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. 12,675
APPLICATION OF DAVID H. ARRINGTON OIL AND GAS, INC., FOR COMPULSORY POOLING AND UNORTHODOX WELL LOCATION, LEA COUNTY, NEW MEXICO	)	ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

May 31st, 2001

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, May 31st, 2001, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

I N D E X

May 31st, 2001
Examiner Hearing
CASE NO. 12,675

	PAGE
APPEARANCES	3
APPLICANT'S WITNESSES:	
DALE DOUGLAS (Landman)	
Direct Examination by Mr. Carr	5
Examination by Mr. Kellahin	13
Further Examination by Mr. Carr	17
Examination by Examiner Stogner	17
BILL BAKER (Geologist)	
Direct Examination by Mr. Carr	19
Examination by Mr. Kellahin	30
Examination by Examiner Stogner	37
REPORTER'S CERTIFICATE	42

* * *

E X H I B I T S

Applicant's	Identified	Admitted
Exhibit 1	7	12
Exhibit 2	10	12
Exhibit 3	10	12
Exhibit 4	11	12
Exhibit 5	20	30
Exhibit 6	23	30
Exhibit 7	24	30

* * *

A P P E A R A N C E S

FOR THE DIVISION:

DAVID BROOKS
Attorney at Law
Legal Counsel to the Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

FOR THE APPLICANT:

HOLLAND & HART, L.L.P., and CAMPBELL & CARR
110 N. Guadalupe, Suite 1
P.O. Box 2208
Santa Fe, New Mexico 87504-2208
By: WILLIAM F. CARR

FOR PURE RESOURCES, INC.:

KELLAHIN & KELLAHIN
117 N. Guadalupe
P.O. Box 2265
Santa Fe, New Mexico 87504-2265
By: W. THOMAS KELLAHIN

ALSO PRESENT:

RICHARD EZEANYIM
NMOCD Chief Engineer

* * *

WHEREUPON, the following proceedings were had at 9:33 a.m.:

EXAMINER STOGNER: At this time I'll call Case Number 12,675, which is the Application of David H. Arrington Oil and Gas, Inc., for compulsory pooling and an unorthodox well location, Lea County, New Mexico.

At this time I'll call for appearances.

MR. CARR: May it please the Examiner, my name is William F. Carr with the law firm Holland and Hart, L.L.P., in Santa Fe.

We represent David H. Arrington Oil and Gas, Inc., and I have two witnesses.

EXAMINER STOGNER: Any other appearances?

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin and Kellahin, appearing on behalf of Pure Resources, L.P.

EXAMINER STOGNER: Mr. Kellahin, do you have any witnesses?

MR. KELLAHIN: No, Mr. Examiner.

EXAMINER STOGNER: Any other appearances?

The witnesses are standing to be sworn.

(Thereupon, the witnesses were sworn.)

EXAMINER STOGNER: Mr. Carr?

DALE DOUGLAS,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. Dale Douglas.

Q. Where do you reside?

A. Midland, Texas.

Q. By whom are you employed?

A. I'm a self-employed independent landman.

Q. Mr. Douglas, what is your relationship with David H. Arrington Oil and Gas, Inc.?

A. I provide contract land services for Arrington.

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

A. Yes, sir.

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

A. Yes, sir.

Q. Are you familiar with the Application filed in this case on behalf of Arrington?

A. Yes, sir.

Q. Are you familiar with the status of the lands in

the subject area?

A. Yes, I am.

MR. CARR: Mr. Stogner, are Mr. Douglas's qualifications as an expert in petroleum land matters acceptable?

EXAMINER STOGNER: Any objection?

MR. KELLAHIN: No, sir.

EXAMINER STOGNER: So qualified.

Q. (By Mr. Carr) Mr. Douglas, would you briefly state what Arrington seeks with this Application?

A. Yes, sir. Arrington seeks an order pooling all minerals from the surface to the base of the Mississippian formation under the west half of Section 31, Township 16 South, Range 36 East, Lea County, New Mexico, to form a nonstandard spacing and proration unit for all formations and pools developed on 320 acres, which includes the Undesignated East Shoe Bar-Chester Gas Pool.

This will be dedicated to the Double Hackle Peacock "31" State Com Well Number 1. The well will be drilled at an unorthodox well location, being 2400 feet from the south line and 1340 feet from the west line of Section 31. The unorthodox location is encroaching upon the centerline by approximately 60 feet, and this encroachment is encroaching upon ourselves, and in this west half the ownership is the same beneficiary

institutions.

Q. They're both state tracts?

A. Yes, sir, they are.

Q. And you've checked with the Land Office, and they're both common schools?

A. That's correct.

Q. Have you prepared exhibits for presentation here today?

A. Yes, sir.

Q. Mr. Douglas, let's go to what's been marked as Arrington Exhibit Number 1. I'd ask you to identify the exhibit and review the information thereon for Mr. Stogner.

A. Okay. Arrington Exhibit Number 1 is a land map which depicts the proposed spacing unit for this west half of Section 31. There's a red dot which indicates the proposed well location.

Also indicated on the map, highlighted in yellow, is Arrington's ownership under this west half, being the northwest quarter.

I'd point out that this west half of Section 31 is an irregular section. The acreage comprising the west half is four lots in the east half of the west half, and instead of a standard 320, the acreage included is 308.84 acres, which is a nonstandard unit but within the tolerances of the Rule 104.D.

Q. And would qualify for approval when the C-102 is, in fact, approved, when it is actually filed with the APD; is that right?

A. That is correct.

Q. What is the status of the 320-acre tract? Is it all state land?

A. Yes, sir, both the northwest quarter and the southwest quarter owned by the State of New Mexico. And again, the royalty ownership, it's under the same common beneficiary.

Q. And what is the primary objective in the proposed well?

A. The Atoka-Morrow formation.

Q. Could you summarize for Mr. Stogner the status of the ownership in the subject spacing unit?

A. Yes, sir, the northwest quarter of the proposed unit is owned by David H. Arrington Oil and Gas, Inc., 100 percent. The southwest quarter of the proposed unit is owned by two parties. Pure Resources, L.P., owns 75 percent, and Kriti Exploration, Inc., owns 25 percent.

Q. And are both the Pure and Kriti interests subject to this pooling Application?

A. Yes, sir, they are.

Q. Would you summarize for the Examiner your efforts to reach voluntary agreement for the development of this

area?

A. Yes, sir, our first formal contact with both of these parties was back in November of 2000, and we had had prior conversations, telephone conversations, but the formal proposal went out on November the 1st, wherein the proposal requested that these -- both Kriti and Pure either participate in the drilling of this well or negotiate some sort of an agreement whereby we could earn that interest.

Q. Your written proposal to them is dated November the 1st, 2000?

A. Yes, sir, it is.

Q. And since that time have you personally been involved in negotiations with each of these entities?

A. Yes, sir, I have. I've --

Q. And -- Go ahead.

A. I've had roughly three meetings with the Pure representative, several phone conversations with him as well, have also had -- Kriti is located in Houston. We've had no meetings with those guys, nor have they requested one, but we've had probably four different phone conversations with Kriti representatives, two separate representatives.

Q. And have you recently provided them again with a well proposal and a joint operating agreement and an AFE?

A. Yes, sir, we have. They had indicated that they

would consider participating in the well and had asked us for an updated AFE, since the one we previously sent was dated November. We sent them a new AFE and a joint operating agreement for their consideration.

Q. In your opinion, have you done all you can to obtain a voluntary agreement with these entities for participation in this well?

A. Yes, sir.

Q. And if either or them or both of them should voluntarily agree to participate, will you immediately advise the decision --

A. Yes, sir, we will.

Q. -- of their decision?

A. Yes, sir.

Q. Is Exhibit Number 2 a copy of the November 1st letter proposing the well and the more recent letter sending the revised AFE and the JOA?

A. Yes, sir, they are.

Q. Let's go to what has been marked Exhibit Number 3. Would you identify that?

A. Yes, sir. Exhibit Number 3 is the AFE which was recently -- the revised AFE which was recently sent to both parties.

Q. Would you review the totals as set forth on this exhibit?

A. The estimated total drilling cost for the dryhole cost for the well is $1,119,136. Total completed well cost is estimated at $1,606,456.

Q. Are these costs in line with what other operators charge in the area for similar wells?

A. Yes, sir, we believe they are.

Q. Are these current costs the costs that Mr. Arrington is incurring for the development of similar properties and the drilling of similar wells?

A. Yes, sir.

Q. Is Exhibit Number 4 an affidavit with attached letters confirming that notice of today's hearing had been provided in accordance with the rules of the Oil Conservation Division?

A. Yes, sir, it is.

Q. Have you made an estimate of the overhead and administrative costs to be incurred while drilling and also while producing the well if it is successful?

A. Yes, sir, we have. The drilling well rate is estimated at $6000 per month with a producing well rate of $600 a month.

Q. And are these consistent with the costs incurred by other operators in the area?

A. Yes, they are. They're rates that we have both charged other operators under voluntary agreement, as well

as other operators have charged us.

Q. And these are the figures set forth in the JOA which is included in Exhibit Number 2?

A. That is correct.

Q. Do you recommend that these figures be incorporated into the order which results from today's hearing?

A. Yes, sir.

Q. Does David H. Arrington Oil and Gas, Inc., seek to be designated operator of the proposed well?

A. Yes, sir.

Q. Will you also be calling a geological witness to review the technical portions of this case?

A. Yes, sir.

Q. Were Exhibits 1 through 4 either prepared by you or compiled under your direction, or can you testify as to the accuracy of these exhibits?

A. Yes, sir, I can.

MR. CARR: At this time, Mr. Stogner, we would move the admission into evidence of Arrington Exhibits 1 through 4.

EXAMINER STOGNER: Exhibits 1 through 4 will be admitted into evidence if there's no objection.

MR. KELLAHIN: No objection.

MR. CARR: And that concludes my direct

examination of Mr. Douglas.

EXAMINER STOGNER: Thank you, Mr. Carr.

Mr. Kellahin, your witness.

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Douglas, let me refer you to your well proposal of November 1st of last year. Attached to that proposal is an AFE. Do you see that?

A. Yes, sir.

Q. You don't prepare these AFEs, do you, Mr. Douglas?

A. No, sir, they're compiled under the direction of a petroleum engineer.

Q. This is signed off by Steve Scott. Is he still employed by Mr. Arrington?

A. He is still employed, however he's out on sick leave.

Q. Does he customarily do the estimates for well costs?

A. Yes.

Q. Is that currently his function?

A. He's out on sick leave, so he's not actively involved with --

Q. So someone is doing that for him now --

A. Yes, sir.

Q. -- or for Mr. Arrington?

A. Yes, sir.

Q. Look at the top of the AFE for me. It says "Well Type: Exploratory/Oil", the objective is the Mississippian. Do you know why it's captioned as an oil AFE?

A. No, sir, I don't.

Q. If you'll turn to the second AFE, it's by cover letter May 17th of this year, is this the revised AFE?

A. Yes, sir.

Q. This caption has been changed. It now says "Exploratory/Gas". Do you know why that change was made?

A. I would assume when the revised AFE was prepared that error was noted.

The well had been proposed as a gas well, however, on both occasions.

Q. Originally it was proposed under the AFE to drill and complete a Mississippian well. You identify that you're going to test the Atoka-Mississippian formation; that's the first proposal.

A. (Nods)

Q. The revised proposal doesn't say anything about your formations, does it?

A. In the proposal letter?

Q. Yeah, or on May 17th. You can't read the May 17th letter and figure out what are the target formations,

can you?

A. From the letter itself?

Q. Yes, sir.

A. No, but the attached exhibit AFE references those formations.

Q. Can you read either the AFE or the letter and determine what is the spacing units that you're proposing to use?

A. No, sir, it's not referenced there.

Q. Why didn't you do that?

A. We had prior correspondence with both parties and had been in communication, and it was clear on all occasions.

There was never a question as to what the unit would be. It was always the west-half unit.

Q. Do you have prior correspondence that you can document, other than what you've presented this morning?

A. I believe if you'll go to the November 1st letter --

Q. Yes, sir.

A. -- in the first paragraph we state that the proposed spacing unit would be the west half of Section 31.

Q. All right, and so it was continued -- Your assumption was to continue that spacing unit?

A. Yes, sir.

Q. Is the east half available as a spacing unit?

A. I assume that it would be.

Q. All right, so there is no deep gas well spacing unit in Section 31 at this point --

A. No, sir.

Q. -- on any formation?

A. Not to my knowledge.

Q. So your -- the spacing -- the section is available to orient either laydowns or standups?

A. I would assume that's correct.

Q. And your well location would be in the southwest quarter?

A. Yes, sir.

Q. The Arrington interest is the northwest quarter?

A. That's correct.

Q. Does Arrington have an interest anywhere else in Section 31?

A. No, sir.

Q. All right, so if it's a laydown you're excluded from the well? Laydown south half --

A. It would be -- That's correct.

Q. The only way you would participate is if it's a west-half unit?

A. That's correct.

MR. KELLAHIN: All right, thank you.

FURTHER EXAMINATION

BY MR. CARR:

Q. Mr. Douglas, has anyone at any time proposed a laydown unit in this section?

A. No, sir.

MR. CARR: All right.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Douglas, in the beginning you stated that it was state lease, two state leases?

A. Yes, sir.

Q. And who is the beneficiary of both?

A. It's the -- I believe it was the school --

MR. CARR: Common School.

THE WITNESS: Common School.

Q. (By Examiner Stogner) I'm looking at, on Exhibit Number 2, both the November 1st letter and -- well, the November 1st letter. It states here that the initial well will be drilled at a legal location in the northwest quarter of Section 31. When was that decision changed?

A. It was changed subsequent to that, based upon some additional geological work that had been done.

Q. And that was --

A. I would guess February of 2001.

Q. Mr. Douglas, you seem to be knowledgeable with

Rule 104.D, inasmuch as you knew that this fell within the tolerance of a standard spacing unit, what was considered a spacing unit for a 320-acre gas unit?

A. Correct.

Q. Then you're aware that there's an infill drilling provision for full development for deep gas. You are aware of that, I assume?

A. Yes, I assume you're speaking of downspacing for 160 -- increased density locations?

Q. Increased density locations, not downspacing.

A. Okay.

Q. Right.

A. Yes, sir.

Q. That was the optional infill well provision.

A. Correct.

Q. Are there plans to drill a second well if this one is successful, that you know of?

A. Not to my knowledge. I would assume that that decision would be made based upon the well results and how the maps might change.

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

Thank you, you may be excused, Mr. Douglas.

Mr. Carr?

MR. CARR: Mr. Stogner, at this time we'd call

Bill Baker.

BILL BAKER,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. Bill Baker.

Q. Mr. Baker, where do you reside?

A. Midland, Texas.

Q. By whom are you employed?

A. David H. Arrington Oil and Gas, Inc.

Q. And what is your position with Arrington?

A. I'm exploration manager.

Q. What are your professional credentials? Are you a geologist?

A. Yes, sir, I am, petroleum geologist.

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

A. Yes, sir, I have.

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

A. Yes, sir, they have been.

Q. Are you familiar with the Application filed in

this case on behalf of Arrington?

A. Yes, sir, I am.

Q. Have you made a geological study of the area which is the subject of this case?

A. Yes, sir, I have.

Q. And are you prepared to review that work with the Examiner?

A. Yes, sir, I am.

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

EXAMINER STOGNER: Any objection?

MR. KELLAHIN: No objection.

EXAMINER STOGNER: So qualified.

Q. (By Mr. Carr) Mr. Baker, let's go to what has been marked for identification as Arrington Exhibit Number 5.

A. Yes, sir.

Q. Would you identify that first and then review the information for Mr. Stogner?

A. Yes, sir. But first, Mr. Examiner, I would like to make a note of a correction, a drafting error for my cross-section A-A' that I have labeled on Exhibits 5 and 6. Up there where it says A, the first well should actually be the gas well that's located in the northeast of the northeast quarter of Section 15. That well is

inappropriately marked right there, so if you'd please make that notation.

EXAMINER STOGNER: Okay, what should it be marked?

THE WITNESS: It should be that northeast northeast quarter. It's currently marked as the southeast of the northeast quarter, that first well on -- right where it says A.

EXAMINER STOGNER: Okay.

THE WITNESS: Yes, sir, that should be -- That was a drafting error that I missed in my review.

EXAMINER STOGNER: So noted.

THE WITNESS: Okay, sir.

The first exhibit that I would like to present here is Exhibit Number 5, and this is a structure map on the top of the lower Morrow limestone. This is a regional marker that is widespread throughout this portion of Lea County.

Basically what this map shows is that we have a northwest/southeast-trending set of ridges, structural ridges in here. As you can see, it's extremely complicated by a series of faults.

On here I have noted by the wells that have circles around them as being wells that penetrated the top of the Morrow formation. I have also noted by the wells

colored in an orange color there, those are Atoka Brunson producers. This is one of the primary gas-producing horizons in this area, and it is also the primary -- one of two primary targets at our proposed location.

Basically what I have shown here is that our proposed location for the Double Hackle Peacock "31" will be located in a graben low, situated in between two Devonian structures, the North Shoe Bar -- or excuse me, the Shoe Bar-Devonian fields, down there in Section 31 and also located in Sections 1 and 6.

Basically what this does is, it sets up kind of a structural low system running from the northwest to southeast trend that I believe influenced the Atoka deposition. At the time the Atoka was laid down I believe it was laid down in these lows, which has affected -- basically affects where you put your drill sites.

Q. (By Mr. Carr) Mr. Baker, this map is dated May 25th, 2001. When was it actually prepared?

A. This map -- I mean, all this work was generated based entirely off subsurface geology, and it was generated back in early -- or excuse me, late 1999, early 2000.

Q. And this is just the date --

A. Yes, sir, these are the dates that my geotech just simply prepared our exhibits, and she always puts the date when she prepares them.

Q. You've shaded certain wells in brown and indicated that they are Atoka Brunson producers?

A. Yes, sir.

Q. Is that the primary objective in the well?

A. Yes, sir, it is.

Q. Let's go to what has been marked as Exhibit Number 6. Would you review this, please?

A. Yes, sir, this is Exhibit Number 6, and Exhibit Number 6 is an isopach of the lower Atoka Brunson sand, and this is a sand that I referenced as one of the two primary producing targets in this area.

From subsurface well control you can tell that this is kind of a northwest/southeast-trending channel system. It's very well defined to the northwest up there in Sections 10, 11, 14 and 15. There's been a number of wells drilled up there in the past couple of years.

As you see, based upon the structural position that I had on the Morrow limestone it is my belief that this system comes down to the southeast. I believe it heads to the southeast and then kind of takes a bend back to the southwest right there.

Our proposed location appears to be on the very eastern edge of the channel system. I'll talk a little bit about why we have that positioned right there when we get to the cross section, Exhibit Number 7, in a minute, but it

is my belief that we'll encounter somewhere between 10 to 15 feet of productive Atoka system sands.

Q. Are you ready to go to your cross-section?

A. Yes, sir.

Q. All right, let's refer to Arrington Exhibit Number 7. First review the trace and then the information on the cross-section itself.

A. Okay, this is cross-section A-A', and as previously noted, there's a drafting error up there. The very first well on the left-hand side, which is the Chesapeake Operating Boyce 1-15, should be located in the northeast of the northeast quarter of Section 15, so if you'll make that notation on these maps, we'll start right there.

This well was drilled in 2000, this past year. It was drilled as an Atoka-Morrow test. Chesapeake basically perforated and attempted a completion in a Morrow -- what I call the Morrow Austin zone, and then also the Atoka Brunson interval. I have noted their completions there in red.

They perforated an interval from 11,932 feet to -938 in the Austin Morrow, and they also perforated 11,803 to -809 in the lower Atoka Brunson interval. They immediately frac'd the well with 240 tons of CO_2 and 52,000 pounds of 20/40 interproppant. They basically had the well

flowing at a rate of 390 MCF a day and 9 barrels of oil.

They subsequently plugged these two intervals and completed in an upper Atoka zone that's not referenced on this map, it's not one of my targets in there, but they abandoned this interval in here.

If you move directly to the right of that well, you will see the David H. Arrington Oil and Gas, Inc., Mayfly "14" State Com Number 1. This well was drilled in May of 2000. It was drilled as a lower Atoka Brunson test, but we did take it down through the lower Mississippian in an attempt to make sure that we had encountered any potential productive Morrow intervals.

We did encounter an Austin Morrow interval, of which we attempted a completion in here from 12,040 to -47 feet. We had it flowing at a rate of 1.6 million cubic feet of gas a day and 54 barrels of oil and decided to frac it with 46 tons of CO_2 and 3000 gallons of methanol, and basically lost most of the well. We did get it back to a rate of 500 MCF a day and 5 barrels of oil.

At this time, knowing that we had the Atoka Brunson interval uphole, we deemed this as an interval we'll come back to later someday, and we set a bridge plug, came back up and recompleted in the Atoka Brunson interval from a depth of 11,884 to -907. It came on at 1.5 million cubic feet of gas a day. It has currently made 49 million

cubic feet of gas and 11,000 barrels, and is producing at 2.6 million cubic feet of gas per day and 50 barrels of oil.

If you will continue down the cross-section, you will come to the Mesa Petroleum Monsanto State well. This well was drilled in 1975 as a Morrow test. They completed in the Atoka Brunson interval from a depth of 11,849 to -876. The well came on at 1.8 million a day. It has currently cum'd 4 BCF and 89,000 barrels of oil, currently producing at a rate of 243 MCF per day.

If you will continue to move on to the right side of the cross-section you will see where our proposed location is at, and directly next door to it you will see a well on the far right-hand side. It's called the Stanolind Oil and Gas State "AC" Number 1. This well was drilled in 1954 by Stanolind Oil and Gas. It was drilled as a Devonian test.

They drilled the well to a depth -- I believe it was 14,000 or 13,000, something, and actually ended up running pipe and testing the Devonian. They tested sulfur water out of it. It was noncommercial, didn't make any oil at all.

Subsequently came back uphole, and I guess based on mud logs or some shows or something they had, they attempted some completions in what I call this Austin

Carlisle sand interval in here, and I have put a notation to their perforated intervals in here. They perforated 12,200 to -220 and 12,240 to -280. They acidized it with 3000 gallons and flowed it for 7 hours at a rate of 3.48 million cubic feet of gas per day and 46 barrels of oil.

They came back the next day and flowed it for 16 1/2 hours for 3.14 million cubic feet of gas and 64 barrels of oil, and then they subsequently re-acidized the well with 10,000 gallons, and they started swabbing oil and mud. It looks to me like they had some type of a mechanical problem or something, but they never regained gas production in there and were testing, I guess, at a noncommercial oil rate.

They subsequently plugged the well and abandoned it.

What our Double Hackle Peacock well indicates, I believe also that they had approximately six feet of Brunson sand in this Stanolind "AC" Number 1 well, and you can see that by kind of a resistive mark that they have on this old microlog that they have there. I believe based on -- there's no microlog there -- that they had six feet of tight sand.

When you put this in relationship with the geology, I believe that they were on the very eastern edge of an Atoka channel system. I believe by moving slightly

back to the west or northwest that you can hopefully increase your reservoir rock in here and get into a productive lower Atoka interval.

Also, it's obvious that they had the potential for a commercial well in this Austin sand down here. Now, then, there is no other well control in the area that has seen this sand in here. So based on that, you have to know that it could be limited. But they did test some fairly decent rates in here, and they lost it.

Our hope is that by staying slightly to the north and west of this we will increase possible sand thickness. I have no geological reasons for that, because there's simply no well control. But it's our hope that we will encounter some Austin Carlisle sand here as kind of a secondary target as well.

Q. Mr. Baker, are you prepared to make a recommendation to the Examiner as to the risk penalty that should be assessed against any interest owner who has not voluntarily joined in the well?

A. Yes, sir, I am.

Q. And what is that?

A. 200 percent.

Q. Would you summarize for Mr. Stogner the basis for that recommendation?

A. Well, the basis of that recommendation is that

this is still an extremely risky venture. As you can tell, this area down here does not have any productive -- gas production from the Brunson interval down in here, so we still have an extreme reservoir risk from our standpoint, and we could easily encounter sands with no reservoir there, which would deem it a dry hole and noncommercial.

Q. In your opinion you could drill an uneconomic well --

A. Yes, sir.

Q. -- at this location? You're trying to be close to the Stanolind well?

A. Yes, sir.

Q. But not too close?

A. Yes, you don't want to get too close.

Q. In your opinion, will approval of this Application and drilling of the proposed well at this location be in the best interest of conservation, the prevention of waste and the protection of correlative rights?

A. Yes, sir, I believe so.

Q. Were Exhibits 5 through 7 prepared by you?

A. Yes, sir, they were.

MR. CARR: At this time, Mr. Stogner, we would move the admission into evidence of Arrington Exhibits 5 through 7.

EXAMINER STOGNER: Any objection?

MR. KELLAHIN: No, sir.

EXAMINER STOGNER: Exhibits 5 through 7 will be admitted into evidence.

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

EXAMINER STOGNER: Thank you, Mr. Carr.

Mr. Kellahin, your witness.

MR. KELLAHIN: Thank you, Mr. Examiner.

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Baker, you indicated that the Brunson interval in the lower Atoka series is one of the objectives -- one of two objectives, I think you said --

A. Uh-huh.

Q. -- for the well?

What's your other objective?

A. This Austin Carlisle that had the show in the Stanolind well.

Q. May I see your isopach on that?

A. No, sir, there's not enough well control for an isopach.

Q. So is there any potential in the Morrow?

A. Not mappable.

Q. So when we look at the cross-section, Exhibit 7,

you've given us an isopach of this area shaded in yellow up higher in the cross-section, you've identified it as the Brunson sand?

A. Yes, sir.

Q. As we go down the estimated location of the well, we get the Austin Carlisle sand.

A. Uh-huh.

Q. That Austin Carlisle sand, is it going to be below the base of the Morrow?

A. Yes, sir, it will be below the base of the Morrow.

Q. So you don't see any opportunity in the Morrow?

A. No, sir, not as we define Morrow, no, sir.

Q. Well, how do you define Morrow?

A. Well, I mean a lot of people out here define the actual Austin system as a Morrow system, but it's actually one of several Mississippian unconformities out here, so it's a semantic issue between geologists.

Q. Look in Section 31 with me on your Exhibit Number 6, which is your Brunson isopach.

A. Yes, sir.

Q. Have you got that?

A. Uh-huh.

Q. There are some wells with data points showing a net thickness and then a gross thickness in the Brunson --

A. Uh-huh.

Q. -- it's the 2/6 nomenclature.

A. Yes, sir.

Q. Did those wells produce from the Morrow or any other formation?

A. No, sir, they're Devonian wells.

Q. Those were Devonian wells?

A. Yes, sir.

Q. All right. Is it your strategy as a geologist to try to get a thickness in the Brunson, I thought you said between 10 and 15 feet?

A. Yes, sir.

Q. So the strategy for a geologist is to look for net clean thickness of Brunson sand?

A. Yes, sir.

Q. And the thicker the sand, the better location?

A. Sometimes.

Q. Well, isn't that your strategy?

A. Well, I mean, you have to couple that with the structural and the trap risk as well. Yes, sir, if I could guarantee a trap, obviously the thicker the sand interval, sometimes you will increase the better porosity and perm too, yes, sir.

Q. All right, let's start with the thickness map then. If your criteria is to get to a thicker interval --

A. Uh-huh.

Q. -- explain to me why you're not in the northwest quarter, because it appears the northwest quarter has greater thickness at a standard location than your proposed unorthodox location.

A. Yes, sir, it does. But we also know that the Brunson interval out in this area does have an associated water contact with it, and it is my belief that as you move off to the northwest you will lose structure. And with any loss of structure you could encounter a water contact. We know that the Stanolind well, in my opinion, is the updip strat pinchout, so you want to stay at the most structurally high position that you can get and still have an opportunity for getting the best reservoir rock that you have.

Q. All right, let's look at your structure map Exhibit 5. When I compare the unorthodox location to a standard location in the northwest quarter, I can achieve a higher structural position in the northwest quarter than I can achieve at your proposed location, true?

A. Yes, sir, you could, uh-huh.

Q. So explain to me how you're going to get Mr. Stogner to support a nonstandard location when your maps don't support that position.

A. Well, this nonstandard location is not entirely

about the Brunson interval. It's also because we want to stay in proximity to our show well down to the south. This is what this prospect was generated on. I mean, not only do we have the Brunson interval here, but you can't deny the good show that was in the Austin Carlisle sand. And basically any geologist is going to stay in near proximity to a very good potential show.

And so what I was trying to do here was basically have kind of the best of both targets, the best that I could find for the Atoka, as well as staying close proximity to the show that was in the Stanolind well in that Austin interval.

Q. All right. Now, to make sure I understand, the Stanolind well was in the northeast of the southwest of 31.

A. Yes, sir.

Q. And it's got the 0/0 --

A. In the Brunson.

Q. -- associated in the Brunson?

A. Yes, sir.

Q. And when we look at the log of that well on Exhibit 7 --

A. Uh-huh.

Q. -- we can show their attempts to produce that well?

A. Not in the Brunson, no, sir.

Q. No, sir, but in the Austin Carlisle?

A. Yes, sir.

Q. With what results?

A. Well, I mean, they had it flowing at fairly decent gas rates until they reacidized it with 10,000 gallons, and then they lost it.

Q. They made the same mistake you guys did in the Mayfly 14 --

A. Yes, sir --

Q. -- didn't they?

A. -- they sure did, sir.

Q. When I look at your AFEs, I notice that the AFE from -- the early AFE that's associated with the May 17th letter -- I'm sorry, that's associated with the November 1st letter, proposes to estimate an acid frac'ing stimulation cost of $25,000 --

A. Uh-huh?

Q. -- right?

We move over, we learn something from the Mayfly in May, then, you've jumped the cost to $100,000. Are you still going to frac this well?

A. Not in the Austin, no, sir.

Q. Where are you going to put the frac treatment?

A. The frac treatments are designed for the Atoka Brunson. One of the things that we have learned from the

well that had been drilled by Yates Petroleum and ourselves and Chesapeake up to the north is that the Brunson interval requires a frac stimulation, and that is running right now -- It was about $85,000. Obviously the cost of CO_2, as well as everything else, has gone up, so that's why we're now at $100,000. But it was for an Austin -- or, excuse me, an Atoka Brunson frac.

Q. Did you not frac the Mayfly 14 in the Brunson interval?

A. Yes, sir, we did.

Q. And as a result of that, substantially reduced your productivity?

A. Not in the Brunson. Did you say the Brunson?

Q. Yes, sir.

A. The Brunson is the well that -- We frac'd it as well, and it's been a very good well in the Brunson. Where we lost it was down in the Austin zone.

Q. I misunderstood, thank you.

A. Yes, sir.

Q. Let me ask you about your choice of orientation of the spacing unit.

A. Okay, sir.

Q. Why did you choose the west half?

A. Basically because we have acreage in the northwest quarter and that we felt that that's where most

of -- The structural position would indicate that sands would have been deposited towards the west and northwest.

Q. And I have to look at your desire to be close to the Stanolind well --

A. Yes, sir.

Q. -- and the Austin Carlisle sand show to understand your location?

A. You have to take both maps into consideration, yes, sir.

Q. Because if I exclude the Austin Carlisle sand position --

A. Right.

Q. -- you can't justify the well location, can you?

A. No, sir.

MR. KELLAHIN: No further questions.

EXAMINER STOGNER: Any redirect, Mr. Carr?

MR. CARR: No redirect.

EXAMINATION

BY EXAMINER STOGNER:

Q. If you drill this well and it's successful and it proves up your geology as you've presented it today, where will the second infill go, or the first infill well, I should say?

A. Well, once again like Mr. Douglas kind of referenced early on, it will be dependent upon, Mr.

Stogner, as to exactly what we get.

If we get a thick Austin Carlisle interval as well as a thick Brunson interval in a structural position that has not water in it whatsoever and we can see no water contact, I mean, the obvious location would be to move directly -- as close as possible as you could in the northwest quarter.

I mean, due to the lack of well data for the Austin Carlisle system, it's going to be an inch-out, I mean kind of move slowly out away from those points of control, as close as possible, to make a commercial well.

And also we'd have to deem whether or not one well could adequately drain the reservoir, whether or not, you know, an increased density well would be warranted to for economic reasons.

Q. Do you have seismic lines that you utilized to come up with the Austin Carlisle sand that you depict on Exhibit Number 7?

A. No, sir, we do not.

Q. None at all?

A. Well, I mean, there's data out here, but this deal was generated off subsurface, and you cannot see the Morrow system off seismic, to the best of our resolution yet.

Q. Based on the two maps, 5 and 6, why can't you

move this well back to the south? There appears to be -- you can move the well back to the south and still obtain that structural high and be close to the old Stanolind well. Wouldn't that make you -- Wouldn't that still allow you to fall within that -- what? You've got an 8000-foot saddle there, that you're indicating on the structure map?

A. Yes, sir. It's dependent on how far to the south you moved. Once again, I mean, we start to see the feature come back up on that next Devonian fault block to the south, and so you're going to have a structural influence from the southwest right there. And so you could probably move it just a little bit south, but you'd almost maybe want to move it just a little bit more west than you would south, if you had to move it.

Q. Well, I'm talking about moving it to a standard location.

A. Of 660 off of that, sir?

Q. Yes.

A. That's a possibility. But I think right now we felt like this was probably the best position to reach all of our targets.

Q. Did you look at the possibility of re-entering the old Stanolind well?

A. Not real hard, sir, because they did leave casing in there, and we typically have not had very good success

with old wellbores. We have found that it's -- when you involve an old one, it's just probably better to do a re-drill.

Q. Okay, now you talk about the water contact in the Brunson. Now, do you have anything that shows that here?

A. No, sir, I don't here. One thing that we do note is that as you move up in the well control to the north -- I didn't post it on here, but if you'll look at a well there in Section 23 -- it's kind of in the northwest of the northeast quarter on my isopach map where I have 16/20 feet -- that well, sir, there was wet in the Brunson. So that kind of defined a water contact off of that feature up there.

We know that as you move across the other side of the feature that there is a water contact, and they're not at the same structural level either. So this contact, whether it's influenced by faults, whether it's influenced by permeability, we just know that the Brunson interval, that if you move too far off, out away from structure, you can't have a water interval.

Q. If I understood your testimony, you had mentioned something about this Austin Carlisle sand as you depict on Exhibit Number 7. This is what you hope that it's going to be?

A. Yes, sir, and there's not geological evidence for

that except for, if we're truly moving off a little lower structurally, you would hope that that would be where the thicker part of the channel system would develop, in a low.

Q. So you're hoping this unorthodox location --

A. Just puts you in a better, thicker part of the reservoir.

Q. Hopefully?

A. Yes, sir.

EXAMINER STOGNER: Any other questions of this witness?

Thank you, Mr. Baker, you may be excused.

MR. CARR: That concludes our presentation in this case.

EXAMINER STOGNER: Thank you gentlemen. Is there any need for closing arguments?

MR. KELLAHIN: No, sir.

EXAMINER STOGNER: If nobody has anything further in Case Number 12,675, then this matter will be taken under advisement.

(Thereupon, these proceedings were concluded at 10:18 a.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 12675 heard by me on 31 May 2001

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 June 3rd, 2001.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 2002