 36 No. 1, which is the north offset to this 500,000 barrel well. But that's one of the wells that had good pressure buildup data. It does indicate that there's a high permeability in the dolomite interval and that you can expect to drain an extensive area producing from that zone.

MR. WARNELL: Okay.

THE WITNESS: But the 5 millidarcies of the material balance can have output. Permeability and skin are a little suspect. You have to really have a good early time pressure data. I don't have that good of data with the data set, so I'm skeptical for early time. That 5 millidarcie, I wouldn't put a lot of stock in it. I think it truly is greater than that. But the main point of this is the contacted volume being large.

Q. (By Ms. Munds-Dry): Mr. Brown, before we get to the last exhibit, I want to hand you this log. I guess we can include this in the packet for 21. Can you explain for the Examiner what this shows?

A. This is a log of the Pennzoil 36 State No. 7. It's the one prolific producers that has been presented to us. And it's, of course, the log, the gamma ray, the porosity, and the resistivity log like has been on our cross sections. At the far left side is a table similar to what Mr. Felch presented for this same well, the production log data.

And it has below that adjacent each of these perforated zone intervals the measured production log for -- the first number being barrels of oil per day, barrels of water per day, MCF per day, and the GOR. What I wanted to point out is the very bottom number. And out of this perforation mostly in the Bone Spring Dolomite, the lower most perfs, this log measured an 86 barrels of oil a day rate, 100 barrels of water a day -- that day -- and 1,374,000 cubic foot of production of GOR, nearly 16,000 to 1.

What it indicates to me is that lower zone is depleted quite extensively. You've got a high gas rate because you've produced a large amount of oil from the -- especially from this 500,000 barrels from the 36 State No. 1, which is a half a mile away.

So it's true, and I think Mr. Felch mentioned, that the production on this is as a flowing oil well, and it is supplemented by the high gas rate which acts as a gas lift, really. And it's because of produced pressure in the reservoir, and preferentially in that one zone locally in this

area. So I would expect that you're going to see high GORs in all the zones as time goes by as production increases.

Q. Okay. Let's turn to Exhibit No. 22. Let's review this for the Examiners.

A. This is the table of the calculated overproduction for the Cimarex wells. There are four of them listed: Mescalero 30 Federal No. 1, the overage calculated is 10,191 barrels; Pennzoil 36 State No. 1, the overage is 5,692 barrels; the Pennzoil B 36 State No. 2, the overage is 19,440 barrels -- that's largely one month's production -- the Pennzoil B 36 No. 7 is 13,317. So the total overproduced volume we have to show here 48,640 barrels.

Q. And what's the next table show?

A. The second table, each well has its monthly production history detailed. And what we have here -- the first one is the Mescalero 30 Federal No. 1, and if you look at the far left you've got the date, the oil production for that month, gas production, water, the well count, how many days of the month it produced, the total oil for month, total gas, total water -- and that's a cumulative number, those columns, the total are -- and you have the average oil per day rate, average gas per day, average water per day, and then a GOR.

And then next to the last column is the monthly allowable. That's the 275 barrel a day depth bracket allowable times the number of days in the month. And it may be adjusted

for the GOR, the penalty of GOR if it's over 2001. So on the far right side would be the red numbers, any overproduced -- overproduction produced above the allowable.

And then I think there's three pages for this one well. You go to the bottom line on it, it shows the overage 10,191 for the 30 No. 1. And the other three wells are handled in similar fashion. The tables are the details and how we calculated the overproduction.

Q. Okay. Mr. Brown, do you have Exhibit No. 1 in front of you there? For Exhibit No. 1, it's this plat. Do you need a copy of it?

A. Yes. Here it is.

Q. Are you familiar with the pool rules for the Apache Ridge-Bone Spring pool?

A. Spacing rule are 40 acres, yeah.

Q. Something interesting occurred to me. In the northeast quarter, how many wells are drilled in that 40?

A. It shows five wells there.

Q. How many of them have been drilled?

A. Excuse me. There's five locations, four of them have been drilled and but one of them was the B 6 and I don't think that appears.

Q. Is that one more than is allowed?

A. That's one more that is allowed for a 40-acre spacing, yes.

Q. Okay. Mr. Brown, let's turn to your engineering conclusions. After you reviewed this data and the engineering in this pool, what can you conclude for the Examiners today?

A. My conclusion is using multiple engineering methods of material balance and volumetric and calculations, I've got oil in place of about 9 million barrels. I'd expect reservoir recovery will be 1.7 million barrels ultimately at a 19 percent recovery factor.

But what -- also I've demonstrated, I believe, from the material balance decline curve that these wells are drained in excess of 160 acres and that Pennzoil 36 No. 1 which made the 500,000 barrels of oil has drained in excess of 640 acres.

MR. EZEANYIM: One well?

THE WITNESS: One well has contacted and reduced the pressure out that at that fault. Because that's the decline curve -- type curve result is the contacted volume of that half a million barrels of production. It came from a large volume of about 10 times as much as it produced. It had to be contacted and driven from a volume of that size. And so the reservoir pressure has been depleted from an initial 3800 PSI down to the current 2000 or less.

And the size of the reservoir is on the order of 9 million barrels. And what we have is that Cimarex has drilled on a 40-acre density adjacent to us, and the Cimarex application seeks to increase the depth bracket allowable for

each 40-acre proration unit up to 1300 barrels a day. That's 4.7 times the current depth bracket allowable of 275 barrels a day, two and a half times the 160 acres allowable at 515 barrels a day.

So the Cimarex application, if granted, would increase or would accelerate, in my opinion, the drainage from the Fasken offset acreage and rapidly deplete the reservoir pressure and adversely affect future recoverable oil from Fasken's offset acreage.

Q. (By Ms. Munds-Dry): And you've heard, I believe, the testimony today that there's not plans to make up this overproduction?

A. Yes.

Q. And do you agree that these wells should be shut in immediately?

A. Yes. Until such time the overproduction is made up.

Q. Do you believe the approval of Cimarex's application will cause harm to Fasken's correlative rights?

A. Yes, I do.

Q. And do you think that this application would also cause economic waste?

A. Yes, I do.

Q. All right. Were Exhibits No. 11 through 22 either prepared by you or compiled under your direct

supervision?

A. Yes.

MS. MUNDS-DRY: Mr. Examiner, we move the admission of Exhibits 11 through 22 into evidence.

MR. EZEANYIM: Any objection?

MR. BRUCE: No objection.

MR. EZEANYIM: Exhibits 11 through 22 will be admitted.

[Fasken Exhibits 11 through 22 admitted into evidence.]

MS. MUNDS-DRY: And that concludes my direct. Pass the witness.

MR. EZEANYIM: Mr. Bruce?

CROSS-EXAMINATION

BY MR. BRUCE:

Q. Mr. Brown, first let's go to your Exhibit 15.

A. I'll have to go to the set that has the numbers on it. Okay. This one.

Q. I want to go back a couple of pages to the well history and the OCD filings.

A. Is this it?

MS. MUNDS-DRY: Yeah, I think that's the first page.

Q. (By Mr. Bruce): Yes, that's the first page, but I want to go to a couple of pages of the well history and the OCD filings right behind that.

Okay. That first page of the well history, Mr. Brown?

A. Yes, sir.

Q. The well was perforated in the Bone Spring at the depths of 10,600 feet, correct?

A. It was, yes.

Q. And this well history shows that that was done in December of '96?

A. Yes.

Q. So when -- and this wasn't Cimarex who did it, but when Mallon made these filings showing the perfs, they were accurate at the time when made, right, the OCD filings?

A. For that interval yes, the 10,000 interval.

Q. So when those filings were made -- one was dated April 14, '97, one was dated May of '97 -- so when those filings were made with the OCD, they were accurate?

A. Yes, they were.

Q. You're just simply saying that Mallon did not file the perforations you're interested in. The 9500 feet were done 10 months later?

A. Yes. It would have been good to file then.

Q. And they did not file then?

A. They did not.

Q. And I believe Mr. Worthington from Cimarex gave you this data; is that correct?

A. That's where we found out where the perfs were -- and yes, this was the well history data from Mr. Worthington.

Q. Now, at the same time that this production data was reported, I mean you had -- Fasken has an offset. I believe you said it was the Ling No. 2 or 1?

A. Yes, 2, from the -- yes.

Q. And I believe you said that Fasken did go in and attempt a completion or -- I don't want to put words in your mouth, but you did have logs on the Ling No. 2, did you not?

A. Yes.

Q. Did you ever perform a log analysis of the Ling No. 2 so you could see what potentially productive Bone Spring zones there were in that well from say, October '97 forward?

A. I don't recall doing any analysis on the dolomite zone. I think we may have looked at the Bone Spring Upper Sands as potential.

Q. But you didn't re-complete the well?

A. Not No. 2. It was still making over a million a day in the Morrow and it still is. It's a 10 BCF in the Morrow.

Q. An excellent well.

A. Yes, sir.

Q. But nothing would have prevented you from drilling another -- just a Bone Spring well in the west half of Section 36?

A. No.

Q. On your Exhibit 20, when you're doing your calculations, you are only looking at the dolomite here, correct?

A. You're looking at 20. Is this the -- yeah. That table log data is the dolomite zone.

Q. So when you say there's 9 1/4 million barrels of oil, this completely ignores the Orange Sand or any other sands in the reservoir?

A. Well, keep in mind, the reservoir has made a million barrels and well over 80 percent of that is from the dolomite zone. And the high rates are definitely dolomite. And so it's true that the volumetrics are for the dolomite zone, but that's the majority of the production.

Q. Next, less go to your Exhibit 22 and let's look at a couple of things. First, the second page and the --

A. Let me see if I can get it.

Q. I'm sorry.

A. Are we on the overproduction part?

Q. Yes, sir.

A. Okay.

Q. And I'm looking at the Mescalero -- the first page of the Mescalero 30 Well No. 1. There's an anomaly here I can't explain. If you look at September '85, you have oil production at 3892 barrels, but you have zero days of

production over in column six.

A. Yes.

Q. And then you attribute that 3892 to overproduction. Doesn't that seem inaccurate?

A. How many days production and zero monthly allowable, it does look a little inaccurate on that one. I'd have to go back and see what the raw data indicates and why it was input this way.

Q. And then if you just go to the third page of the Mescalero 30 -- let me ask you this: This well is generally producing about 30 days a month from the historical data you have?

A. Yes.

Q. And the oil allowable a 275 barrels a day?

A. Right.

Q. So there's about 200 barrels excess per day, so about -- it's producing per month 1500, 2000 barrels a day -- I mean, excuse me -- per month at this time, if these trends continue?

A. Currently you mean?

Q. Well, I'm looking at February -- January '08, February '08.

A. Okay, yes.

Q. You put the overage at 10,000 barrels roughly through February of '08. Since this well has substantially --

producing substantially below the allowable at this point, if these production rates have continued, this overage is gone now, isn't it?

A. I don't know if the overage has been made up properly according to the rules.

Q. But the overage is gone?

A. It doesn't produce above the allowable anymore, that's for sure.

Q. And the same thing would apply to the Pennzoil 36 State No. 1. It's only producing 25, 30 barrels a day. It is not -- if those trends have continued over the last four months, there is no overage on that well?

A. No current overage. Historically, it's still there and it needs to be made up.

Q. Well -- finally a few questions, on your Exhibit 21. Go to the third page from the back, your oval drainage map.

A. Let me see if I can find that one.

Q. Sure.

A. 21. Okay. Drainage map.

Q. And I'm not going to ask you questions totally on this map, but looking at this map, the -- of course, the well you're talking about -- using, for example, here is the No. 1 well right at the center of the drainage oval.

A. Yes. The Pennzoil 36 State 1.

Q. If this drainage has been occurring, how do you explain the No. B 2 well immediately to the west to be capable of producing 1300 barrels a day, 1,000 barrels a day?

A. Well, the pressure at that well is still -- if you look back at the previous map, the pressure on the B 2 currently, after that drainage or that production, the reservoir pressure has been reduced. And that well is down to 1900 PSI -- 1902. So the 500,000 barrel drainage affected that well pressure. Even though it's reduced, you've got high enough pressure that it has deliverability. It's got a great perm in that dolomite. It'll deliver a lot of rate if you draw the bottom hole pressure down enough.

I don't dispute that it can deliver an enormous amount of volume. It's just a high permeability zone. That's why the drainage has been way beyond 160 acres, maybe even 640.

Q. Have you calculated the drainage area on the Mescalero 30 No. 1 in the southeast/southeast of Section 30?

A. No. I didn't take the time. I did not have the bottom hole pressure data that I had on that Pennzoil 36 State No. 1. But if I had, it would be of similar fashion. I think it would be 400 acres, something like that. I think those two wells have contacted and reduced the entire dolomite reservoir pressure nearly in half.

Q. I guess my question is: If you believe this, why are you proposing to drill the Ling No. 5 and 6 wells?

A. Because I mentioned them here on the balance analysis shows that we expect the reservoir at least the dolomite reservoir, mostly it's the main producing interval, to have another remaining recoverable reserves of 700,000 barrels. We want to get our part of what's remaining, and we have to put a well there to do it.

Of course, it looks very possible that we could have a top allowable for a pretty long time. I'm not sure how long. But it ought to pay our drilling costs and return a reasonable return.

Q. But if there's only 700,000 barrels left in the pool -- is that what you said?

A. Recoverable.

Q. Recoverable.

A. That's what I think.

Q. Wouldn't you expect to see -- you just said you'd expect a top allowable well for a long time. Wouldn't a substantial decline occur -- be occurring six months ago?

A. Not if you're adding wells. You can increase rate if you add wells. Eventually you're going to decline and it's peak out and drop off very quickly as reservoir pressure reduces. If you remember my production -- or the pressure of future pressure reduction, simulation or estimate? It has a continuing downturn. We have an accelerated pressure depletion as you increase with time and increase your gas saturation and

increase your GOR with your oil pressure.

Q. Well, I'm just kind of curious, because the Ling Federal No. 3, what is its current producing rate, approximately?

A. It's at top allowable or real close to it, 250 barrels a day.

Q. And you're claiming the drainage just from the Mescalero No. 1, excluding the Mescalero No. 6, which is a decent well, has affected that. And you have a top allowable well.

A. That's right. I mean, the permeability of the dolomite zone is great. The deliverability is great from the fractured nature of this. Even though you have reduced pressure, if you can drop your bottom hole producing pressure in the bottom of that well, you can deliver a great productivity index and deliver a high rate if you reduce the drawdown pressure enough.

But the beginning pressure of this is not 3800 pounds anymore. It's been dropped by the production of the two big wells in the history of that.

Q. Just a couple of more questions, Mr. Brown. You pointed out that there were five wells in the northeast quarter of Section 36. Are you aware that under Division rules that any oil well unit can have up to four wells on the well unit?

A. No. I'm not necessarily aware of the details of

the rules, no, sir.

Q. But if that's the case, then there's been no violation by Cimarex in having five potential Bone Spring wells in the northeast quarter?

A. I'm not sure if that's a violation or not. I'm unfamiliar with the rules to that extent.

Q. Just one final question: If you're Ling Federal No. 3 is capable of producing at top allowable or above, it sounds like it's going to produce above allowable.

A. I'm not sure what the bottom hole or fluid level is. We're close to pumping it off. We're close to maximum delivery.

Q. I guess my question is: In order to compensate because the wells to the north have produced quite a bit, why wouldn't Fasken want to produce above 275 barrels of oil per day?

A. That would be fine if we can produce out of the same intervals. What concerns me is the higher rate production, especially from the Pennzoil lease, may be from a zone that is, you know, extends across our lease line and something we can't contact with another well at this point.

Q. But I thought you just told me really all you look at is the dolomite. That's all you really need to look at.

A. Well, for this analysis, yes. With the higher

rate for the Ling Federal No. 3, we're not going for that. We're content with the top allowable, and we're trying to abide by that.

MR. BRUCE: That's all I have, Mr. Examiner.

MR. EZEANYIM: Okay. Ms. Munds?

MS. MUNDS-DRY: No questions.

MR. EZEANYIM: Terry, do you have any questions?

MR. WARNELL: In light of the hour -- I do have a question for you, Mr. Brown. It's going to bother me all the night long if I don't ask it.

EXAMINATION

BY MR. WARNELL:

Q. On the log that Ms. Munds-Dry passed around at the very end, I think we said we were going to put it as part of Exhibit 21. Do you recall that one?

A. Yes.

Q. Okay. A couple of questions. Over there, what are those little X'd-out marks in the depth tract around 9600? Was that some kind of a test or -- those are not perforations, right?

A. Those were perforations that are --

Q. That have been squeezed off?

A. Not squeezed off, but inactive.

Q. Okay.

A. From the data that Cimarex provided in the

subpoena, the daily well history, I believe this well, this zone, the Orange zone in that well was perforated and sand frac'd, actually. But the production out of that treatment was insufficient, and I believe a cast iron bridge plug was put there, and I believe it's still there.

Q. Then I think someone mentioned earlier that the little green Xs are core recovery water line cores. Side wall cores.

A. Side wall core porosity.

Q. Okay. That's core porosity. And then the pink dots?

A. The pink dots are the side wall core permeability.

Q. The perm, okay.

A. And they're plotted on the logarithmic scale with the resistivity.

Q. Okay. Thank you. I appreciate it.

MR. WARNELL: That's all I have.

EXAMINATION

BY MR. EZEANYIM:

Q. I know you said, but how long have you worked for Fasken?

A. Twenty years.

Q. Twenty years, okay. Is this the first time you have done a reservoir study of this area?

A. Yes, of this area.

Q. This is the first? This is the first time you are doing it?

A. Yes.

Q. How did you know about this overproduction?

A. I'm sorry. I didn't understand.

Q. How did you know about the overproduction?

A. The overproduction?

Q. Yeah. How did you know?

A. Well, when we got the subpoena data and the daily production rates, especially from the B 7 and it produces over 800 barrels a day for a month, we thought we should go back and calculate the overproduction possibilities of every well we have data on. And we did that.

Q. Okay. So this information you stated here on those wells, stated the overproduction of each of those wells, you got the information from Cimarex?

A. From the B 7 and the B 2 there was no public data of record at that time. But their information from the well history provided their production. And so we used their data and then any public data from February of '08 and prior was available publically.

Q. Okay. And then in your calculations, you said each well was drilled between 160 and 640 acres; is that what you just said?

A. The permeability and deliverability, the productivity index of the dolomite zone, I think 160 acres is a minimum and those things have demonstrated that they have reduced pressure in a large area, way beyond 160 per well.

Q. How many wells has Fasken drilled in this area in the Bone Spring?

A. In the Bone Spring we have drilled one well --

Q. Only one well?

A. -- the Ling Federal. We have two more planned this summer.

Q. So you didn't really think the Bone Spring was a prospect?

A. We knew it was a prospect. We expected -- we believed the sands were the better target early on. And when we learned about the perforations in the dolomite, it made it clear what we needed to be targeting.

Q. I know if Cimarex is overproducing, they should be doing that. That is clear. But let me ask you this question: You said that was economic waste. How do you define the economic waste?

A. Well, if Cimarex had no development over there, they could drill one well and maybe change the pool rules of the field to make 100 barrels a day for one well in a 160. And they would have all the production they could get out of that area. They wouldn't have to drill four. So it's economic

waste to drill four wells in a reservoir that can drain beyond what four wells could do.

Q. Okay. And I want to find out how you got this oval radius. Is this from our website or from Cimarex?

A. The overproduction?

Q. The overproduction. How did you get it?

A. How did I get those numbers?

Q. Those numbers.

A. When we subpoenaed the data, we requested well history and those well histories have daily production rates for these wells.

Q. From Cimarex?

A. Yes.

Q. Okay. You are an engineer and in your engineering expertise, do you think by overproducing the well the reservoir will be damaged?

A. I agree with Mr. Felch. In a solution-gas-drive reservoir, you're not going to reduce the ultimate recovery by the rate -- increasing rate. What we object to is the capture of oil across our lease line from a high rate production that's above an allowable that's necessary.

Q. Okay. Could you state again what you are asking that the -- what relief are you asking for?

A. Fasken objects to the application to increase the allowable to 1300 barrels of oil a day and 3,000 to 1 GOR. And

we request that the overproduction be made up immediately starting with -- initially starting with the shut in of the egregious wells.

MR. EZEANYIM: Okay. Does anybody have anything else to say? Okay. It has been a long day.

I know that Fasken wants the well to be shut in today. I think I have to make a ruling on that issue today because the order -- I can't issue the order this evening. I think Cimarex has overproduction. There is no question about it. They admitted that. They don't even have any plan of action to adjust it.

Given all that, I don't think it's appropriate for us to shut in that well right now, because it might even cause more damage. Because I don't know how long we're going to shut it in and if it is more than 60 days, those wells may not recover anymore, from my own personal experience. So we will not shut in the wells today. But that doesn't mean we're not going to take any action.

Cimarex will be ordered to first of all, contain those wells to the allowables right now until the order is issued in this case. So there will no be more overproduction, but the wells will not be shut in. So that we don't lose the wells completely. You can understand what I mean by that.

One, giving this ruling, now I see I have to produce an order from all the evidence from today on what should

happen. But if you want me to rule on shutting in the wells today, I don't think we will do that. Because if we shut in those wells, we may even damage them, three months for four months from now.

But there may be remedies. We may find you some remedies. I don't know what it will be. I will have to go back and sift through all this information you gave me and try to come up with something. Because I believe if we shut in the well, they might not get anything when you open them up again.

However, Cimarex must make sure they don't overproduce anymore as of June 26, 2008. Go back to what the allowable is until an order is produced in this case.

With that, does anybody have any comments?

MR. BRUCE: If you want closing arguments, fine. If you would rather have proposed orders, that would be fine.

MR. EZEANYIM: I would rather have proposed orders. Unless you have -- from what I said, you might have a closing statement. But I would like a proposal from both of you.

Let me say, you how, there are two orders we have combined for purposes of testimony. But there are different things being requested, and they should be two different --

MR. BRUCE: So you want two separate proposal orders?

MS. MUNDS-DRY: So we don't test your patience any longer, Mr. Ezeanyim, I'll wait and incorporate anything I might have to say in the proposed order.

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MR. EZEANYIM: Yeah. You know, what I am asking for is a closing statement about what I just said, about shutting the well or not.

MS. MUNDS-DRY: I guess, Mr. Ezeanyim, I think it's still -- I understand that they need to be ordered to curtail production to make sure they're within the allowable. I guess I would also ask and request that Cimarex come with a plan to make up this production. And I don't know if that's in the form of an order to come up with a remedy, but under the rules that's what they're required to do.

MR. EZEANYIM: You don't know what I'm going to order. Don't worry. There will be an order, and then at that point, you will see what's going to happen. But I don't think I will be telling you exactly what I will be doing because there's a lot of things in my head now that I might, you know -- and looking at the rules and everything. So we have to follow whatever the rules and regs are on what we need to do.

MR. BRUCE: I could address that in my proposed order.

MR. EZEANYIM: Okay. Yeah. That would be interesting. That's why I wanted you to write it so we can see where we go from there. I'm making this stipulation because I don't have my attorney here, but I think that's the prudent thing to do.

You know, I know that Cimarex violated the rule. But

what are the consequences of shutting in the well now? See the point I'm making? I know you wanted to shut in the well. So the prudent thing to do is to curtail the production to the unit allowable, and the other will be written in the, you know -- and we take it from there.

Anybody has anything else? With that, Case No. 14145 and then Case No. 14124, both cases will be taken under advisement. Thank you. And that concludes today.

[Hearing concluded.]

* * *

REPORTER'S CERTIFICATE

I, JOYCE D. CALVERT, Provisional Court Reporter for the State of New Mexico, do hereby certify that I reported the foregoing proceedings in stenographic shorthand and that the foregoing pages are a true and correct transcript of those proceedings and was reduced to printed form under my direct supervision.

I FURTHER CERTIFY that I am neither employed by nor related to any of the parties or attorneys in this case and that I have no interest in the final disposition of this proceeding.

Signed this 26th day of June, 2008.

JOYCE D. CALVERT
New Mexico P-03
License Expires: 7/31/09

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STATE OF NEW MEXICO)
)
COUNTY OF BERNALILLO)

I, JOYCE D. CALVERT, a New Mexico Provisional Reporter, working under the direction and direct supervision of Paul Baca, New Mexico CCR License Number 112, hereby certify that I reported the attached proceedings; that pages numbered 1-98 inclusive, are a true and correct transcript of my stenographic notes. On the date I reported these proceedings, I was the holder of Provisional License Number P-03.

Dated at Albuquerque, New Mexico, 7th day of September, 2008.

Joyce Calvert

Joyce D. Calvert
Provisional License #P-03
License Expires: 7/31/09

Paul Baca

Paul Baca, RPR
Certified Court Reporter #112
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