NEW MEXICO OIL CONSERVATION DIVISION

1/1

Examiner Hearing
Santa Fe, New Mexico
July 8, 1999 -- 8:15 A.M.

Name	Representing	Location
DAVE BONEAU	YATES PETROLEUM	ARTESIA
Gordon Hammond	Ute Mtn Ute Tribe	TOWAOC, CO.
DAN RABINOWITZ	Bureau of Land Mgmt	Durango, CO
W. Kellahin	Kellahin & Kellahin	Santa Fe
William F. Carr	Campbell, Carr, Berge & Sheridan	Santa Fe
Dave Cromwell	Energen	Birmingham AL
BARNEY KAHN	ENERGEN RESOURCES	B'HAM, AL
Ted Gawloski	Nearburg Prod	Midland, TX
Terry [illegible]	Nearburg Prod	Dallas, TX
VERNON D. DYER	Harvey E. Yates Co.	Roswell, N.M.
Michael M Gray	Nearburg Expl. Co	Midland TX
SCOTT HALL	MILLER LAW FIRM	SF
Ken Gray	ENERGEN	Midland
Carla [illegible]	[illegible]	
James Bruce	—	SF

NEW MEXICO OIL CONSERVATION DIVISION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date 7/9/09 Time

NAME	REPRESENTING	LOCATION
Lynn S. Clark	Charles Gillespie Jr	Midland
Mark Madonna	COG Jr	Midland

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:	CASE NO. 12,210
APPLICATION OF CROSS TIMBERS OIL COMPANY TO AMEND DIVISION ORDER NO. R-11,132 TO PERMIT AN ALTERNATIVE UNORTHODOX GAS WELL LOCATION, SAN JUAN COUNTY, NEW MEXICO	ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

July 8th, 1999

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, July 8th, 1999, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

July 8th, 1999
Examiner Hearing
CASE NO. 12,210

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E X H I B I T S

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A P P E A R A N C E S

FOR THE DIVISION:

RAND L. CARROLL
Attorney at Law
Legal Counsel to the Division
2040 South Pacheco
Santa Fe, New Mexico 87505

FOR THE APPLICANT:

JAMES G. BRUCE, Attorney at Law
612 Old Santa Fe Trail, Suite B
Santa Fe, New Mexico 87501
P.O. Box 1056
Santa Fe, New Mexico 87504

ALSO PRESENT:

GORDON HAMMOND
Tribal Energy Department
Ute Mountain Ute Tribe
P.O. Box 42
Towaoc, Colorado 81334

DAN RABINOWITZ
Petroleum Engineer
Bureau of Land Management
San Juan Resource Area
701 Camino del Rio
Durango, Colorado 81301

* * *

WHEREUPON, the following proceedings were had at 9:25 a.m.:

EXAMINER STOGNER: This hearing will come to order for Docket Number 20-99. Please note today's date, July 8th, 1999. I'm Michael Stogner, appointed today's Hearing Examiner for these cases.

At this time I will call Case 12,210.

MR. CARROLL: Application of Cross Timbers Oil Company to amend Division Order No. R-11,132 to permit an alternative unorthodox gas well location, San Juan County, New Mexico.

EXAMINER STOGNER: I'll call for appearances.

MR. BRUCE: Mr. Examiner, Jim Bruce of Santa Fe, representing the Applicant. I have two witnesses to be sworn.

EXAMINER STOGNER: Any other appearances?

Will the witnesses please stand to be sworn?

(Thereupon, the witnesses were sworn.)

EXAMINER STOGNER: Mr. Bruce, before we get started, it's my understanding that there may be some representatives from either the BLM or the Forest Service here today?

MR. BRUCE: The BLM and the Ute Mountain Ute Tribe. I don't know this gentleman's name, but Gordon Hammond from the tribe is here.

EXAMINER STOGNER: Okay. Gentlemen, why don't you please stand up and introduce yourselves and be part of the record at this time?

MR. HAMMOND: Yes, my name is Gordon Hammond. I'm with the Ute Mountain Ute Tribe.

MR. RABINOWITZ: And my name is Dan Rabinowitz, I'm a petroleum engineer for the Bureau of Land Management in Durango.

EXAMINER STOGNER: And how do you spell your last name?

MR. RABINOWITZ: That's R-a-b-i-n-o-w-i-t-z.

I'm not familiar with the protocol here. Should I just -- If I have any questions, should I just wait till they're done with their presentation or will I be given an opportunity to ask questions then?

EXAMINER STOGNER: Yes, sir, it's somewhat of an informal hearing process. I'll have the Applicant present witnesses, and hopefully there will be enough copies to be able to provide you any exhibits. And he will do a direct examination of his witnesses, and at that time I'll open it up for cross-examination and you two will then be able to ask any questions if you'd like, and then he'll have a chance to have any more redirect before we move on to the next witness. And at the end of the presentation we can have some closing statements if that's appropriate. So

that's how we work at this particular point.

Is there any need for any need for any prehearing statements today or --

MR. BRUCE: Mr. Examiner, using Exhibit 1 I'd like to briefly describe what's happened and then bring up my first witness.

EXAMINER STOGNER: Okay.

MR. BRUCE: Mr. Examiner, in Case Number 12,100, by Order Number R-11,132, the Division approved an unorthodox location for a Paradox well in Section 2. In front of you is Exhibit 1. This is from that hearing. On your map and outlined on the others is a nine-section area in which Cross Timbers Oil Company is the sole working interest owner and the Ute Mountain Ute Tribe is the sole royalty interest owner. It is the lessee of -- Excuse me, the lessor in this area.

There were several cases heard together, and that's why there's several wells placed on here.

Cross Timbers came before the Division and sought the approval of a Dakota well, which is indicated the Tribal J Number 6 well in the southwest quarter of Section 1.

Another Dakota well, which is the Ute Indians A Number 27 well in the southeast quarter of Section 2.

And then the well we're concerned with today,

which is the Ute Indians A Number 26 well, also in the southeast quarter of Section 2. That well was originally -- You'll see the surface location is to be 570 feet from the south line and 1045 feet from the east line. The proposed bottomhole location was to the northwest of that surface location, as indicated on the map. There were topographic reasons for that surface location, and that was discussed at the prior hearing.

Since then, as the witnesses will discuss, one of these wells has been drilled. And based upon certain information acquired from the drilling, Cross Timbers has had a change in plans and would prefer not to drill directionally but would rather just drill a vertical hole, unorthodox location in the Paradox for the A Number 26 well.

One other thing to note is, in the northwest quarter of Section 2, you will see the Number 7 well, which is a Paradox well. That well is currently producing at low rates from the Paradox. That well, if the A Number 26 well is successful, will be shut in, so that there will be no need for simultaneous dedication.

EXAMINER STOGNER: Okay, at this time I'll incorporate the record in Case 12,100 into today's docket.

MR. BRUCE: And furthermore, the Order -- I think you have the Order in front of you. It does refer to

simultaneous dedication, but that is more with respect to potential future Dakota production, because this well will penetrate and Cross Timbers will evaluate the Dakota on the way to drilling to the Paradox.

EXAMINER STOGNER: So the question of simultaneous dedication is a moot issue --

MR. BRUCE: For the Paradox.

EXAMINER STOGNER: -- as I understand, for the Paradox.

Well, the way I understand the reading of this case today, that's all we're considering, is just the Paradox?

MR. BRUCE: Yeah. We will discuss the Dakota just so you know what's going on, Mr. Examiner.

EXAMINER STOGNER: Okay, what pool is that Dakota in?

MR. BRUCE: It is the -- In the Dakota?

EXAMINER STOGNER: Yes.

MR. VOIGT: Ute Dome.

MR. BRUCE: The Ute Dome Dakota.

EXAMINER STOGNER: The Ute Dome Dakota, and not the Basin Dakota?

MR. BRUCE: Correct.

EXAMINER STOGNER: Okay, Mr. Bruce, you may proceed.

MR. BRUCE: Mr. Burch?

GARY BURCH,

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

DIRECT EXAMINATION

BY MR. BRUCE:

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

A. My name is Gary Burch, and I reside in Arlington, Texas.

Q. Who do you work for and in what capacity?

A. I work for Cross Timbers Oil Company as a geologist.

Q. Have you previously testified before the Division?

A. Yes, I have.

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

A. Yes, they were.

Q. And are you familiar with geologic matters pertaining to this Application?

A. Yes, I am.

Q. And the San Juan Basin is your area of responsibility at Cross Timbers, is it not?

A. Yes, that's correct.

MR. BRUCE: Mr. Examiner, I'd tender Mr. Burch as an expert petroleum geologist.

EXAMINER STOGNER: Mr. Burch is so qualified.

Q. (By Mr. Bruce) Mr. Burch, since, although this is a Paradox well, the Dakota geology plays some role in this, could you identify your Exhibit 2 and discuss the Dakota geology in this area?

A. Okay, Exhibit 2 is a structure map of the top of the Dakota, and it's based on a 3-D seismic shoot that we have in the area, combined with well data.

What it shows is, on the Ute Dome structure, which is a broad regional structure, there are several smaller normal faults which strike more or less east-west across the field. These faults act as traps for migrating hydrocarbons in the lower Dakota sands and are drill well targets for us into the lower Dakota. And we want to evaluate this particular fault block, as it has not been tested to date, as we drill on down to the Paradox.

Q. Okay. And of these wells, has Cross Timbers drilled any of the wells ever approved that were indicated on Exhibit 1?

A. We have just finished drilling the J 6 well in the southwest corner of Section 1.

Q. It has not been completed as of this date?

A. No, it has not.

Q. Well, let's move on, then, to the more important item, the Paradox geology. Could you identify Exhibit 3 and discuss the proposed A Number 26 well and in particular -- This well is being drilled as a replacement well, is it not?

A. Yes, it is. This is a structure map, again based on both seismic and well data in the area, on the top of the Akah, which is a member of the Paradox formation.

The Paradox, again, on Ute Dome, is a broad regional structure with structural closure at the top. It produces across the entire structural closure. The Paradox is an algal or fossiliferous carbonate complex approximately 700 feet thick. It's divided into five members: the Alkali Gulch, the Barker Creek, the Akah, the Desert Creek and the Ismay, all of which produce on Ute Dome.

The existing Paradox well in Section 2 has had a history of mechanical problems, and there have been several attempts to restore its production, but they've all been unsuccessful. Therefore, we find it Necessary to drill a replacement well.

Q. When was that Number 7 well in the northwest quarter drilled?

A. That well was drilled in 1955, I believe.

Q. And what has it produced, approximately, to date?

A. It has produced approximately 10 BCF to date.

Q. And what is its approximate current producing rate?

A. Currently, it's only making about 24 MCF a day.

Q. And Mr. Voigt, our engineering witness, will discuss a little bit more about the potential reserves in this well?

A. Yes.

Q. Now, Cross Timbers had originally proposed directional drilling and had obtained approval for that and had filed the directional drilling plan with the BLM and with the Oil Conservation Division. Could you just briefly, perhaps, indicate to the Examiner the reason that you are now seeking to drill vertically rather than directionally?

A. Yes. Like we said initially, this was designed as a Paradox well. But we wanted to hit the Dakota in a structurally favorable position on the way down to evaluate it for the possibility of drilling a twin well to the Dakota, if the Paradox proved to be economic.

What we found out in drilling the J 6 is that the wells tend to naturally drift in an updip direction, and that would be, in this case, to the north. The J 6 well tended to drift to the north.

If we allow the proposed A 26 to drift naturally

to the north, not only will we save money in drilling, but we will encounter the Dakota at a structurally equivalent position as we would have if we would have drilled it as originally projected.

Q. Okay. Now, in your original testimony you said that the proposed bottomhole location, the directionally drilled location, was favorable because it was on the flexure point between the flat crest of the structure and the dipping south flank. Would you still expect to see that in the Paradox at your proposed new location?

A. Yes, you're still in approximately the same structural position on the Paradox as well.

Q. Does the fracturing that occurs in this area -- Is that significant in the Paradox?

A. We believe it could play an important role in the productivity of the wells, and that's one reason we selected this particular location.

Q. Okay. Is the potential there of also hitting zones that may be present in some of the offset Paradox wells?

A. Yes, there was a zone in the Barker Creek member of the Paradox, in the Section 11 well, that has not been encountered in any of the other Paradox wells, and there is a chance of encountering that zone in our proposed A 26 well.

Q. And that zone is not producing in the existing Number 7 well to the northwest?

A. That's correct.

Q. Okay. In your opinion, will the granting of this Application -- Excuse me. And is Exhibit 4 simply your geologic summary of what you've testified to already?

A. Yes, that's correct.

Q. And were Exhibits 1 through 4 prepared by you or under your direction?

A. Yes, they were.

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

A. Yes.

MR. BRUCE: Mr. Examiner, I would move the admission of Exhibits 1 through 4 at this time.

EXAMINER STOGNER: Exhibits 1 through 4 will be admitted into evidence at this time.

MR. BRUCE: And perhaps also at this time admit Exhibit 5, which is simply my affidavit of notice, in which notice was given to the Ute Mountain Ute Tribe, the Bureau of Land Management and Mr. Simon of Data Consultants, Incorporated, who is a consultant to the tribe.

EXAMINER STOGNER: Mr. Bruce, before I open it up for cross-examination of this witness, who's going to

testify about the land holding within this area?

MR. BRUCE: Mr. Examiner, if I could, if you incorporated the prior record, a landman did testify, Mr. Edwin Ryan, the landman for Cross Timbers, and he did testify as to the ownership of that nine-section block, and if that could just be incorporated in the record.

EXAMINER STOGNER: Okay, since I wasn't a party to that original one, do you -- could you just tell me what was, just --

MR. BRUCE: Yes. That entire nine-section area, 100 percent of the minerals are owned by the Ute Mountain Ute Tribe. The sole working interest owner is Cross Timbers Oil Company.

I am not sure -- I don't think there are any overriding royalty interest owners. If there are, they are all -- No, there are no overriding royalty interest owners in this area. The leases were issued to Stanolind, I believe, quite some time ago.

EXAMINER STOGNER: So it's your recollection and also it's in the record that that's all one common source -- I mean, I'm sorry, one common lease, the yellow marking? I mean, I know that's in the record, I just -- I don't have it with me now.

MR. BRUCE: Yeah, it's either one lease or two leases. I'm not quite sure.

EXAMINER STOGNER: Well, I'm still trying to figure out what we're doing at a hearing today when it seems like this could be done administratively.

MR. BRUCE: Well, Mr. Examiner, I was going to mention that up front. I did speak with -- This case was originally heard by Mr. Catanach, and I asked him about it. And he said that because that it had originally been approved at a hearing, that he wanted it to go back to hearing.

EXAMINER STOGNER: Okay. Why did it have to go to hearing in the first place?

MR. BRUCE: I think it was the simultaneous dedication issues, Mr. Examiner.

EXAMINER STOGNER: Ah. Okay.

THE WITNESS: For the Dakota.

EXAMINER STOGNER: All right.

MR. BRUCE: For the Dakota.

EXAMINER STOGNER: Okay. First of all, Mr. Hammond, Mr. Rabinowitz, do you have any questions of this witness?

MR. RABINOWITZ: I do.

EXAMINER STOGNER: Okay. Why don't you come on up forward, and that way our court reporter can get a good clear and concise record? That's not a microphone, it's just tied into his equipment.

EXAMINATION

BY MR. RABINOWITZ:

Q. Okay, Mr. Burch, with the new bottomhole location, going to move it probably further to the southeast, and that also moves it even closer to the J Number 7. Okay, do you feel there's something of a block communication between these two wells? The original spacing dedication was for 640 acres, and these two are starting to become more crowded together.

A. Between the A 26 and the J 7?

Q. Yeah, the J 7, which is in the northwest. I guess that's the Paradox well that's being drilled currently, presently?

A. Yes.

Q. And then the A 26 is -- probably will drill afterwards, the next well. But I -- just ballpark, I guess they're within a thousand feet of each other, and we're just concerned about these wells interfering with each other. Do you think that will be a problem?

A. I don't foresee it as being a problem. If we allow the A 26 to drift naturally, I really don't think that the two locations will be any closer together than if we would have followed the original plan. It will drift to the north. It will be 300 or 400 feet, perhaps, north of the surface location at the Paradox.

Q. If the J 7 well, the Paradox well, tests poorly will you still be drilling the A 26 as a Paradox well? Will that preclude -- I mean, if that comes in poorly, will that preclude the drilling and completion of the A 26?

A. We will probably drill the A 26 before we have the results from the J 7. So one is not necessarily contingent on the other. And the Paradox -- the porosity is laterally discontinuous, and it's -- some members of the Paradox have a -- small compartmentalization components to them. So it's possible to encounter zones in the A 26 that the J 7 would not have.

So we would drill the A 26, probably, regardless of the J 7. But as I stated, I don't think we will have the results of the J 7 before we drill the A 26.

Q. Okay. From the past seismic run that was run, the 3-D -- I think Amoco shot it back in 1995 -- I know you then had it reinterpreted recently --

A. Yes.

Q. -- have you seen any indications of faults possibly between the J 7 and the A 26? I'm just curious. I haven't seen the information and --

A. No, we do not see any faults at the Paradox level on the seismic. And also we do not see any faults between the A 26 and J 7 at the Dakota level either.

MR. RABINOWITZ: Those are all the questions I

have for right now.

EXAMINER STOGNER: Okay. Mr. Hammond, just a second here before I get to you.

You keep referring to a J 7 well. Now, where is the J 7 well? I've got a J 6 well. I'm a little confused here.

MR. RABINOWITZ: It depends which exhibit you look at, but it would be in Section 12 in the northwest quarter, and it's -- depending on which map you have, it's currently being drilled right now.

THE WITNESS: It would be on Exhibit 3.

MR. BRUCE: It's Exhibit 3, Mr. Examiner.

EXAMINER STOGNER: Okay, which leads me up to a quick question here. Now let's see, this J 7, this J 6, they're all unorthodox; is that right?

THE WITNESS: Yes.

EXAMINER STOGNER: Okay, what -- Just for reference, what's the numbers on those?

MR. BRUCE: Mr. Examiner, I'll get you that on the Tribal J Number 7. I think it was referenced in the last go-around, but that one was approved administratively.

EXAMINER STOGNER: Based on geology or topography?

MR. BRUCE: I believe it was geology.

THE WITNESS: The J 7? It's based on geology.

EXAMINER STOGNER: And the J 6?

THE WITNESS: The J 6 is based on geology.

EXAMINER STOGNER: And today we're basing something on geology, so you're trying to group all these wells with 640-acre spacing, which should be 1650 foot off the lease line already?

MR. BRUCE: The J 6 is a Dakota well, Mr. Examiner, in the southwest quarter of Section 1.

THE WITNESS: The J 6 is Dakota only.

EXAMINER STOGNER: Okay.

THE WITNESS: The J 7 is Paradox only. The A 26 is Paradox, but we want to evaluate the Dakota on the way down.

EXAMINER STOGNER: When I look at Exhibit Number 3, what is the A 7 well? Which one is that?

THE WITNESS: There's a J 7.

EXAMINER STOGNER: Well, also -- I'm showing an A 27.

MR. BRUCE: That is a Dakota well also, Mr. Examiner. That was heard at the same time as -- the hearings were consolidated --

EXAMINER STOGNER: Okay, okay, let me back up here. I'm getting myself confused and everybody else confused.

Okay, in Section Number 2 here --

MR. BRUCE: Yes.

EXAMINER STOGNER: -- there is already a Number 7 well marked on Exhibit Number 1. That, supposingly, is a Paradox well. Now, where does that show up on Exhibit Number 3? Is that well shown?

MR. BRUCE: Mr. Examiner, on Exhibit Number 3 the A 7 well is the well in the southeast of the northwest with the circle around it.

EXAMINER STOGNER: Okay, so the Number 22 is not shown on Exhibit 3?

MR. BRUCE: Correct.

EXAMINER STOGNER: Okay.

MR. BRUCE: That is a Dakota well, and that is why it was omitted.

EXAMINER STOGNER: But you did show the Dakota well in Section -- the Number 17. You see where my confusion is here.

MR. BRUCE: Oh, okay, Mr. Examiner, I see.

EXAMINER STOGNER: Okay, now it's beginning to make a little bit more sense here.

Okay, I'm sorry for that interruption.

Mr. Hammond, do you have any questions of this witness?

MR. HAMMOND: No.

EXAMINER STOGNER: Once you supply me that record

of that NSL order, I'll also incorporate that file into the record in this matter.

EXAMINATION

BY EXAMINER STOGNER:

Q. What is the Dakota spaced on?

A. I believe it's 640s.

Q. 640s.

MR. BRUCE: 160, Mr. Examiner.

THE WITNESS: 160s, that's right, 160s.

EXAMINER STOGNER: Maybe that's more of a reservoir question I need to reserve for him.

MR. BRUCE: Yes, sir.

EXAMINER STOGNER: Is that -- Okay.

Q. (By Examiner Stogner) Were you the geologist who chose the location for that Number -- the J 7 well, based on geology?

A. Yes.

Q. And why did you locate that well there, as opposed to 1650-1650 off the north and west line?

A. There is a water leg in the Paradox formation which we believe is pretty close to the minus -- It's between the minus-2000 and the minus-2100 contours. And at a legal location in Section 12, we would be getting down very close to where we anticipate that water contact to be.

So basically in a nutshell, we wanted to get as

high updip in Section 12 as we could.

Q. Now, is this water contact moving in any direction in the Paradox?

A. We don't know to what extent it has moved upward since the field has been originally drilled. But the well in Section 11 is still a very strong well, it's making very little water. So it has not moved up to that point.

Q. Is there any Paradox production south of Sections 11 and 12?

A. No, there's not.

Q. There is not.

A. In fact, there's a dry hole to the south that, from log calculation, appears to be wet.

Q. So how was this water contact discovered? Was there some wells that penetrated down there that found it?

A. We have some wells, particularly one in Section 10, which have problems with water production, which the one in Section 10 is structurally just slightly lower than the one in Section 11.

Q. Okay. Now, your J 6 well, that's a Dakota test, and that was based on geology?

A. Correct.

Q. Can you give me a little rundown on why you located that well at this location or --

A. Okay.

Q. -- or the location that's -- Is it currently drilling?

A. We just TD'd it about a week ago.

Q. Okay.

A. Okay, if you look at Exhibit 2, which is the Dakota structure map, there's several faults trending west northwest, east southeast at the Dakota level. These faults create small structural closures on the upthrown side of them. And in these structural closures you have production from the lower Dakota and potentially also the Morrison sands.

This particular fault block cuts through the southwest corner of Section 1, and then it continues into the south half of Section 2.

We wanted to test the highest structural position in Section 1 with the J 6, and we also wanted to test the structural highest position in Section 2 with the A 26.

This is a previously untested fault block. The other fault blocks in the area have proven that the lower Dakota and the Morrisons can produce on these small structures.

Q. So you feel this northern tendency for drift off of your well is going to take you closer to that same fault that you were trying to get close to on that J 6?

A. That's correct.

Q. Okay, this is somewhat refreshing. I'm so used to pancake geology in the San Juan Basin, all of a sudden it looks like I'm looking at Wolfcamp or Atoka or a Morrow situation in Lea County.

A. It's pretty unique.

Q. Yeah, it is. So that's -- I think that's what kind of tended to lead me to some confusion in the beginning here. Now it's making clearer sense.

Okay, when I look at Section -- I mean Exhibit Number 2, now, you're after that fault that's in the southern portions of Sections 1 and 2. Does that fault that runs through the northern sections of 11 and 12, do you still get the same Dakota characteristics on those, or -- They don't appear to be tested, I guess. But what's the log indications?

A. That fault block has not been tested either. If you see a well in the southwest of Section 2 with a circle around it --

Q. Number 25?

A. The A 25.

Q. Okay.

A. That well, I believe, crossed that fault between the Dakota and the Morrison. Therefore it encountered the Morrison on the updip -- on the upthrown side of it, and the Morrison produces in that well. And that's the reason

we want to drill the J 6 and the A 26 to the Morrison.

Q. How do these faults in the Dakota reflect in the Paradox formation, or you see the faulting extend down to those depths?

A. No, they die out and flatten out at depth and do not go down to the Paradox level.

Q. Okay, how about above the Dakota? Do these faults extend upwards?

A. Yes. Apparently they extend all the way to the surface.

Q. How does that -- well --

A. I haven't been out in the field to verify that.

Q. I was wondering how that affects the drilling out there.

A. It has a slight effect on the deviation. If you hit a fault, it will change the deviation just slightly.

EXAMINER STOGNER: Are there any other questions of this witness?

Thank you for your patience.

THE WITNESS: Okay.

EXAMINER STOGNER: I am sorry that, since I wasn't a party to the original one, you had to repeat yourself today. But I appreciate your patience on that. Thank you.

THE WITNESS: No problem. Thank you.

EXAMINER STOGNER: Mr. Bruce?

MR. BRUCE: Mr. Voigt?

BARRY VOIGT,

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

DIRECT EXAMINATION

BY MR. BRUCE:

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

A. Barry Voigt.

Q. And where do you reside?

A. Euless, Texas.

Q. Who do you work for?

A. Cross Timbers Oil Company.

Q. And what's your job with Cross Timbers?

A. Reservoir engineer.

Q. Does your area of responsibility at Cross Timbers include this area of the San Juan Basin?

A. Yes, it does.

Q. And have you previously testified before the Division as an engineer?

A. Yes, I have.

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

A. Yes.

Q. And you are familiar with the engineering matters

related to this well?

A. Yes.

MR. BRUCE: Mr. Examiner, I'd tender Mr. Voigt as an expert engineer.

EXAMINER STOGNER: How do you spell your last name, sir?

THE WITNESS: V as in Victor, -o-i-g-t.

EXAMINER STOGNER: Mr. Voigt is so qualified.

Q. (By Mr. Bruce) Mr. Voigt, just to set it up, what are, in your opinion, the two main reasons you're seeking to drill this as more or less a vertical hole rather than directionally drill it as previously thought?

A. One of the reasons is due to cost, in order to drill and S-shaped curve and go on down to the Paradox. The other one is to reduce mechanical risk.

Q. Let's start off with your Exhibit 6. Could you identify that and discuss the Paradox wells in this area?

A. Exhibit 6 is a nine-section cumulative map around Section 2. As you can see, it shows the Ute Indians A Number 7 well that has cum'd 10 BCF, currently producing at 24 MCF a day. And that is the well we are basically trying to replace in the southeast quarter of 2, try to recover reserves that that well will not recover.

Q. And this exhibit gives recovery data on other wells in this area?

A. Yeah.

Q. Are all of these wells active at this time?

A. Yes, they are.

Q. Do you have anything further on this exhibit?

A. No, I don't.

Q. Let's move on to your Exhibit 7 and discuss what Cross Timbers hopes to recover in the A 26 well, and at the same time could you give a history of the A 7 well and why you hope to -- why you desire to replace this well?

A. Yes, the first sheet on this is just a discussion of the Ute Indians A 7 and the P/Z analysis.

Basically, the A Number 7 had a cumulative production at 5-98 of 10 BCF. The decline-curve EUR is about 10.1. And the P/Z analysis shows that there's 13.6 BCF in place with a recovery that should be around 11.6.

So that shows that there's unrecovered reserves at this well of 1.4 BCF.

Q. And 1.4 BCF would be an economic well?

A. Yes, it would.

Q. Okay.

A. And that doesn't include possibly any reserves that might be encountered, as the geologist stated on that zone that did show up in the M1 if we encounter it in this well.

The Ute Indians A Number 7 was drilled in 1955,

and they perforated the Paradox and acidized it. In 1961 they repaired a casing leak.

In 1984 they perf'd a hole above the paradox called the Honnacker trail. The following month they squeezed a casing leak up the hole.

And 1985 they tried to pump a solvent acid job to try to get the well back, and then they ended up squeezing the Honnacker Trail in 1993 and re-acidizing the Paradox.

If you look at the production curve on this well, you can see that in 1983 something happened to this well -- I don't have pure documentation on it; something happened and I never got it back -- which could have been a result from the casing leak that could have damaged the formation, or perhaps liquid from the Honnacker Trail, but there is no documentation from the well file on that.

Q. And is this information set forth in your Exhibit 7?

A. Yes.

Q. The production plat?

A. Yes, it's the third page in.

Q. So in essence, sometime in the early 1980s production dropped from what, about 600 a day, dropped drastically?

A. Dropped drastically, down to maybe averaging, once you got back into 1991, back to 80 MCF a day.

Q. But it never fully recovered?

A. No.

Q. So based on this, you believe that because of those problems there are still reserves to be recovered in Section 2 in the Paradox?

A. Yeah, based on that and the P/Z analysis.

Q. Before we move on, Mr. Rabinowitz asked questions about the competition among the wells. Maybe you could address that a little bit.

A. As the geologist stated, we don't believe that there will be competition amongst these wells, based on the geology.

Also, I have done some drainage calculations. I do not have them in this package, but I don't believe that you'll see competition among the wells.

Q. These wells out here are rather prolific, are they not?

A. Yes, they are.

Q. As shown on Exhibit 6?

A. Yes.

Q. And in your opinion, are both of these wells necessary in order to adequately drain reserves, the A Number 7 -- I mean the J Number 7 and the A 26?

A. Yes.

Q. Mr. Voigt, there's also been some question about

the Dakota in this area, so why don't you refer to Exhibit 8 and discuss the Dakota production in this area?

A. Exhibit 8 is a nine-section cumulative map showing Dakota wells only. There is one existing Dakota well in the southeast quarter of Section 2, which is the Ute Indians A 20. It has cum'd 133 million, and -- Let's see, I don't have the current producing rate on it. It's actually producing at about 14, 15 MCF a day. It shows zero on this, but that's probably because of a shut-in for that well.

Q. Now, if you compare this against Mr. Burch's Exhibit 2, the structure map, this A Number 20 well will be in a separate fault block from your proposed well in the Dakota?

A. Yes, it will.

Q. Okay. And looking over in the southwest quarter of Section 1, there's a well that recovered what, 900,000?

A. Yes, the Ute Mountain Tribal J 4, which is also in a separate fault block.

Q. Okay, so that well is in a separate fault block from the J Number 6, which is in the process of being completed?

A. Yes.

Q. Okay. So it's those type of wells -- Or you hope to recover similar reserves from other Dakota wells in this

area; is that correct?

A. Yes.

Q. Another thing on this map, the Examiner asked Mr. Burch about the A 25 well, which is over in the southwest quarter of Section 2.

A. Yes.

Q. When was that well drilled, approximately?

A. In May of 1997.

Q. Okay. That was the last well Amoco had drilled when it owned these leases?

A. Yes, it was.

Q. Was that the first well that had been drilled in quite some time on these leases?

A. Yes, it was.

Q. Before that A 25 was drilled, how long had it been before Amoco had drilled wells in this area?

A. Looking at the map here, it looks like about -- the last well on here was 1981.

Q. Okay.

A. And then they actually drilled three wells in 1997.

Q. Okay, so they --

A. Yes.

Q. -- they had gone about 15 years before drilling any wells in this area?

A. Yes.

Q. And Cross Timbers currently has an ongoing program of drilling in this area?

A. Yes.

Q. Why don't you move on to Exhibit 9 and discuss with the Examiner the types of reserves you hope to recover on some these Dakota wells in this area.

A. Exhibit 9 is just basically the -- has the backup for the volumetric calculations on the southeast quarter of Section 2, basically on the first three Dakota sands, so that would be your upper Dakota sands.

The first three Dakota sands have approximately 949 million cubic feet in place. The current well in the southeast quarter has produced 133 million, which would yield a recovery factor of about 14 percent, just on the upper sands. So remaining reserves in the southeast quarter would be about 674 million recoverable.

Q. Just drilling a Dakota well, is that economic?

A. Yes, it is.

Q. What are the depths of these wells in the Dakota, roughly?

A. Approximately 2500 to 2700 feet.

Q. And in the Paradox?

A. Approximately 8000 to 8500.

Q. So on the way down to testing the A 26 in the

Paradox, you will evaluate the Dakota?

A. Yes, we will.

Q. Okay. And hopefully find it's in another separate salt block -- fault block, and be able to recover reserves from that fault block?

A. Yes.

Q. Now, Mr. Burch also discussed how the wells drifted to the north as they were being drilled. Could you identify Exhibit 10 for the Examiner and discuss its contents?

A. Exhibit 10 is the directional survey on the J 6 well. And we weren't drilling with directional tools until about -- between 1300 and 1400 feet, where we saw the well getting out to a six-degree angle at that point, and we saw that we would not hit our geologic target.

So from that we deduced that in this area that the natural tendency for these wells is to drift up to six degrees with a -- in generally pretty much a north direction, slightly east direction.

After 1300, 1400 feet, we went in with directional tools and steered the well back to the south.

Q. What are your plans with respect to the A 26 well?

A. We plan to let the A 26 drift naturally to the north, which should put us in a favorable position on the

structure of that fault block for the Dakota, to investigate the Dakota, and then continue drilling the well down to the Paradox.

Q. Once the well gets through the Dakota, it will more or less be a vertical hole; is that correct?

A. Yes, it should straighten out.

Q. Were Exhibits 6 through 10 prepared by you or under your direction?

A. Yes, they were.

Q. In your opinion, is the granting of this Application in the interests of conservation and the prevention of waste?

A. Yes, it is.

MR. BRUCE: Mr. Examiner, I'd move the admission of Cross Timbers Exhibits 6 through 10.

EXAMINER STOGNER: Exhibits 6 through 10 will be admitted into evidence.

Any questions?

MR. RABINOWITZ: Just one, Mr. Voigt.

EXAMINATION

BY MR. RABINOWITZ:

Q. The cases for an option to drill the original well, then -- or this new plan to let it drift, this is a final decision by Cross Timbers to go with the new plan?

A. Yes.

Q. You've totally discarded the --

A. Yeah, based on the information we gained off the basics, we were able to make to make that decision, so it is final.

MR. RABINOWITZ: Okay, thank you.

EXAMINATION

BY EXAMINER STOGNER:

Q. Were you present on the drilling of the Number 6 well?

A. I was out there prior to encountering the Dakota, but I was in close contact with our drilling engineer in Midland and our field supervisor out in the field.

Q. Are there going to be any changes to the drill string or weight or fluids when you pass a zone that looks like it kicked off at a pretty good angle?

A. Yeah, what we're going to do is go in with a stiff bottomhole assembly, which will let the hole build angle, but it will build at a slow rate. This well, we went in, we did not have a stiff bottomhole assembly in there, on the J 6. Didn't think that we'd encounter too much deviation.

Q. What are you hoping that stiff assembly will hold that inclination down to?

A. Down to -- we think we'll build -- We won't build as quick, but probably build up to maybe six to eight

degrees, which would put us, oh, approximately 250, maybe 350 feet north of that location, when we encounter the Dakota, and then continue down to the paradox.

Q. And when did you start directionally drilling on this Number 6 well?

A. We put the directional tools in the well between 1300 and 1400 feet.

Q. And you drilled directionally for the remainder?

A. Yes.

Q. So you intentionally started coming back to the south, as apparent --

A. Yes.

Q. -- at about what, 2500 feet?

A. Yes.

Q. Or at least you held it for quite a while and then started coming back.

A. Yes. We did that just to try to hit the Dakota target that we --

Q. Were you drilling with mud or air?

A. Excuse me?

Q. Were you drilling with mud or air?

A. Mud.

Q. What were the completion techniques for that Number 7, and how are you going to differ with this proposed well?

A. The Number 7, they had basically perforated the different Paradox zones in that well and acidized them. On the A 26, we plan to perforate what zones seem to be productive and probably just go through with a gelled acid job on those also.

Q. So the Paradox Number 7 well was cased and perforated --

A. Yes.

Q. -- it wasn't open-hole completion?

A. Correct.

Q. Isn't that somewhat rare for that era?

A. Well --

Q. I mean, is that what you have found, three-stage --

A. Yeah, every one of these Paradox wells out here were cased, perforated and acidized.

Q. Who did that? Pan American or...

A. It was either Stanolind or Pan American.

Q. So it was the old Amoco?

A. Yes.

Q. Is that old Well Number 7 making any water?

A. It's not making any water to my knowledge. It's not producing at a high enough rate to really lift anything out of the well.

Q. So you've never seen any water production or --

from that well, even prior to 1983, as far as the records indicate?

A. Yeah, I've seen no documentation, other than the fact that they had casing leaks, is the only documentation.

Q. How much did it cost -- or how much of an overrun did you have on that Number 6 well when you had to get the directional drilling tools?

A. The directional tools cost, including rig time, approximately $50,000 additional cost.

EXAMINER STOGNER: Okay, any other questions of this witness?

You may be excused.

MR. BRUCE: I have nothing further in this case, Mr. Examiner.

EXAMINER STOGNER: Mr. Rabinowitz, would you or Mr. Hammond like to say anything on the record at this time?

MR. RABINOWITZ: I would like to.

EXAMINER STOGNER: Okay.

MR. RABINOWITZ: I would just like to say, the BLM supports this drilling program with both these unorthodox wells and replacement wells, and we feel that this program is in the best economic interest of the Ute Mountain Ute Tribe.

EXAMINER STOGNER: Mr. Hammond?

MR. HAMMOND: No.

EXAMINER STOGNER: Mr. Bruce?

MR. BRUCE: Nothing further, Mr. Examiner.

EXAMINER STOGNER: Okay, in that case, since there's nothing further, Case Number 12,210 will be taken under advisement at this time.

Thank you, gentlemen, for showing up today.

(Thereupon, these proceedings were concluded at 9:20 a.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 12210, heard by me on 8 July 1999.

, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

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

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

WITNESS MY HAND AND SEAL July 10th, 1999.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 2002