STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION COMMISSION

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

ORIGINAL

APPLICATION OF DAVID H. ARRINGTON OIL & GAS, INC., FOR COMPULSORY POOLING, LEA COUNTY, NEW MEXICO — Case No. 14497

Consolidated with:

APPLICATION OF MARSHALL & WINSTON, INC., TO CANCEL OPERATOR'S AUTHORITY, TERMINATE A SPACING UNIT, AND APPROVE A CHANGE OF OPERATOR, LEA COUNTY, NEW MEXICO — Case No. 14538

APPLICATION OF AGAVE ENERGY COMPANY FOR AUTHORITY TO INJECT, LEA COUNTY, NEW MEXICO — Case No. 14720

REPORTER'S TRANSCRIPT OF PROCEEDINGS
COMMISSIONER HEARING

BEFORE: JAMI BAILEY, Chairman
DR. ROBERT BALCH, Commissioner
SCOTT DAWSON, Commissioner

December 8, 2011
Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Commission, JAMI BAILEY, Chairman, on Thursday, December 8, 2011, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South St. Francis Drive, Room 102, Santa Fe, New Mexico.

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ALSO PRESENT:

Florene Davidson

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CHAIRMAN BAILEY: This is the meeting of the Oil Conservation Commission on December 8th, 2011, in Santa Fe, in Porter Hall.

To my left is Dr. Robert Balch, designee of the Secretary of Energy and Minerals and Natural Resources. To my right is Scott Dawson, designee of the Commissioner of Public Lands.

All three Commissioners are here, and so there is a quorum. Commissioners, have you had a chance to look at the minutes of the previous hearing?

COMMISSIONER DAWSON: I have.

COMMISSIONER BALCH: I have.

CHAIRMAN BAILEY: Do I hear a motion to adopt the minutes?

COMMISSIONER DAWSON: I'll motion.

COMMISSIONER BALCH: Second.

CHAIRMAN BAILEY: All those in favor say aye.

Then I will sign on behalf of the Commission and transmit them to the Commission Secretary.

On the docket we have several cases and deliberation of rulemaking concerning horizontal well rules. We have agreed to have the deliberations on the rulemaking to follow after we hear all three cases. So those of you who are here only to hear the deliberations

for the horizontal well rule, it will be at least a full day, probably, or into the afternoon to hear the cases. So you may be excused, if you want to, and come back when you want to.

On the docket we have Cases 14497, which is the Application of David H. Arrington Oil & Gas for compulsory pooling in Lea County, New Mexico; and Application of Marshall & Winston, Inc., to cancel an operator's authority and terminate a spacing unit, and approve a change of operator, in Lea County, New Mexico. These cases will be consolidated for purposes of this hearing, and one order will be issued for both cases.

Do I have appearances for these cases?

MR. CARR: May it please the Commission? My name is William F. Carr, with the Santa Fe office of Holland & Hart. We represent David H. Arrington Oil & Gas, Inc., in these consolidated cases.

With me is my partner Larry Montano, who will assist me in the presentation of the evidence. We have four witnesses.

MR. BRUCE: Madam Chair, Jim Bruce of Santa Fe representing Marshall & Winston, Inc. I have two witnesses.

CHAIRMAN BAILEY: Shall we take the David Arrington case first? Have your first witness called.

MR. CARR: Could I make a very brief opening?

CHAIRMAN BAILEY: You may make a brief opening statement.

MR. CARR: May it please the Commission. David H. Arrington Oil & Gas, Inc., is here today seeking an order compulsory pooling Morrow Formation and other formations under a 320-acre gas spacing unit or a 160-acre gas spacing unit, depending on the depth of the well.

The purpose of the application is to attempt a re-entry in the Morrow Formation, and we believe the evidence will show that Mr. Arrington is entitled to an order under the Oil & Gas Act.

The evidence will show you that in the south half of this section, 80 acres are owned by Marshall & Winston, the balance by Arrington and Arrington's partners.

The well was drilled in 2004 by Mr. Arrington. He owns 75 percent of it and paid three-quarters of the costs, and Marshall & Winston paid their one-quarter of the costs. The well produced for a time and was abandoned. The Arrington lease expired. The JOA expired.

And Arrington has gone out and re-leased the

acreage and acquired a surface easement to access the well to go in and, based on their experience with other deep Morrow gas wells, in fact, we'll show you pumping liquids off the well, re-establishing production from that deeper zone.

Prior reviews of this well by Arrington and current reviews by Marshall & Winston suggest that this will not be an economic effort. But today Arrington is asking you to give him the opportunity to try new technology and, based on his experience with similar wells, to try and re-establish Morrow production.

Unless we can re-enter this well, run this test and have 90 days to do it, it's, I think, fairly safe to say the Morrow will not be tested. And even though the evidence will show there are gas reserves in the Morrow, they will never be recovered and wasted.

So we're requesting 90 days to go in and attempt to re-establish Morrow production. Marshall & Winston propose to now re-complete the well in the Cisco Formation, and it's important to note that the well is actually located on the Marshall & Winston tract, and if re-completed in the Cisco, they would own 100 percent of the well and 100 percent of the production.

We're asking for 90 days. We were here well over a year ago asking for 90 days. I'm not suggesting

anyone caused the delay, but we could have been in and out four times by now.

If we are able to make a Morrow well, everyone will share and everyone will benefit. And if we do not, these reserves will be wasted.

We have four witnesses today: Monty Kastner will review the status of the lands in the area and background of this case; Brian Ball, our geological witness, who will give you the geological picture of the Morrow Formation in the area; Art Carrasco, our operations manager and engineer, who will review with you the way they propose to work over the well, if you allow them to do so; and Keith Bucy, who will provide information on the economics associated with this. Thank you.

CHAIRMAN BAILEY: Mr. Bruce?

MR. BRUCE: Madam Chair, I'll be quite brief.

I think Marshall & Winston's position was set forth in the pre-hearing statement, and it's been my experience that Commissioners always read those. I would just address a couple of things that Mr. Carr said.

Insofar as the well and the Morrow Formation, our expert petroleum engineer agrees that there is gas in the Morrow Formation underlying the south half of Section

26. That's not the issue. The issue is that it's uneconomic to recover.

There are the costs involved, the questionable rate of -- or the question of even bringing it back on production, the question of what rate it will come on, the pressure drops since this well was shut in six years ago, all lead to severe questions about the economics and, in fact, it is not economic to re-enter.

Furthermore, our land witness, Mr. Hammit, will testify about the chain of events leading up to this hearing today. And we do not believe that David H. Arrington has made a good-faith effort to force pool the parties in this well.

We would ask that the Commission affirm the Division's order which denied Arrington's application and grant the Marshall & Winston application. Thank you.

CHAIRMAN BAILEY: Would you call your first witness?

MR. MONTANO: May it please the Commission? Arrington calls Monty Kastner.

CHAIRMAN BAILEY: Would you stand to be sworn?

MONTY KASTNER

Having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. MONTANO:

Q. Good morning, Mr. Kastner. Would you please state your full name for the record?

A. It's Monty W. Kastner.

Q. Where do you currently reside?

A. Midland, Texas.

Q. By whom are you employed?

A. David H. Arrington Oil & Gas.

Q. What is your current position with Arrington?

A. I'm vice president of land and legal.

Q. Have you previously testified before this Commission?

A. I have not.

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

A. Yes, I have.

Q. Would you please tell the Commissioners a little bit about your educational background?

A. Okay. I attended Casper College in Casper, Wyoming from 1968 to 1971, where I started my career as a landman in 1971 working in the Powder River Basin.

To fast forward to the independent days, I

worked through -- with Texas Pacific Oil Company out of Abilene, Texas, later on in Dallas. I've held several positions with Texas Pacific, including exploration manager, land manager, land manager U.S.

From the Texas Pacific period I organized a land consulting firm, Kastner Land Services, and operated that until the point that I went to work for David H. Arrington in 2008.

Kastner Land Services still exists. Our customers, clients during the Kastner Land Services days included Chesapeake, where we worked Barnett shale; Burlington Resources, where we also worked the Barnett shale. So that's the summation of 40 years of land experience.

Q. Are you familiar with the applications in this case?

A. Yes, I am.

Q. Are you familiar with the lands at issue in those applications?

A. Yes, I am.

MR. MONTANO: We would tender Mr. Kastner as an expert witness in petroleum land matters.

CHAIRMAN BAILEY: Any objection?

MR. BRUCE: No objection.

CHAIRMAN BAILEY: He's so accepted.

Q. (By Mr. Montano) Would you briefly tell the Commission what it is that Arrington seeks in this application?

A. We're here today to seek a compulsory pooling order to be able to re-enter our Green Eyed Squealy Worm located in the south half of Section 26, 15 South, 34 East, to re-establish the Morrow production we believe still exists. We seek a 320-acre spacing unit or a 160-acre spacing unit, as the case may be as prescribed by the rules and regulations.

Q. How many wells does Arrington operate in New Mexico presently?

A. We have approximately 53.

Q. And how many of those are deep gas wells?

A. Probably 13.

Q. Would you please identify what's been marked as Arrington Exhibit Number 1?

A. Okay. It's a topo map showing the south half of Section 26 of 15 South, 34 East. In yellow, the yellow color depicts David Arrington's oil and gas leases. The green acreage indicates Marshall & Winston's mineral interests. The green line leading from the blue line -- which the blue line is a county road, and I don't recall the name. But the green line is the access -- the green and the red line is the access from the county road

to the Green Eyed Squealy Worm location.

Q. Thank you, Mr. Kastner. Would you turn now to what's been marked as Arrington Exhibit Number 2 and identify for the Commission what that exhibit is?

A. It's a chronology of events up to August 23rd of 2010, compiled under my supervision, indicating the events that occurred that are in our files that we're aware of from the date of the first oil and gas lease up through the August 23rd, 2010, date.

Q. Would you provide a brief summary of the efforts Arrington has made to develop this acreage?

A. Well, we originally drilled the well in 2004, produced it until 2007. And I think it was May of 2007 it loaded up with water, and it produced intermittently until September 2007, wherein it was shut in.

We didn't do much more with the well. And I'll defer to my engineering colleagues to address those particular situations a little more clearly.

Then it was -- there was a point in time where we decided we might want to move up and look at the Cisco Formation. So we did make a proposal to Marshall & Winston to move uphole and take a look at the Cisco Formation.

Later on, after Marshall & Winston decided that they did not want to participate in that operation,

we re-visited the Morrow Formation and decided that there was gas there that we felt was left behind. And that was the purpose of the filing of the compulsory pooling today.

Q. Did the underlying oil and gas leases expire?

A. They did. The first set of oil and gas leases did expire.

Q. Did the joint operating agreement also expire?

A. Yes. It expired by its own terms.

Q. At some point did Marshall & Winston request that Arrington release the oil and gas leases?

A. They did.

Q. Did Arrington do that?

A. Yes, we did.

Q. I want to fast forward to your proposal to re-enter the Morrow. Can you tell the Commission approximately what date that was?

A. That's going to be May of 2010.

Q. What was Marshall & Winston's response to that proposal?

A. They declined to participate in that operation.

Q. Did Arrington then seek a forced pooling application?

A. We did. Shortly thereafter we applied for a

force pooling application.

Q. What happened with that application?

A. The application was denied by the Commission.

Q. By the Division; is that correct?

A. By the Division.

Q. And that's why we're before the Commission now?

A. Yes.

Q. If you would go back to June of 2010, did Arrington make any attempts, and did it successfully obtain an easement agreement?

A. Yes, we did, from the surface owner.

Q. If you'll turn now to what's been marked as Arrington Exhibit 3 and identify that for the Commission?

A. It was an easement that was entered into by the surface owner covering the south half of Section 26. And the purpose of the easement, we wanted to be sure that, in light that the oil and gas leases had expired, that we did have access to get to the wellbore and would enjoy any ownership that the surface owner may have.

Q. Did Arrington go out and re-lease the surrounding minerals?

A. Yes, we did.

Q. What is the current ownership in the south half of this section?

A. I believe it to be 75 percent David H. Arrington and 25 percent Marshall & Winston.

Q. What is the primary purpose of -- in this application, what is it specifically that Arrington is seeking?

A. We are seeking to pool the south half of Section 26 from the surface to the base of the Morrow to re-enter our Green Eyed Squealy Worm and re-establish production in the Morrow Formation.

Q. Other than Arrington's interest, what interests are going to be a part of this? What interests would have to be pulled?

A. The Marshall & Winston interest covering the north half of the southwest quarter.

Q. In other words, all other interests are owned by Arrington; is that correct?

A. That's correct.

Q. In your opinion, has Arrington made a good-faith effort to obtain the voluntary participation of Marshall & Winston in this application?

A. I believe we have.

Q. If you would turn next, Mr. Kastner, to what's marked Exhibit Number 4 and identify that exhibit for the Commission.

A. Well, if I've got the right one here, this is

the application. Do I have the right one?

Q. I believe it's --

A. Is this the application?

Q. This is the affidavit.

A. I'm sorry. Yes, this is the affidavit by Mr. Carr.

Q. That was Mr. Carr providing notice to others of the OCD hearing; is that correct?

A. That's correct.

Q. Were Exhibits 1 through 4 produced under -- or compiled under your direction or by you?

A. Yes, they were

MR. MONTANO: If it please the Commission, we offer into evidence the exhibits marked as Arrington 1 through 4.

CHAIRMAN BAILEY: Any objection?

MR. BRUCE: No objection.

CHAIRMAN BAILEY: Exhibits 1 through 4 are admitted.

(Arrington Exhibits 1 through 4 were admitted.)

MR. MONTANO: Nothing further of this witness.

CROSS-EXAMINATION

BY MR. BRUCE:

Q. Mr. Kastner, is there a well proposal in your

set of exhibits?

A. Not in the materials that I'm providing.

Q. Why not?

A. I think that was -- I think we have the proposal. It's in here. I don't have it in front of me. I think our engineers will get to that. But I think the proposal is in here.

Q. When you force pool someone, isn't there generally a proposal letter from the landman or someone from the company proposing exactly what is requested?

A. Yes.

Q. Is there one in here?

A. I don't know that there is.

Q. Again, why not?

A. I don't have an answer for that.

Q. And isn't it true that, in the original hearing, you said the proposal was sent out in May? That proposal letter wasn't submitted at the original hearing in this matter either, was it?

A. I don't recall. I don't know.

Q. In fact, the only letter submitted was a March 2010 Cisco proposal to Marshall & Winston; isn't that correct?

A. I believe that's correct.

Q. If you'll turn to your Exhibit 3, Mr. Kastner?

If you go down to paragraph 4, could you state for me what David H. Arrington Oil & Gas, Inc.'s, opinion is of the meaning of that paragraph?

A. Which paragraph?

Q. The fourth paragraph.

A. The intention of that paragraph is to grant David H. Arrington exclusive use of the road.

Q. So if this easement is valid, Marshall & Winston would be unable to access its acreage to develop the Cisco Formation; isn't that correct?

A. Using our road, that's correct.

MR. BRUCE: That's all I have, Madam Chair.

MR. MONTANO: Madam Chair, if I may ask a couple of follow-up questions with Mr. Kastner?

CHAIRMAN BAILEY: Sure.

REDIRECT EXAMINATION

BY MR. MONTANO:

Q. Mr. Kastner, have you had an opportunity to look at Marshall & Winston's prehearing statement in this matter?

A. Yes, I did.

Q. And what I just handed you is one of Marshall & Winston's exhibits. And at the bottom of the page, it's page 27 of their exhibits. Do you see that?

A. Yes.

Q. Would you identify that letter for the Commission?

A. It's a letter dated May 20th of 2010, from David H. Arrington Oil & Gas to Marshall & Winston. It's a letter inviting them to join in the re-establishment in the Morrow production in our Green Eyed Squealy Worm sent by me. It has the usual elections, "I elect to participate. We elect not to participate."

Q. Is this the proposal that Mr. Bruce asked you about?

A. I believe it is.

Q. It's not a part of Arrington's application, but it is an exhibit to Marshall & Winston's application; is that correct?

A. As I understand, yes.

MR. MONTANO: Nothing further.

CHAIRMAN BAILEY: Any cross?

RECROSS EXAMINATION

BY MR. BRUCE:

Q. Again, Mr. Kastner, why didn't you include it in your exhibit package?

A. I think it was originally put in the original compulsory pooling application. That was my understanding. Was it not in that application?

Q. In which application?

A. In the first compulsory pooling application.

Q. Well, it's not for me to answer questions. But I would suggest that the Commissioners could go back to the exhibits presented at the Division level, and this letter was not presented. I would represent to the Commission that fact. Of course, Mr. Hammit will comment on this letter in due course.

Q. And then this letter was sent May 20th. When was the pooling application filed?

A. I believe it was on May 25th.

Q. Okay. Marshall & Winston probably had a chance to respond to this letter before you filed the pooling application; is that correct?

A. That could be, yes.

MR. BRUCE: That's all I have.

CHAIRMAN BAILEY: Do you have any questions, Commissioner Dawson?

COMMISSIONER DAWSON: I have no questions.

CHAIRMAN BAILEY: Commissioner Balch?

COMMISSIONER BALCH: I have no questions.

EXAMINATION

BY CHAIRMAN BAILEY:

Q. You mentioned that Arrington has 13 deep wells. How many of those are Morrows?

A. I'll defer to our engineering group. I don't have that count myself.

Q. Okay. If the well has not produced since July of 2007, why are you attempting to compulsory pool and re-enter the well three years later?

A. I would again defer to our engineering group to answer those questions. It's outside my experience.

CHAIRMAN BAILEY: We have no further questions.

MR. MONTANO: Thank you, Madam Chair. We would like to call our next witness, Brian Ball.

BRIAN BALL

Having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. MONTANO:

Q. Good morning, Mr. Ball.

A. Good morning.

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

A. Brian Ball.

Q. Where do you live?

A. Midland, Texas.

Q. And by whom are you employed?

A. David H. Arrington Oil & Gas.

Q. What is it that you do for Arrington?

A. I'm an exploration manager.

Q. Have you previously testified before this Commission?

A. No, sir.

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

A. Yes, I have.

Q. Did you testify before the Division in this matter?

A. Yes, I did.

Q. Would you please provide a brief summary to the Commission of your educational and work experience?

A. I went to the University of Wisconsin, Madison, where I graduated with Bachelor's in Science and Geology and Geophysics in 1979. And I went to East Texas State University, graduated with a Master's degree in 1981.

I then moved to Midland and worked in Midland my whole career. I started with Golf Oil. I've worked for an independent, Doyle Hartman, there. I worked 18 years for Unocal. And I've been with David Arrington the past six years.

And I am a professional certified geologist in Arkansas, Mississippi and Texas. I have testified also at the Texas Railroad Commission and many times at the

Arkansas Oil and Gas Commission.

Q. Mr. Ball, are you familiar with the applications in this case?

A. Yes, I am.

Q. Have you prepared any exhibit for this case?

A. Yes, I have.

MR. MONTANO: At this time we would tender Mr. Ball as an expert in geology.

CHAIRMAN BAILEY: Any objection?

MR. BRUCE: No objection.

CHAIRMAN BAILEY: He's so admitted.

Q. (By Mr. Montano) Mr. Ball, what is Arrington's primary objective in re-entering this well?

A. To re-establish production in the Morrow Formation.

Q. Mr. Ball, do you have Exhibit Number 5?

A. Yes, sir.

Q. Did you prepare this exhibit?

A. Yes, sir.

Q. Would you please explain to the Commission what this exhibit is?

A. This is a composition exhibit of well logs from the Green Eyed Squealy Worm. And I'm showing a resistivity log on the left, a porosity log on the right.

And you can see at the top of the Morrow

Clastics Zone and our two main producing zones, Upper Morrow Sands and Lower Morrow Sands. This well cumed over 397 million cubic feet of gas and over 11,000 barrels of oil and 17,000 barrels of water.

We have the zones marked for the perforations in each of the intervals.

Q. What does this exhibit tell you about the chance of re-establishing production in the Morrow?

A. Well, we have a good quality Morrow section here, and we've already made quite a bit of production from it. Nothing has really changed over time as far as the rock properties or anything like that in the reservoir. So we should be able to re-establish production from it.

Q. As an expert in geology, do you believe it is reasonable to try to re-establish production in the Morrow?

A. Yes, sir.

Q. Was Arrington Exhibit Number 5 either compiled by you or under your direction?

A. It was.

MR. MONTANO: Madam Chair, we move into evidence Arrington Exhibit 5.

CHAIRMAN BAILEY: Any objection?

MR. BRUCE: No objection.

MR. MONTANO: I have no further questions at this point.

MR. BRUCE: Just a couple of questions.

CROSS-EXAMINATION

BY MR. BRUCE:

Q. The well we're here for today is in the southeast quarter of Section 26?

A. Yes, sir.

Q. Are there other producing Morrow wells in Section 26?

A. There is. To the north, Yates Petroleum has drilled a well there around the same time as this well was drilled, a little before this, 2003, I believe.

Q. Is that well still producing?

A. I don't know.

MR. BRUCE: I think that's all I have, Madam Chair.

CHAIRMAN BAILEY: Commissioner Dawson, any questions?

COMMISSIONER DAWSON: I do.

EXAMINATION

BY COMMISSIONER DAWSON:

Q. In Section 26 there are other Morrow wells within Section 26 that are producing or have produced?

A. Yes. There's a -- Yates has a well just north

of this well, about 2,000 feet north, that was drilled just prior to the drilling of this well.

Q. Is that in the northeast quarter?

A. Yes, sir.

Q. Do you remember what the cumulative production is on that well?

A. I don't.

Q. Did you do a cross-section between that well and your well to ascertain if you were producing from the same zones as that well?

A. I did not for this prospect, because I was not involved in the development of this prospect. The company has a cross-section that they include that well on that. It showed it to be correlateable. I did not bring that. I did not make that. But it does look correlateable to this well.

Q. Is Yates still operating that well?

A. I don't know.

Q. Does that well also produce oil or do you know?

A. That I can't remember.

Q. What about the one in the northwest quarter? Do you know anything about that well?

A. No, I hadn't really looked at it.

COMMISSIONER DAWSON: No further

questions.

CHAIRMAN BAILEY: Commissioner Balch?

EXAMINATION

BY COMMISSIONER BALCH:

Q. Do you have an idea of what incremental production you would expect if this well were successfully re-completed?

A. I'm going to let the engineering group that did the analysis give you that information.

Q. How many of the deep wells that Arrington has in the 53 wells are deep Morrow wells?

A. I would say half.

Q. Six or seven?

A. Yes. Um-hum.

COMMISSIONER BALCH: That's all I have.

CHAIRMAN BAILEY: I'll use the same question that I had before.

EXAMINATION

BY CHAIRMAN BAILEY:

Q. How many of these six or seven have used new technology that was referred to in the opening statements?

A. In Arrington, I believe on one.

Q. And why now, when the well quit producing so many years ago?

A. It was -- we didn't -- we tried -- I think the engineer will answer that. But we've come up with some new technology that we didn't think of using at that time to re-establish production in Morrow wells.

CHAIRMAN BAILEY: I have no other questions.

Do you have any cross?

MR. MONTANO: I do not. Thank you, Madam Chair. We would like to call our next witness, Mr. Art Carrasco.

ART CARRASCO

Having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. MONTANO:

Q. Good morning, Mr. Carrasco. Would you please state your full name for the record?

A. My name is Art Carrasco.

Q. Where do you live?

A. I live in Midland, Texas.

Q. By whom are you employed?

A. By David Arrington Oil & Gas.

Q. What is your current position with Arrington?

A. I work as engineer and operations manager.

Q. Have you previously testified before this Commission?

A. No, I have not.

Q. How about the Oil Conservation Division? Have you testified there?

A. Yes, I have.

Q. Would you please provide a brief summary of your educational and work background?

A. I graduated in 1980 from New Mexico State with a degree in Civil Engineering. I immediately went to work for Halliburton as a field engineer, worked in several departments there supervising and designing field jobs, cementing jobs, stimulation jobs.

After that I moved up into a technical advisor capacity and worked with different customers in designing stimulation treatments and cement jobs on their wells.

I worked in-house with Exxon, with Marathon, and an independent, Ware Oil & Gas, where I worked with their teams in designing the stimulation work and cementing work on their wells in different areas, areas in Wyoming, New Mexico, California, South Texas, wherever they happened to be working.

In 2006 I went ahead and retired from Halliburton and went to work for David Arrington as a completion engineer, looking after the stimulation jobs on the wells he was working on in the Fayetteville Shale, Floyd Shale and the Barnett Shale.

Q. Would it be fair to say that most of your work experience has been as a completion engineer?

A. Yes, sir.

Q. Have you previously testified as an expert engineering witness?

A. Yes, I have.

Q. Where have you done that?

A. The Texas Railroad Commission.

Q. Did you also testify as an engineering expert before the Oil Conservation Division?

A. Yes, I have.

Q. Are you familiar with the applications filed in this case?

A. Yes, I am.

Q. And have you prepared any exhibits for this application?

A. Yes, I have.

MR. MONTANO: At this time we would tender Mr. Carrasco as an expert engineering witness.

CHAIRMAN BAILEY: Any objection?

MR. BRUCE: No objection.

CHAIRMAN BAILEY: He's so accepted.

Q. (By Mr. Montano) Mr. Carrasco, please tell the Commission when you first became familiar with this Green Eyed Squealy Worm well?

A. When I first came to work for David Arrington, this was the first well I looked at prior to getting involved in the major project we had going on. The well had gone down. It had loaded up. And it looked like it was a good candidate to clean up and bring back to production.

Typically, if we were swabbing the wells when they would load up with water, we would flood the wells in. On this well we could not get the swab down due to some obstructions in the tubing.

At that time we decided to go in and clean the tubing out with coal tubing, got that cleaned out, and it appeared that the well was still -- would still make some gas but also made some water.

At that time I acidized the well. It looked like a good candidate for a frack job. We ran bottomhole pressures on it and it had substantial bottomhole pressure on it. We went ahead and fracked it.

During the frack job the well screened out. We did get some sand in it. And the well would flow, but it would always load up and die. It was making too much water to produce on its own. At that point we produced it intermittently just trying to see what the well would make.

Q. Just for clarity's sake, around what time did

you make those commercial efforts?

A. That was back in 2007.

Q. Have you since gone back and worked on this well?

A. No, we have not.

Q. Would you please identify what's been marked as Arrington Exhibit Number 6?

A. Exhibit 6 is an AFE cost estimate to go back into the Green Eyed Squealy Worm and run an artificial lift in it to try to re-establish production.

Q. Why is it that Arrington decided to take another look at this Morrow well?

A. At the time when it was apparent that we could not go back up into the Cisco, before we went ahead and abandoned the bottom zone, we thought we'd take one more look at it to make sure we weren't leaving anything behind.

Q. At this time did Arrington have some significant interest in the Barnett Shale?

A. During this time frame, we were in the middle of a $500 million capital project, drilling wells in the Barnett Shale and Fayetteville Shale and the Floyd Shale. We had anywhere from five to eight rigs running at the same time.

Q. Would it be fair to say that Arrington at that

time was focused primarily on the Barnett Shale?

A. Fair to say, yes, sir.

Q. If I could turn back to what's been marked as Arrington Exhibit Number 6, would you please tell the Commission what this shows and what the total costs are?

A. Basically, what this is is a real simple workover to go in and run rods and pump on this Squealy Worm. The cost at that time was estimated at $160,000.

Q. How long ago was this AFE put together?

A. In, I believe, May of 2010.

Q. Do you think that the costs have increased since you first compiled this AFE?

A. I would suspect that the price of materials have gone up and services, so I would say yes.

Q. Do you have a sense percentage-wise of how high that has gone up?

A. I would estimate at least 20 percent, 25.

Q. Is Arrington willing to spend this money in order to test the Morrow?

A. Yes, we are.

Q. Are these costs in line with what other operators are charging?

A. Yes, they are.

Q. In this AFE, have you made an estimate of the overhead and administrative costs that would be spent on

this test?

A. Our overhead costs are about $8,000 while the well is in the drilling and completion phase per month, and 800 when they're in the production phase.

Q. If the Commission were to grant Arrington's application, would you recommend that these figures be modified possibly by a number increase and be incorporated into any order that results from this hearing?

A. Yes, I do.

Q. Is Arrington requesting a risk charge?

A. Yes, we are.

Q. And is that risk charge limited just to the costs of re-entering this well?

A. Yes.

Q. Is Arrington seeking to remain operator of this well?

A. Yes, we are.

Q. If you would turn next to what's marked Arrington Exhibit Number 7. Would you identify that exhibit for the Commission?

A. It's an exhibit that was put together just to provide a brief procedure on the workover that would be entailed in putting the well on artificial lift.

Q. Will adding an artificial lift help produce

from the Morrow?

A. Yes, it will.

Q. And when is it that you thought about this artificial lift and helped us to implement it?

A. During this time, we had another well called the Bells Hopper Number 2 that had a similar type of issue. The well would load up and cease producing gas. But when we would go ahead and swab on it, it would produce for a little while.

We went ahead and installed a plunger lift on it, and it really did not -- we did not get the results that we wanted. And immediately we went in there and added an artificial lift to it, put it on a rod pump and re-established production in the well.

Q. I think Commissioner Bailey has asked of the 13 or so deep gas wells Arrington has in New Mexico, how many of those are in the Morrow; do you know?

A. I would estimate five or six. I don't have that exact number.

Q. And I think you were talking about this. But has Arrington used this artificial lift technology to bring back into production a Morrow well?

A. It would be the Bells Hopper Number 2, yes.

Q. Can you kind of provide some more information about the Bells Hopper Number 2 Well?

A. Bells Hopper Number 2 well was put on artificial lift in December of 2007. And prior to putting it on lift, the well was not producing at all. After it was put an artificial lift, it averaged about 316 mcf a day. And since then, it has produced 175 million cubic feet of gas.

Q. Was it also loading up with water?

A. Yes, it was.

Q. In your opinion, will this re-entry attempt that Arrington is seeking in the Morrow Formation be in the best interest of conservation of oil and gas?

A. In my opinion, it is.

Q. Will it prevent the waste of oil and gas?

A. Yes, sir. It will allow us to get these reserves that would be lost if we abandoned this well.

Q. If Marshall & Winston's application were granted and Arrington's were denied, would that prevent Arrington from being able to go in and later produce from the Morrow?

A. It would prevent it or make it extremely difficult. It would be several years before we would be able to go down and gather these reserves. There's a chance of damaging the wellbore during the completion in the upper zone. There's a chance of dumping additional junk in the hole or loading up the well with water that's

not compatible with the formation and damaging the reservoir.

Q. If the Commission were to see fit to grant Arrington's application, how long would Arrington need to re-commence operations at this well?

A. We would probably need somewhere in the neighborhood of 30 days or so to file the permitting charges and get all the equipment lined up and everything. And then also another couple of months to implement the job and successfully test the well.

Q. Would it be fair to say that if the Commission were to give us 90 days, that would give us a good opportunity to re-commence operations?

A. It would give us enough time to get the job done. The only caveat would be depending on what it would take to repair the well or get the well back to whatever situation it was, whatever condition it was when we left it. I understand there's been some work done on the well, and to what extent, I don't know what that work has been.

Q. Is it safe to say that until you actually get into the well, you're not going to be able to pin down exactly how long it will take to get this back in line?

A. Yes.

Q. Were Exhibits 6 and 7 either compiled by you

or under your direction and supervision?

A. Yes.

MR. MONTANO: At his time we would move into evidence what's been marked Arrington Exhibits 6 and 7.

MR. BRUCE: No objection.

CHAIRMAN BAILEY: There has been a question whether or not Exhibit 5 was entered into the record.

MR. MONTANO: Madam Chair, I apologize. I thought Mr. Ball had presented that exhibit.

MR. BRUCE: I don't have any objection, Madam Chair.

MR. MONTANO: We would move for the admission of Exhibit 5 into evidence.

CHAIRMAN BAILEY: We will admit Exhibits 5, 6 and 7 at this time.

(Arrington Exhibits 5, 6 and 7 were admitted.)

MR. MONTANO: Thank you. At this time I have no further questions of this witness.

CROSS-EXAMINATION

BY MR. BRUCE:

Q. Mr. Carrasco, you did issue a memo to the working interest owners in July 2007, recommending that the Morrow be abandoned and that a Cisco completion be

attempted; correct?

A. That's correct.

Q. And I'll probably have my witness go over it. But there was talk about the well ceased producing in 2007. Really it ceased producing commercial quantities in early 2006, did it not?

A. For the most part, yes.

Q. Now I just want to be clear on a couple of things. Your AFE, Exhibit 6, you're saying you would -- basically this -- the line items in this AFE would be the same as if you did an AFE today, except the costs would be increased 20 to 25 percent overall?

A. Just depending what goods and services have gone up, yes.

Q. Now I just want to be clear. You said there's new technology. Is that new technology reflected in your Exhibit 7 for re-entering these types of deep gas wells and putting them back on production?

A. On step number eight, it says, "Go in hole with rods and pump." That's the new technology that was going to be introduced to the gas well.

Q. So you're not going to re-stimulate the well or anything; right?

A. At this point I don't see any reason to.

Q. You're simply -- and I'm not a petroleum

engineer. You're going to pump the water off and put it back on gas production; right?

A. That's the plan, yes.

Q. If it was so simple, why wasn't that done in 2006 or 2007?

A. During that time frame, we did not have the experience in bringing wells back using this type of technology, not until we had the Bells Hopper re-completion that we brought that on.

Also during that time, just visiting with other engineers through SPE meetings and casual conversations I heard of people doing that, putting artificial lifts on the wells and getting the water off of them.

Q. The Bells Hopper Number 2 that you mentioned, how long was that well shut in prior to the work on it?

A. It was shut in for about -- it looked like about eight months, six months or so. At that time we went up and tried another zone up the hole. That was not very commercial, so we went ahead and squeezed that zone off, went back down to the Morrow and put it on artificial lift at that time.

Q. Had that well ever been communicated with the Lower Morrow, which is oftentimes wet?

A. I'm not familiar with what the logs look like

on that well.

Q. What type of water production rates do you have on that well?

A. Currently?

Q. Start off with that, sure.

A. Somewhere -- just a few barrels a month, 10 to 20, depending on -- it's very sporadic.

Q. Could you identify for us any other wells where this was done and it was successful?

A. There's been some other wells. One particular that was worked on by Bass, and I'll defer to Keith Bucy for the particulars on that well.

Q. Do you know the current condition of the wellbore?

A. I do not.

Q. This question was asked of the geologist about other offsetting wells completed in Section 26, completed in the Morrow. Are you aware of those?

A. I'm aware they exist. I'm not aware of where their production intervals are or what has been done with them.

MR. BRUCE: That's all I have.

CHAIRMAN BAILEY: Commissioner Dawson?

COMMISSIONER DAWSON: I do have a few questions.

EXAMINATION

BY COMMISSIONER DAWSON:

Q. Mr. Ball, do you know what's the distance or how far is the Bells Hopper Number 2 that you're referring to? How close to this re-entry candidate, the Green Eyed Squealy Worm; do you know?

A. Mr. Carrasco.

Q. I'm sorry.

A. It's about four miles away.

Q. Four miles?

A. Yes.

Q. What did you say that the -- how much has that well produced since you put the artificial lift on it?

A. 175 million cubic feet. It's averaged about 316 a day, I think is what it comes out to.

Q. Do you have an idea what it costs to re-complete that well?

A. At this point I don't have the actual cost. But I would say it's real similar to what this one was. The well already had tubing in it. All we had to do was buy the rods and the pump and do the work on it, just install it. It would be real similar to this same amount.

Q. Has that well paid out the costs that you incurred to re-complete it?

A. Yes, it has.

Q. Do you know how much or what the return on your investment is so far, roughly?

A. I've not done the economics on that well, no, sir.

COMMISSIONER DAWSON: No further questions.

CHAIRMAN BAILEY: Dr. Balch?

EXAMINATION

BY COMMISSIONER BALCH:

Q. Do you know what the production rate from the Green Eyed Squealy well was before it watered out?

A. It was making about, from what I remember, 350- to 400,000 a day.

Q. Do you expect that the re-completion, if successful, should restore that rate?

A. I don't know if it will go up to that rate. But it should get most of that back, yes, sir.

Q. And you have a feeling for what your incremental gas would be?

A. I think I'll let Keith answer that. He's run the economics on it and has that number.

COMMISSIONER BALCH: That's all I have.

EXAMINATION

BY CHAIRMAN BAILEY:

Q. You recommend monthly charges of $8,000 and $800. Those are significantly higher than others that we've seen come across in the Division. On what do you base your $8,000 and $800?

A. Just on the -- what it costs to operate. We're a small company, so we don't have the big staff that it takes to drive the prices down for all these different services.

Q. Do you have other wells that you're charging equal amounts per month?

A. I don't have those numbers in front of me. These are just the numbers that I've been asked to use just in the AFEs, just for estimating.

CHAIRMAN BAILEY: Any redirect?

MR. MONTANO: I do have a couple of questions.

REDIRECT EXAMINATION

BY MR. MONTANO:

Q. You mentioned that Bells Hopper 2, the artificial lift was implemented in 2007; is that correct?

A. Correct.

Q. And Mr. Carrasco, is it fair to say that your expertise is in completion, as opposed to production?

A. It's fair to say, yes.

Q. Would it be fair to say back in 2007, you personally did not have the expertise to implement that artificial lift?

A. That's correct. My expertise was more in the well completion, the fracturing work, up until the point it goes on production. After that I was not ever really involved in those types of decisions or recommendations. When I was working for Halliburton, that was not something that I did on my normal day.

Q. Then in 2007, within Arrington itself, would you say that there was a gap in expertise with respect to that specific use of an artificial lift?

A. Yes, it was.

Q. And is it Mr. Bucy that has more expertise in that area?

A. That's correct.

MR. MONTANO: That's all I have.

CHAIRMAN BAILEY: Your witness may be excused.

MR. MONTANO: Thank you, Madam Chair. Our last witness is Mr. Keith Bucy.

KEITH BUCY

Having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. MONTANO:

Q. Good morning, Mr. Bucy. Would you please give your full name for the Commission?

A. Keith E. Bucy.

Q. Where do you live?

A. Midland, Texas.

Q. Where do you work?

A. David H. Arrington Oil & Gas.

Q. What do you do for Arrington?

A. I'm the general manager.

Q. Have you previously testified before this Commission?

A. No, sir.

Q. Have you previously testified as an expert engineer before other commissions?

A. Yes, sir.

Q. Which ones are those?

A. Texas Railroad Commission.

Q. Would you provide a brief history of your educational and work history?

A. I graduated from Texas A&M University in '76 with a Bachelor of Science in Petroleum Engineering. I

worked for Amoco Production Company in Odessa and Houston for several years.

In 1979 I went to work for Bass Enterprises in Midland, Texas. I worked for them for 28 years, various production engineering, reservoir engineering roles. I was an engineering manager. I was the operations drilling and production superintendent for 10 years. And my final position there was division manager in Midland. We operated over 1,000 wells in Texas and New Mexico, had 120 employees.

In September of 2007, I took early retirement and went to work for David Arrington Oil & Gas in Midland. He transferred me to Granbury, Texas, to run the Barnett Shale operation. We had five drilling rigs running at the time. I worked there for two years until we completed the drilling operations. He transferred me back to Midland in October of 2009, as the general manager for the oil and gas company and the pipeline companies.

Q. So roughly in late 2009, is it, that you would have moved from the Barnett Shale into your current position?

A. Yes, sir.

Q. Are you familiar with the applications that have been filed in this case?

A. Yes, sir.

Q. And have you prepared any exhibits for presentation to the Commission in this case?

A. Yes. I've done production forecasts and economics.

MR. MONTANO: At this time we would tender Mr. Bucy as an expert in engineering, petroleum engineering and in engineering economics.

MR. BRUCE: No objection.

CHAIRMAN BAILEY: He's so accepted.

Q. (By Mr. Montano) Mr. Bucy, when did you first become familiar with this Green Eyed Squealy Worm well?

A. In late 2009, shortly after I came back to Midland.

Q. Mr. Carrasco testified about Arrington being able to return to production one well, a Morrow well. Can you testify about your personal experience with respect to other companies that have done the same thing?

A. When I was at Bass, we operated probably three dozen or more Morrow wells in New Mexico. Of those, we had five or six that were on artificial lift.

And whenever I got involved with this well, at first we were looking at going uphole to Cisco. I started looking at the production curves on it and realized it was making significant gas when it loaded up.

And I asked the question, "Did we ever consider putting a rod and a beam lift," and they had not at that time.

So Mr. Arrington asked me to look into it. So I looked back at some of the wells we had done at Bass. One well, in particular, the Eddy Unit 39, I knew quite a bit about it. I'd worked on it. It had been producing about 3- or 400 bcf a day and loaded up. It had been down for several months.

We put it on artificial lift in 1997, and to date, looking back on the production a few months ago, it has produced 1.25 bcfs since being put on artificial lift.

So I knew personally that that well was significant. We had some other wells that weren't as good but very similar, in that they loaded up and died, we'd put them on artificial lift, and they came back to similar rates that they were producing before they died.

Q. Is it fair to say that most of your work experience has been on the production side of things?

A. Yes, sir, production and reservoir.

Q. Would it also be fair to say that you have more experience than Mr. Carrasco does in this area?

A. Yes, sir.

Q. Speaking specifically to the Green Eyed Squealy Worm, when did you first analyze that well and

what it is that we're trying to do here?

A. I believe it was in April of 2010. It was the point where I believe it became obvious we weren't going to do an uphole completion and started looking at it. And like I said, I talked to Mr. Arrington and indicated to him I thought the well could be -- we could re-establish commercial production.

He asked me to analyze it, so I pulled the production data out and put it in our economics program and did a forecast and ran economics. And it looked like the economics were very robust, so I reported back to him that I thought it would be a commercial venture.

Q. Please turn to what's been marked as Arrington Exhibit 8.

A. Okay.

Q. Would you please tell the Commission what this exhibit is?

A. This is the output from the economics program that we run. It's a commercial program called PHD Win.

It shows the production forecast for oil and gas from this well. I used a $90 flat oil price, a $4 flat gas price, and $3,000 a month operating costs, and 100 percent working interest, 75 percent net revenue interest.

You can see towards the bottom in the center

of the page the economic factors there showing that the payout will be less than half a year, rate of return is greater than 1,000 percent.

Q. So would it be fair to say, based on these projections, that this well would be economical?

A. Yes, sir.

Q. Turn to what's been marked as Arrington Exhibit Number 9.

A. Yes, sir.

Q. Would you please identify what this exhibit is for the Commission?

A. Two curves here. The second one that I have here shows the production -- natural production from the well with my forecast of oil and gas production going forward. And that was as if we had never shut down. So I took the same forecast and shifted it forward in time to mid 2011 and started the projection there using the prices in 2011.

Q. What does your projection show?

A. That the well will recover an excess of bcf of gas and 48,000 barrels of oil.

Q. Were Exhibits 8 and 9 either compiled by you or under your direction and supervision?

A. Yes, they were.

MR. MONTANO: At this time, we would move

for the admission of Arrington Exhibits 8 and 9.

CHAIRMAN BAILEY: Any objection?

MR. BRUCE: No objection.

CHAIRMAN BAILEY: So admitted.

(Arrington Exhibits 8 and 9 were admitted.)

MR. MONTANO: Thank you, Madam Chair. I have no further questions at this time.

CROSS-EXAMINATION

BY MR. BRUCE:

Q. Mr. Bucy, I take it your projections state that the well will come back at the same rate it was previously producing?

A. I dropped it a little bit. The rate it was producing at in mid 2006 was 600 mcf a day, and I started my projections at 500, because we did produce some gas after that.

Q. If you look at your projection, right at the end of 2005, it was producing 400 a day, and you're projecting it will come back at 500 a day, aren't you?

A. I looked at mid 2006, where it started loading. You can see the deflection down there. That's when the liquid loading started. So that was 600 mcf a day, so I started at 500, because it was heading and flowing intermittently during those subsequent months.

Q. There have been a couple of mentions of Bells

Hopper, and Mr. Carrasco said it's only producing a few barrels of water per month. So obviously it hadn't been producing much water before it was shut in?

A. When it was first put on artificial lift, I believe it was making 30 barrels of water per day, and it did that for several months. Then the water production has declined to about two to three barrels a day.

Q. If the well we're here for today is communicating with the wet lower Morrow, would you expect water production to go up or down?

A. The water production shows that it was making about 30 barrels of water a day, whenever it started loading up and dying. So that's why I anticipate it to be making 30 barrels of water a day and about 2.9 barrels per million cubic feet of condensate also.

Q. Have you looked at any other wells in Section 26 producing from the Morrow?

A. No, sir. I'm aware that there is another well.

Q. Okay. Do you know if it's still producing?

A. I do not.

Q. If it was still producing, would there be a pressure drop over time over the last six years, as this well was shut in almost six years ago?

A. In my experience, of the three dozen or so

Morrow wells that we had, we had quite a few that were drilled very close to each other. And there were only two wells out of the three or four dozen that ever had pressure communication with each other.

Q. So you don't know if this well is in pressure communication with the other well you just talked about?

A. I do not know that.

MR. BRUCE: That's all I have, Madam Chair.

CHAIRMAN BAILEY: Commissioner Dawson?

EXAMINATION

BY COMMISSIONER DAWSON:

Q. Do you know what's approximated, the Eddy Unit Number 9, the well that you're referring to, how far is that from Green Eyed Squealy Worm?

A. The EA 39 is south of Carlsbad. I don't know exactly how far it is, but it's at least 40 or 50 miles.

Q. Does that well produce from the upper middle and Morrow zones also?

A. The Middle Morrow.

Q. And do you know roughly what it costs to re-complete that well or to put it on artificial lifts?

A. In 1997, probably $50,000. I might point out that of the 160,000 that we're looking at here, there's only 40,000 really at risk. If we fail, that's all going

to be recovered and credited back to the partners. It's not a very high risk workover.

Q. That well has made 1.25 bcf?

A. Since being put on artificial lift.

Q. Did it make some oil?

A. No. It makes about a couple barrels of water a month now. Initially, when we put it on, it was making, I believe, 20 or 30 barrels of water a day, and it declined down to very little water.

COMMISSIONER DAWSON: No further questions. Thank you.

CHAIRMAN BAILEY: Commissioner Balch?

COMMISSIONER BALCH: No questions.

EXAMINATION

BY CHAIRMAN BAILEY:

Q. For your exhibit on economic projection, you use $90 oil and $4 gas?

A. Yes.

Q. When was the last time gas was $4?

A. I don't know. But I did these back in April, when we thought we were going to be doing the work then, so I have not re-visited them. But I can assure you that even if I drop it to $2, it's going to look great.

CHAIRMAN BAILEY: That's all I have.

Any redirect on those questions?

MR. MONTANO: Just one follow-up question.

REDIRECT EXAMINATION

BY MR. MONTANO:

Q. The other well in Section 26 that has been referenced, I believe it was related to Yates, does Arrington have any interest in that production?

A. Not that I know of.

MR. MONTANO: That's all I have.

MR. BRUCE: Can I ask one follow-up in response to one of Mr. Dawson's questions?

CHAIRMAN BAILEY: Yes.

RECROSS EXAMINATION

BY MR. BRUCE:

Q. You mentioned in your economic projection you used $160,000; correct?

A. Yes, sir.

Q. You didn't use the $200,000 which Mr. Carrasco said this would now cost?

A. No, sir.

MR. BRUCE: Thank you.

CHAIRMAN BAILEY: Your witness may be excused.

MR. MONTANO: Thank you, Madam Chair. That concludes our presentation.

CHAIRMAN BAILEY: Shall we take a

10-minute break and be back at 10:20?

(A recess was taken.)

CHAIRMAN BAILEY: Let's go back on the record. You have your first witness?

MR. BRUCE: I do. I call Mr. Hammit to the stand.

KEVIN HAMMIT

Having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. BRUCE:

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

A. Kevin Hammit. I live in Midland, Texas.

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

A. I'm a vice president of land for Marshall & Winston, Inc., there in Midland.

Q. Have you previously testified before the Oil Conservation Division as an expert witness?

A. Yes, I have.

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

A. I attended and graduated from Eastern New Mexico University in 1976. I went into the oil and gas business as a landman in 1982. I was self-employed as an independent landman until 1987, approximately. At that

point in time I went into a contract with Exxon Corporation in their sales group. I worked there for approximately two years.

Then in 1989, I was offered a position with Marshall & Winston, and I've been there ever since.

Q. In your position with Marshall & Winston, are you the landman in charge of this area of Southeast New Mexico?

A. Yes.

Q. Are you familiar with the land matters involved in these cases?

A. Yes, I am.

MR. BRUCE: Madam Chair, I tender Mr. Hammit as an expert petroleum landman.

MR. CARR: No objection.

CHAIRMAN BAILEY: He's so admitted.

Q. Mr. Hammit, let's run through your exhibits. And maybe first we'll spend some time very briefly going over the history of the well here today.

Before we get into that, Marshall & Winston participated in the drilling of Green Eyed Squealy Worm well, did it not?

A. That's correct. We were in the unique position of leasing our minerals to Arrington and later seen a prospect from Arrington Oil & Gas, in which we

participated in the drilling of the well.

Q. You said, "leased your minerals." What is the ownership of the mineral interest, not the working interest, but mineral interests of the north half southwest quarter of Section 26?

A. Marshall & Winston owns 75 percent of the minerals. We have an oil and gas lease from the other 25 percent mineral interest owner. So we have currently 100 percent ownership in that tract.

Q. As I said, you leased your interests and then participated as a working interest owner also in the Green Eyed Squealy Worm development?

A. That's correct.

Q. Looking at the first page of your Exhibit 1, does that reflect the production from the well ever since it was drilled?

A. Yes, it does. This came from drillinginfo.com. It indicated that the well ceased production in January of 2006. There was a workover attempt, a re-completion attempt in March of 2007 that was unsuccessful. So essentially the well has not produced in commercial quantities since January of 2006.

Q. The pages of your Exhibit 1 are numbered. What is page 2 and what does it reflect?

A. Page 2, unlike a chart, it's a table. And it

reflects the production from the Green Eyed Squealy Worm for all years that it was producing. And it was current as of last year and still remains current.

Q. It just confirms what you have on page 1?

A. That is true. The two go together.

Q. And page 3 is part of that again?

A. That would be right.

Q. What is page 4?

A. This came from the prospect that was presented to us by Arrington as we elected to participate in their trade. This reflects the tract, the south half of Section 26, where the Green Eyed Squealy Worm is located. There was an AMI surrounding the lands. This was part of their presentation to us, and we inserted it here just to give the Commissioners a shot of what the land situation was at the time.

Q. The next few pages are just, I believe, the APD for the well?

A. That would be correct. As we're going through it here, the original drilling of the well, as we participated in it, coming out of our files and inserted in there. And we did participate in the original operation, the drilling of the well.

Q. If you go to page 8 there's a completion election. Did Marshall & Winston join in the completion

of the well?

A. Yes.

Q. Under the JOA there's a separate election for both commencing the well and then a completion election?

A. That's right. Back in the old days with vertical wells, we had a case in point election, and we did elect to be in the completion of the well.

Q. There's some filings with the Oil Conservation Division. What do they reflect?

A. As you get through those pages, it was a successful well. As it was drilled, we established protection through Arrington in the Morrow Zone, and it was a good well.

Q. Then on page 12, I think that's the AFE for the initial drilling of the well?

A. That is right.

Q. You can tell it's older, because the cost is less than $3 or $4 million dollars; is that correct?

A. Things have evolved.

Q. If you go to page 13 and the next several pages, what do those pages reflect?

A. Starting with page 13, that was the documentation AFE for the re-completion. After production, it ceased in the Green Eyed Squealy Worm to re-establish production. We received the request or the

question if we wanted to participate in that operation, and we did.

Q. That's your -- the election by the president of Marshall & Winston is on page 15?

A. That's right.

Q. If you look at page 14, what do you identify mid-way down what Arrington thought would be the estimated production from the re-completion?

A. It appears that they anticipated that production could be restored to approximately 400 mcf a day.

Q. If you move on to page 17, what is that?

A. That is the notice from Mr. Carrasco after the operation had been performed in the re-completion and his determination that it was not successful, that there was a water situation in there that kept the Morrow re-completion from being successful.

He also made mention that -- and I'm getting ahead of myself. I thought there would be a comment in here about the Cisco Formation. I take it back. I do see it now. There was a mention there that there would be a chance of an opportunity in the Cisco interval above the Morrow.

Q. This memo reflects that commercial production ceased in January 2006?

A. That is right.

Q. And does Marshall & Winston agree with that?

A. That is right. From the information we have, that appeared to be true.

Q. The well had communicated with a wet lower Morrow interval; correct?

A. That is the information that we received.

Q. Now, you mention the Cisco interval. If you move to pages 18, 19 and 20, what does that reflect?

A. A subsequent request for participation or a request if we wanted to participate in a Cisco completion uphole in an oil bearing zone above the Morrow.

Q. Under the JOA at that point, the interests of the parties were spread surface down below to the Morrow?

A. I don't have the Exhibit A to the JOA in front of me. But if I recall right, it went from surface either to all depths or at least through the Morrow.

Q. At that point, all of the working interest owners had at least a contractual interest in the Cisco?

A. That would be right.

Q. What was Marshall & Winston's contractual interest in the Cisco at that time?

A. We would have had 26 percent. I take that back. I think that is ours before payout interest. At least a 26 percent. It might have been reduced if the

Green Eyed Squealy Worm had paid out at that point in time. But certainly a significant interest in the Cisco re-completion.

Q. And again, Marshall & Winston, as a working interest owner, elected to participate in the proposed Cisco?

A. As you see on page 20, we thought that was a good zone to be completing in. So we did sign off to participate in that re-completion attempt.

Q. If you go through the next few pages, page 24 and 25 and 26, you just have the re-completion prognosis, wellbore sketch and AFE for the Cisco completion?

A. That is right. That is the documentation, the prognosis and the actual AFE for that Cisco re-completion.

Q. Since production was not re-established, did the oil and gas leases in the south half of Section 26 expire?

A. Yes. They were all beyond the primary term. There was nothing to perpetuate in any of the oil and gas leases in Section 26.

Q. Did the JOA also expire?

A. Yes. By the terms of the JOA, it likewise would have terminated.

Q. Once that terminated, what was Marshall &

Winston's working interest in a proposed Cisco re-completion?

A. You're talking for our purposes?

Q. Yes.

A. We felt like it was a very viable prospect. From having participated in the well previously, we saw an opportunity to re-complete in the Cisco Formation with 100 percent. Our 75 percent of the minerals we owned and then obtained a lease on the remaining 25 percent mineral interests, we could have had 100 percent in the proration unit for the Cisco Formation.

Q. As of March 2010, Marshall & Winston owned 100 percent of the working interest in the Cisco?

A. That's correct.

Q. Do you still own that working interest?

A. Yes, we do.

Q. Would you turn -- keeping Exhibit 1 in front of you, Mr. Hammit, if you'd turn to Exhibit 1A, what does that reflect?

A. That is a letter dated March 10th of 2010, that we received from Arrington proposing the completion in the Cisco Formation.

Q. And again, at that point, Marshall & Winston owned 100 percent of the working interest?

A. That's right.

Q. And what did Arrington propose?
A. They proposed to share the interest fifty-fifty.
Q. You would have been diluted by half in this proposal?
A. That is right.
Q. And if you look down in the lower right-hand corner of this exhibit, you'll see that this was Arrington Exhibit 4 at the original hearing in this matter, was it not?
A. It shows that, yes.
Q. This was the only well proposal letter that they submitted at that September 2010 hearing?
A. That is what I recall.
Q. Skip over a few pages of your Exhibit 1 and go to page 32. Did Marshall & Winston desire to proceed with a Cisco completion?
A. Yes, we did. We put together an APD and application for a permit to drill to re-enter the wellbore.
Q. Was the APD rejected by the Division?
A. At that time, it was.
Q. Was that because Arrington was still the operator of record?
A. We could not take over operation there until

we could be designated the operator, and Arrington would not do that.

Q. Arrington was still listed as operator, even though the well ceased producing at that point, about four and a half years?

A. There would still be responsibilities, for what I know, for proper plugging and abandoning of the well. So yes, they were still operator of the well.

Q. Turn back to page 27 of Exhibit 1. What is that?

A. That is a subsequent request for participation or opportunity offer, if you will, to participate in the operations to re-establish production in the Green Eyed Squealy Worm in the Morrow Formation.

Q. What was Arrington's proposal insofar as your participation in this proposed operation?

A. There's a reference to the original JOA, which is a little unusual, because the JOA had terminated by this point in time.

Q. When it says, "We invite you to participate in the operation," based on your interest in the original designated pool unit, which I think you just testified would be -- would have been 26 percent?

A. Or something less than that. That's true.

Q. Under this proposal, what we're talking about

is, even though you have 100 percent in the Cisco, Arrington first proposed that you dilute your interest to 50 percent by that March letter?

A. That is right.

Q. And then by this letter, they propose that you dilute your interest to 26 percent?

A. That is right.

Q. Pretty generous with your interests, aren't they, Mr. Hammit?

A. I think we prefer to have 100 percent in the opportunity.

Q. Now, to your recollection, and I think Mr. Kastner confirmed this, within just a few days of this Morrow well proposal, a pooling application was filed; correct?

A. That is my understanding, within a few days of one another.

Q. And Marshall & Winston did receive notice of the pooling application?

A. We did.

Q. Did you inform Arrington that you are not interested in their proposal?

A. Yes, we did.

Q. At that point, did Marshall & Winston contact me and the application to change operators and ask that

that be filed?

A. Yes.

Q. So what we have is a Cisco Canyon proposal in March 2010?

A. That's right.

Q. When you said no, there was a Morrow well proposal in May of 2010?

A. Yes.

Q. Then Marshall & Winston -- then immediately Arrington files its pooling application?

A. That is right.

Q. And subsequently, I believe in June, Marshall & Winston filed its application to change operators?

A. Yes, we did pursue that.

Q. What was the next event in this matter on a timeline? Did Marshall & Winston ask Arrington for a release of record of its oil and gas leases?

A. There was a point in time where contractually the leases had terminated. We had made a request of a release of oil and gas leases from Arrington.

Q. Did you also request that the JOA be terminated?

A. Along with that, we felt like the JOA by it's own terms had terminated also, that request was made also.

Q. What was Arrington's initial response?

A. We could not get them to agree to deliver releases of either of those.

Q. What action did you take?

A. We went to District Court in Lovington, New Mexico, and pursued an action to get a release of oil and gas lease and a release of JOA.

Q. Were the releases eventually executed?

A. Yes.

Q. And are those reflected in Marshall & Winston's Exhibits 3 and 4?

A. That would be right. We have of course recorded the release of oil and gas lease. The release of JOA, I don't know if that's something that would be recorded. But we did obtain that.

Q. But that wasn't until August of 2010?

A. That is true.

Q. In the interim, also Arrington obtained that easement that you've seen?

A. Yes.

Q. Which would have denied access over certain roads to the well site; correct?

A. That appears to be the intent.

Q. A few housekeeping matters. What is Exhibit 5, Mr. Hammit?

A. That would be the surface use agreement that we obtained from the surface owner as we commenced our operations after being designated operator of the wellbore in our lands located in the north half southeast quarter of Section 26.

Q. Did you talk about the surface use agreement?

A. Yes.

Q. That's Exhibit 5A?

A. I apologize.

Q. Have you been in touch with the surface owner for a number of months beforehand firming up this --

A. We had, as things were moving along, with anticipation that we might get a favorable result from the previous hearing, that we had been in contact with Mr. Caswell, the surface owner.

Q. And what I'm looking at is Exhibit 5, the oil and gas lease.

A. Okay.

Q. And is this the oil and gas lease that you mentioned that covers 25 percent of the working interest in the north half southeast quarter?

A. Yes, sir. This lease has since been extended. It was for a six-month period and was extended and is current.

Q. Just as confirmation of the ownership, if you

look at your Exhibit 2, just briefly, what is Exhibit 2?

A. That would be the drilling title opinion that Arrington obtained at the time the Green Eyed Squealy Worm well was being drilled.

Q. On the first page it shows that in the north half of the southeast quarter of Section 26, Marshall & Winston owns 75 percent of the mineral interests?

A. Yes.

Q. And at that point, it was leased, as you testified?

A. Our mineral interest was leased to Arrington at that time, as was the Winston partners' interest.

Q. They own one-forth or 25 percent of the mineral interests?

A. That's right.

Q. I think there's been enough title stuff. But what is Exhibit 6?

A. You're going to have to describe it to me, because I don't have it in front of me.

MR. BRUCE: Madam Chair, if I can approach the witness?

CHAIRMAN BAILEY: You may.

Q. Is Exhibit 6 simply a run sheet of instruments affecting the south half of Section 26?

A. Okay. Well --

Q. It does reflect the recorded oil and gas lease on the last page to Marshall & Winston, Inc.; correct?

A. It does show that.

Q. Does Marshall & Winston wish to proceed with development of the Cisco reservoir?

A. We are positioned to move promptly on this, as we were the previous time, yes.

Q. In your opinion, has Arrington sufficiently complied with the statute regarding making a good-faith effort to pool this acreage?

A. We do not believe so.

Q. In your opinion, is the granting of Marshall & Winston's application in the interest of conservation and the prevention of waste?

A. At this point, we do believe so.

Q. Were Exhibits 1 through 6 either prepared by you or compiled from Marshall & Winston's business records?

A. Yes.

MR. BRUCE: Madam Chair, I'd move the admission of Marshall & Winston's Exhibits 1 through 6.

MR. CARR: No objection.

CHAIRMAN BAILEY: I do have a question though on Exhibit 1. I don't believe that you went through all of the pages. I think you went through page

27 and then skipped over to 32.

MR. BRUCE: If so, if I could --

CHAIRMAN BAILEY: Maybe not.

MR. BRUCE: -- I think with just a question, if you go to --

Q. (By Mr. Bruce) Mr. Hammit, if you could turn to page 18?

A. Yes.

Q. Pages 18 through 30, is that simply the well proposal made by Arrington regarding proposed 2007 Cisco completion together with the prognosis, the AFE and the wellbore sketches and the election letters?

A. Yes, that is right.

Q. That's through page -- that's pages 18 through 26; correct?

A. Right. Inserted in there may be one statement or the one notice from Mr. Carrasco.

Q. Pages 27, 28, 29 and 30 are the May 2010 Morrow proposal from Arrington?

A. Skipping forward significantly, those would be the ones that -- that is the proposal in May of 2010 for re-completion in the Morrow Formation.

Q. And 31 through 36, is that related to Marshall & Winston's APD?

A. That's correct, documentation related to our

proposed Cisco completion.

MR. BRUCE: Does that cover your --

CHAIRMAN BAILEY: Yes, it does. Exhibits 1 through 6 are admitted into the record.

(Marshall & Winston Exhibits 1 through 6 were admitted.)

MR. BRUCE: And I pass the witness.

CHAIRMAN BAILEY: Do you have any questions?

MR. CARR: Just a couple.

CROSS-EXAMINATION

BY MR. CARR:

Q. Mr. Hammit, look at page 4 of the plat.

A. Yes.

Q. This, I believe, you identified was part of the prospect or something proposed to you by Arrington?

A. Yes.

Q. It has an AMI outline. What is the status of that AMI?

A. That AMI terminated prior to even the leases terminating.

Q. And is it fair to say that Marshall & Winston does not own interest in the north half of 26?

A. That's correct.

Q. At this time, you have been able to obtain the releases of both the lease and the JOA?

A. Yes.

Q. You have not been able to reach an agreement, I assume, with Mr. Arrington for the development of this section?

A. No, I have not.

Q. Do you understand that Mr. Arrington has acquired a new lease on interests in the south half of the section?

A. Yes. He has acquired leases in the south half of Section 26. I'm not aware that he has leased the whole thing.

Q. If a well is completed in the Cisco, do you know what the spacing is for wells in the Cisco?

A. I believe it is 40 acres with optional 80 acres.

Q. Marshall & Winston would own the entire well and production if it were a Cisco well?

A. That's correct.

Q. If it was in the south half of this section, Marshall & Winston would own 25 percent of the south half?

A. If it was diluted out through the entire south half, that's correct.

MR. CARR: That's all I have. Thank you.

MR. BRUCE: I have no follow-up.

CHAIRMAN BAILEY: Commissioner Dawson?

COMMISSIONER DAWSON: I have no questions.

CHAIRMAN BAILEY: Commissioner Balch?

COMMISSIONER BALCH: I have no questions.

CHAIRMAN BAILEY: I don't either. You may be excused.

You may call your next witness.

MR. BRUCE: I call Mr. Savage.

JOHN SAVAGE

Having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. BRUCE:

Q. Would you please state your full name and city of residence, please?

A. John D. Savage, Midland, Texas.

Q. What is your profession?

A. I'm a petroleum -- a professional engineer, petroleum reservoir engineer.

Q. And you mentioned professional. Are you a registered professional engineer in the State of Texas?

A. Yes, sir.

Q. Who is your official employer or who do you work for?

A. Williamson Petroleum Consultants.

Q. What is your relationship to Marshall &

Winston in this case?

A. They've hired me to evaluate this reservoir.

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

A. Yes, I have.

Q. Have you testified before the Commission?

A. No.

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

A. I graduated from the Naval Academy in '66, went back to school in '80, graduated from Texas A&M in 1982 with a petroleum engineering degree.

I went to work for First National Bank in Midland right out of school. In '83, when the bank failed, I was hired by Sipes Williamson, who subsequently changed their name to Williamson Petroleum Consultants, and I've been there ever since.

Q. And on behalf of Marshall & Winston, did you conduct an examination of the well we're here for today and the adjoining reservoir?

A. Yes, I have.

Q. Have you prepared for submission today what is marked Marshall & Winston Exhibit 7?

A. Yes, I have.

MR. BRUCE: Madam Chair, I tender

Mr. Savage as an expert petroleum engineer.

MR. CARR: No objection.

CHAIRMAN BAILEY: He's so accepted.

Q. Mr. Savage, I took the liberty of numbering the pages of your exhibit. And as you go through these -- you know, the hearing has been continued off and on again for a while. As you're going through these exhibits, because we didn't update it in time, as your going through these exhibits, on some of them with respect to production, et cetera, if you could comment on any updated production data from the wells in this area?

A. Okay.

Q. Let's start off with page 1.

A. Page 1 is what we call a decline curve. It has the gas, oil and water production for the Green Eyed Squealy Worm, which is now called M&W Fee Number 1. And it also has the calculated stream of yield, which is it in barrels per million, barrels of oil per million.

Q. And you have projections on the right-hand side. What are those?

A. Those are my judgments of what the future would look like on this well if it was re-completed for gas, which is in red, the oil, in green.

Q. If it was successfully re-completed?

A. Yes.

Q. There's no guarantee of success in this matter, is there?

A. No, there isn't. And that's built into my curve.

Q. Discuss pages 2 through --

A. Two through 5?

Q. -- 2 through 5 for the Commissioners, and discuss the economics of Arrington's proposed re-completion.

A. Two through 5 are the cash flows that are represented by this curve that we just looked at. Two and 4 being what we call data input pages. That is the data that we inputted to create that projection and the economics.

And pages 3 and 5 are reserve and economic pages. Those are the calculations of that data input. The difference between the two is when I was -- these are daytime in June of 2011. I've updated these. And sometimes I have a confusion. I talk about what's on these things and how I did them.

But this particular set, the first set of pages 2 and 3 are my opinion of what the well will do without any kind of -- without any kind of risk associated with the price that I use, which was 450, and without a chance of success risk.

The second cash flow was to show that I -- if I used a chance of success here of 75 percent, and it went from a marginal economic situation to a negative. And I just wanted to show that -- I didn't want to say that's what the risk is, because I didn't have an opportunity to get into all the elements of the risk.

I have since looked at data that might give me a better idea. But at the time, I just wanted to show that with any consideration of risk, which I guess most companies do when they do any kind of a workover, they would show what it could be and they would show, of course, what the bottom would be.

Q. Let's just hit a couple of highlights here. First of all, on page 2, the second column from the left, that 192.78, does that reflect your estimation of the cost of re-entry at the time you originally did these?

A. No. I was just taking data. At the time, the only AFE I had was from the ex-operator.

Q. Of $160,000?

A. It was about 160,000. And I applied a 15 or 20 percent increase to it because of the time frame in between, without considering whether it was a correct AFE or not.

Q. Fine. But you come up with 192,000, 193,000, which is pretty similar to what Mr. Carrasco just

testified about a little while ago?

A. Uh-huh.

Q. If you turn over to page 4, you used an even higher gas price and oil price than Arrington has used, have you not?

A. Yes. Because we work for clients, it's our habit to use -- well, we'll use what our client wants to use and put that in our report. But when we're just told to do it without any instructions or any boundaries as to -- and that was our charge here -- I used what I would think would be the effective date price at that time.

And so what this represents here, and this has been sometime since I did it, effective date price would either be the day of the effective date if we past it, or the average of the prices for the period before, month before.

Q. But again, you used more optimistic price assumptions than Arrington did?

A. That was the -- those are the current prices.

Q. Even then, you come up with marginal economics as reflected in the lower right-hand corner of page 3?

A. Yes, sir.

Q. And then when you go to pages 4 and 5, this is where you did your -- you just assumed there might be a 75 percent chance of success in the re-entry?

A. 75 gave me a discounted revenue that was -- I didn't want to get this down to zero. But I wanted to show at that risk, it went negative on a 10 percent discount. It was not trying to say that I thought anything about 75 percent as a chance of success. It was just saying that at that point, this thing goes negative when you take discounting into account.

Q. But obviously, in this proposed re-entry, would you give it a 100 percent chance of success?

A. Of course not.

Q. Let's move on to your -- how you got some of your numbers and what you looked at in assessing how the well might perform. First of all, what is page 6?

A. This is a just a lease plat map of the area around where the well is located.

Q. And you have a cross-section on there?

A. I have three wells that are highlighted and common descriptions. And if there's a cross-section of those three wells.

Q. Okay. Were all three of those wells completed in the Morrow Formation?

A. They were all three completed in the Morrow.

Q. Would you move on to your cross-section and describe that, page 7, and describe that for the Commissioners?

A. Page 7 is that cross-section of those three with the green line being the top of the sand, the target sand.

Also, there are perforations on two of the logs. Two of the wells have perforations in this particular sand and are producing from this sand -- or excuse me -- have produced from this sand.

The third well, the Maxwell Trust 26, the one on the left, I have not found perfs in that well, so I don't know if there's any production from that zone. I don't think so.

Q. Certainly two wells produced from this reservoir in Section 26?

A. Yes. And one is currently producing.

Q. And that is the Maxwell well in the northeast --

A. Maxwell 26 Number 1, in the northeast quarter.

Q. At this point, based on what I've heard today, that well has been producing for 10 or 11 years?

A. That well was producing -- it started producing in 2002, about a year and a half before the Green Eyed. I had seemed that that was why the Green Eyed was drilled.

Q. And then what is Exhibit 8?

A. Exhibit 8 is that same map we saw on six, but

it has an isopach laid on top of it with the thicker zone being the brighter color.

Q. So there is a Morrow reservoir -- you do not dispute there is a Morrow reservoir across a large chunk of Section 26?

A. No. That's what I'm showing here.

Q. Now, there are portions of well logs, pages 9, 10 and 11. Could you just comment briefly on those?

A. Those are the log sections of the gamma ray, density neutron log of those three wells. The first one being the Maxwell 26, the next one Green Eyed Squealy Worm, and the third one, Maxwell Trust 26 1.

I've highlighted the gamma ray trace, which is the one on the left, to show where the clean sand is in that well. Then I've highlighted also the porosity indication, gas affect indication, on the trace to the right, which is the neutron density for the three wells.

Q. Just to show that this sand does extend across Section 26?

A. Yes.

Q. Let's move on to your Exhibits 12 and 13. First identify page 12 and describe what that shows, and I might ask you a few follow-up questions.

A. Page 12 is the decline curve for the Maxwell 26 1 Well, which was the first well drilled in this

reservoir that's in the northeast quarter of Section 26. It was first produced in 10 of 2002, and has continued to produce every month until current. The last production on this production curve is, if you'll notice up in the titling, April of 2011.

Q. Now, this well continues to produce. There was a question before about if there is any -- anybody knew of any communication between this well and the Green Eyed Squealy Worm. In your opinion, is there?

A. Definitely.

Q. How is that reflected on page 12?

A. This particular curve -- this well was producing around 12,000 a month in early 2004, when the Green Eyed was drilled. Soon after the Green Eyed being drilled and coming -- I don't remember the come on rate -- about 33,000 a month -- this well started being affected by it almost immediately, and it continued to decline.

It finally flattened out. It went from 12,000 a month and went down to a little over 4,000 a month, and it seemed to have sought its equilibrium with the Green Eyed being on, and then the Green Eyed was shut in.

If you notice after -- on that curve, at 2006, where I have the notation, you'll see that this well starts increasing. And we all know that wells don't

increase unless we add energy to the reservoir, or in this case we're not competing anymore in that reservoir for the gas.

So it increased until -- I guess the highest rate is mid 2007. Then after that, the well has started in a shallow decline since then.

Q. So there is communication or this was communication between the two wells. And the Maxwell well has continued to produce to this day. Has that resulted in a further drop of reservoir pressure?

A. I did a volumetric study also to have some sense for what we're looking at, because we don't have a lot of data points here. And the third well is not producing from it, so I can't judge how good that well is going to be or how big the connected reservoir is.

So I looked at the volumetrics within -- because my producing wells were in Section 26, I looked at the volumetrics, the gas in place and the recoverable gas in Section 26. And by those calculations, using my isopach, I get about 1.8 bcf to be recovered out of this reservoir.

Q. What type of pressure drop has there been in the reservoir since the Green Eyed Squealy Worm has ceased producing?

A. I did not have -- it seems the pressures

aren't required to be submitted to the State anymore because they're just not available, so I don't know the exact pressures.

But I did do a pressure study of the Morrow wells within 5 to 10 miles around, enough to where I had enough data points, to see what kind of pressure gradients are in the Morrow. And the pressure range that I get is somewhere between .35 and .48 or something, and a normal gradient is .435.

So not knowing whether the wells with the least gradient were affected by another well and were in a depleted situation or what, the average I used for my pressure calculations and my volumetrics, I used a normal gradient for the Morrow.

So in doing that, I created a plot to see -- a P over Z plot which is used as a material balance method of calculating gas reservoirs, in which you take cume production and you plot pressure divided by its compressibility and it gives you a straight line, and you can calculate -- normally you use it to calculate what the ultimate recovery would be.

But I already had an ultimate recovery, so what I was trying to do was get the line between that point and the first point. So that I knew that whatever cume I had, I could go to there and go along my X axis,

go to the cume I want to see, like today's cume, and go up and say, "I think the pressure is going to be here if my volumetrics are correct."

So I did that between the time Squealy Worm was shut in and now. And the pressure at the time the Squealy Worm was shut in, according to that plot, was somewhere close to 2,800 pounds. And the pressure plot now is around 2,200 pounds. So we've had with the production that Maxwell 26 has cumed during that period of time, we've had a 600 pound pressure drop.

Q. You've been assuming a re-completion attempt would be successful. Would that affect recovery of reserves from that well?

A. That's why wells decline over time.

Q. You were here and you listened to Arrington's engineers testify, did you not?

A. Yes, I did.

Q. I think their testimony was that the well would come on at approximately 500 mcf a day?

A. (Witness nods head.)

Q. Is that correct? You have to speak for the court reporter.

A. That's what they testified, yes.

Q. Have you conducted a search of records regarding Morrow wells that were brought on after being

shut in to determine what type of rate you could anticipate in this well even if the re-entry was successful?

A. One of the things I did, because we had so much time to do it, I did go back and look at the -- I pulled data on all the Morrow wells in Lea County, and then I took a subset of those wells that had any kind of a zero production month. And then I separated those into producing wells that had that condition and nonproducing wells, meaning wells already shut in.

And I didn't want to go through -- when I got to those wells, it was about 300 wells. One hundred of them were still producing, which, to me, meant if they had shut-in periods, they were brought back on successfully.

The other ones, which was 200 wells, was a much bigger subset of wells. I just said, "They're not producing now. I'm not going to go in and try to find out if they were successful, if they tried to get them back on."

So I looked at the hundred wells. Now we're talking about the entire Lea County. I didn't note whether they were in the south or north half, thinking that maybe the Morrow is different, you know, as you go up and down the county. And then I really wanted to get

wells, because I like to work as close to analog as possible when I start making judgments.

And so then I looked at wells. Now, the Green Eyed produced water around 30 barrels a day, and it also was shut in for about 70 months. So I took a subset of the producing wells and got them down to -- and I used 30 months as a cutoff for the subset as far as the shut-in period, because I needed to have a representative -- I had to have something to do. If I was looking at 70 months, I don't think I would have found one. I think that was the largest number.

Q. You were looking at wells that had been shut in for over 30 months?

A. Long periods of time that had water rates equal to or greater than Squealy Worm. And not knowing anything else about the wells, those were going to be my analogs, and I looked at those and took an average of the shut-in rates and an average of the rates that they came back on, and that difference was 53 percent. Meaning the average well of those wells when they were brought back on came on at 53 percent of their shut-in rate.

So that -- I had built new cash flows and used that in my calculations, and I came surprisingly close to these. I don't know that we need to introduce them. But my ultimate recovery from using that method is a

projection that's similar to this.

Q. If a well was capable of producing at 400 to 500 per day before shut-in, after 30 months, just using your average, it would come in at 200 to 250 a day?

A. Yes. But in this case, of course, we have competition for the reserves. So there's another issue as far as what would impact that come-on rate, and the issue of pressure depletion.

Q. And those items would affect economics, would they not?

A. Yes.

Q. Now, what about well costs? You used in your original projection a little over 190,000, which is what Arrington projected today, roughly about the same amount. Do you know the current condition of this wellbore?

A. I know something about it.

Q. And what conditions in that wellbore would increase re-entry costs above that 190,000 or $200,000 level?

A. I understand that Marshall & Winston has already started their re-completion to the Cisco and already have perforated the well. So those perforations are going to need to be squeezed if we go in and just want to pump this well off.

The other thing that I understand about this

wellbore is that Arrington has dropped a fish in this well, and of course, I think it was testified to. And that fish, the top is represented to be only two feet from the bottom perf. I think that's right, two feet from the bottom perf. I think the fish top is represented to be at 13,006 feet and the bottom perf is 13,004 feet.

Q. Would this lead to increased costs upon re-entering?

A. It's probably one reason why they're not going to go in and try to re-stimulate. I mean the other reason is that --

MR. CARR: I object. This is just speculation. He doesn't know why they're not re-stimulating the well. He's just asking him to be speculating on what Arrington would be doing.

MR. BRUCE: I asked Mr. Carrasco if they were re-stimulating the well, and he said no.

MR. CARR: That's what he said, but we can't speculate on why. That's not something he knows. He's not qualified to render that opinion.

THE WITNESS: I agree.

MR. CARR: Thank you.

CHAIRMAN BAILEY: Objection sustained.

THE WITNESS: I apologize.

But whether the fish will interfere with their operations, I'm not sure. Whether the fish is really at that point, I'm not sure.

I do know that in fishing operations and when you have junk in the hole, there's always confusion as to exactly where it is, and it seems to move, and doesn't seem to always move down.

When people go back in the hole they seem to have problems in wells with fish in them, with junk in them. So it is something that needs to be taken into account.

Q. This could reasonably lead to increased re-entry costs?

A. Yes. In getting to the costs I would use this time, this time I asked Marshall & Winston because they had taken over the well and had started operations in the well. And so I asked them about, "Well, if you were going to go back in and do what they're going to do" -- because the first time, I have no reason to believe when they gave an AFE to a working interest owner, that it would not be a correct AFE, so I'd use it.

But in this case, I'm further down the road and I know a little more about it, and they've come back -- Marshall & Winston have come back into the wellbore and started operations, I asked them what it

would cost them to do what Arrington wants to do, so they gave me a new number.

And that number -- they included a couple hundred thousand for a fishing job, to take care of that fish. And they gave me a cost of -- to go in and squeeze, put this well on pump and to deal with the fish, of $700,000.

Q. Again, that would adversely affect economics?

A. Certainly.

Q. So what you identified are several items that would affect economics. One would be re-entry costs; correct?

A. Yes.

Q. Competition from the well in the northeast quarter?

A. Yes.

Q. The pressure drop over the last five, six years?

A. Yes.

Q. And one that we didn't discuss much, but if the gas price isn't going to be 4.50 as set forth in your economics, that would have an adverse effect?

A. Yes.

Q. Overall, do you see -- in your opinion, would the re-entry be economic?

A. Taking into account those issues and the water -- the issue that water standing on that formation for 70 months, and that water possibly being from a different reservoir than this sand, yes.

Q. I think one final --

A. You want me to tell you what that was for, this exhibit?

Q. Oh, yes. Yes, sir, page 13?

A. Yes.

Q. Yes, please.

A. The purpose of this exhibit was just to show what I thought the capacity projection would be for this reservoir from these two wells.

So I just show the production up until the time the Squealy Worm was shut in and made a projection off of that, and saying, "This is what these two wells, if they did produce, this is what they would have produced out of this wellbore, and this is what I thought the performance would be."

One of the reasons I wanted to do this is so that I could come forward on this curve with today's cume so I could see what the affect of pressure would have been on my projection.

So what I did was, this black line, in 2008, was the point at which both of them were producing. They

would have cumed today's cume at that point. And that shows me the affect of the pressure drop in the reservoir.

Q. Okay. Then a couple of final things. Did you look at either public data or industry data on the Bells Hopper well that was discussed by the engineer?

A. I apologize for looking at my phone during the hearing, but I asked my secretary -- because I knew that Arrington had a successful completion in one of the Morrow wells, and I had looked at it before but none of the numbers had stuck with me as to -- that I could comment on, other than the fact that it was a successful re-completion.

It wouldn't be what I would consider an analog, because it was only shut in six to eight months. It didn't have an issue with additional water, and the water -- and it never produced, at least reported to the State, it never produced more than 10 barrels a day of water.

So it really wasn't similar to the Squealy Worm which had production rates above 30 barrels a day in water. And the other thing was that when they did bring it back on, it came back on at a rate that was around 50 percent of the shut-in rate.

Q. That would confirm your study of Lea County

Morrow wells?

A. Yeah. I mean it didn't make any -- it supports what I was trying to say about these wells. But some wells come back on at the original rate. In my average, I have good wells and I have really poor wells.

Now, I have excluded all the failures, because I can't tell how many failures I have. But of the ones that were successes, I can tell you what the average recovery would be.

Q. And the Bells Hopper was right at that average?

A. Yes, it was.

Q. Was Exhibit 7 prepared by you, Mr. Savage?

A. Yes.

Q. And in your opinion, is the granting of Marshall & Winston's application in the interest of conservation and the prevention of waste?

A. Yes, it is.

MR. BRUCE: I'd move the admission of Exhibit 7, pages 1 through 13 of Exhibit 7.

MR. CARR: No objection.

CHAIRMAN BAILEY: Exhibit 7, pages 1 through 13 are admitted.

(Marshall & Winston Exhibit 7 admitted.)

MR. BRUCE: And I pass the witness.

CROSS-EXAMINATION

BY MR. CARR:

Q. Mr. Savage, when you were hired by Marshall & Winston, what were you asked to do?

A. They wanted to know the remaining reserves in the reservoir.

Q. Were you asked to assess the risks involved of a re-entry in the Arrington well?

A. I don't remember.

Q. You're first few exhibits have at the top of them "Risk." Isn't that what you were actually trying to determine, how risky this would be?

A. No. It may have been part of the conversation, but it wasn't the topic of the conversation. I mean --

Q. Today you've testified about the risks, have you not?

A. That's what I do. Whether I call it that or not, that's what I do when I draw on an analog or when I do any work. I can think of the -- I can see the upper and the lower of what I'm -- when a client comes to me for an answer, he wants the most likely. Whether he says it or not, he wants the most likely. He has to say it differently to get something else.

Q. My question was: Today you were testifying

about the risks?

A. I used the term, "risk," so the Commission would understand what some of these terms mean.

Q. Were you not testifying about the risks?

A. Yes, I was.

Q. Okay. That was the question. You're testifying today about risks?

A. Not totally, no.

Q. Have you not testified today about --

A. There are things today I've testified to that had nothing to do with risks.

Q. But you did testify today about things that had something to do with risk?

A. I will answer that question yes.

Q. So today you have testified about the risk involved?

A. But not only the risk. Yes.

Q. I didn't ask you that. Would answer the question?

A. Yes.

Q. Did you testify today about the risk involved?

A. Yes, sir.

Q. Now, you've worked on the Morrow Formation in the past, have you not?

A. I have 29 years of reservoir evaluation

experience.

Q. Did some of that involve the Morrow?

A. I would guess that I looked at the Morrow in every one of those years.

Q. And you're familiar with the Morrow, yes?

A. Off and on, yes.

Q. When I go and start working on a well in the Morrow, isn't it fair to say you really don't know what you can produce on an individual Morrow well until you get in there and try?

A. That's exactly right.

Q. You did the study, you testified, of about 100 wells that had been shut in and then returned to production?

A. Yes.

Q. And you stated that on average they came back at about 53 percent?

A. A subset of those wells on average came back at that, yes.

Q. That was an average number?

A. That's right.

Q. You also testified that some wells come back at their original rate, did you not?

A. Yes, sir.

Q. And you don't know what an individual well

does until you go test that individual well; isn't that right?

A. Not exactly.

Q. If you go out and test a Morrow well, do you know exactly what it's going to do prior to completing your test?

A. You don't know the exact numbers.

Q. Thank you. That's what I'm asking. You talked about having looked at the Bells Hopper well and looked at some data?

A. Yes.

Q. Have you ever recommended that you put a pumping unit or artificial lift on a deep gas well?

A. No one has ever asked me to do that.

Q. Are you familiar with the wells and the tests that were discussed by Mr. Bucy and the success that he had while he was with Bass by doing this?

A. I don't remember his testimony, other than just general words, what he did.

Q. Are you familiar with any of those particular situations?

A. No.

Q. Now, you looked at the reservoir; correct?

A. Yes.

Q. If we look at your Exhibit Number 12 -- page

12, if I understood your testimony, this showed that there was communication across the reservoir; it was a competitive reservoir?

A. Yes.

Q. And when the Squealy Worm was producing, it was affecting the Maxwell well?

A. Yes.

Q. And at this point in time, only the Maxwell well is producing; is that right?

A. Currently only the Maxwell is producing.

Q. And I understood your testimony to be that there are Morrow reserves -- you had an isopach that showed them -- throughout 26?

A. Yes.

Q. And those reserves are being recovered by the Maxwell well in the north half of the section?

A. That's correct.

Q. Do you know if Marshall & Winston owns anything in the north half of the section?

A. No. Marshall & Winston does not own anything in this well.

Q. Do you know if Arrington owns anything in that well?

A. I don't know the ownership of that well.

Q. Okay. So today the only well producing is the

Maxwell well shown on page 12?

A. By my judgment, yes.

Q. And if there is no production from any well in the south half of the section, the reserves that you say are there are going to be drained by an offsetting operator?

A. It's a competitive reservoir. This well sees the reservoir that Squealy Worm saw, which was in the south half, I believe.

Q. Doesn't the term "competitive" suggest there's more straws in the teacup?

A. It suggests communication.

Q. And if you're going to get your just and reasonable share of the reserves, you have to have an opportunity to go in and complete a well, do you not?

A. Yes.

Q. And unless some other well is drilled and completed in the Morrow in the south half of this section, there will be no opportunity to compete for the reserves that are now being produced out of the north half of the section; right?

A. When we talk about reserves, we have to talk about economics.

Q. If we --

A. And I'm answering all your questions about

reserves. And I want everybody to know that I'm excluding economics. I'm just talking about whether the well can get mcfs out of the ground. So all my yeses in regards to the reserves do not include economics to them. I want you to understand that.

Q. Following up on that, are you aware of any well that was ever drilled that didn't have the economic component in it?

A. Yes.

Q. Many?

A. I don't know what "many" means, but a lot of wells.

Q. If we look at exhibit page 8, this is an isopach of the Morrow; is it not?

A. Yes.

Q. There's only one well producing these reserves right now?

A. That's exactly right.

Q. That is a well in which Mr. Arrington and Marshall & Winston own no interest; is that right?

A. That's exactly right.

Q. And it is also Morrow production that underlies a tract in which they do own an interest?

A. Well, actually I'm not qualified to talk about ownership, current ownership in a well that's been shut

in as long as this. So if I've answered that question --

Q. That's fair. We'll ask about the south half of this section. If there's no well in the south half of this section, the reserves you've shown in the south half of the section are going to be produced by somebody else?

A. The south half of a the section -- in fact, the Squealy Worm is connected to this reservoir. If it was open to that zone, it could produce reserves out of it if it was capable.

Q. When you were discussing risk, among other things, as part of your testimony, did you ever discuss with Marshall & Winston whether or not you'd recommend they participate in the now proposed re-entry?

A. No, sir.

Q. Would you recommend they participate in this, knowing what you know?

A. No, I would not recommend -- yes, I would not recommend this.

Q. It's because it's high risk, in your opinion?

A. It is high risk to get economical reserves out of this well. In fact, it's high risk whether you'll produce it.

Q. Mr. Arrington has proposed to go in and do this, re-work this well, try and pump the liquids on it? You do know that?

A. Yes.

Q. And Marshall & Winston does not have to participate in that effort at all, do they?

A. They have the right to refuse that.

Q. And Mr. Arrington has re-leased the land and is willing to pay the costs, whatever you think they are now, or new numbers or old numbers. He's willing to pay all those costs and incur all those costs to fish or do whatever to re-establish production in the Morrow; you understand that?

A. No.

Q. Mr. Arrington isn't going to pay those costs?

A. What I understand is that Mr. Arrington wants to unitize all formations from the surface to the bottom of the Morrow, which includes other reservoirs. Whether his intention is pure in making this venture economical or not, it may be economical from the standpoint that he has behind pipe reserves.

Q. Do you know any of this or are you speculating?

A. I just heard that.

Q. That he is doing this from some other formation?

A. I'm trying to answer your questions directly, that there are other things involved that I'm not -- I

wasn't hired to testify to and you're asking me to.

Q. You can say you don't know.

A. Okay.

Q. Did you know that Arrington asked for 90 days to go out and test the Morrow?

A. I think it was testified to here.

Q. And do you know, at the end of that period of time, if you can't re-establish production in the Morrow, the well could be used in the Cisco by Marshall & Winston? Do you know that?

A. No, I did not know that.

Q. If we, being Arrington, drilled a successful Morrow well, do you know what the spacing unit is for the Morrow?

A. 160s with optional 80s.

Q. Would you stand corrected at 320s with optional 160s?

A. Optional 80s.

Q. You could have an 80-acre well in the Morrow?

A. I believe so.

Q. You would agree that --

A. Let me say I'm not sure. But I know you can down space Morrow. Whether it be 320 to 160 --

Q. If you don't know, that's fine. But whatever it is, everyone in that spacing unit would share in the

production from the Morrow, correct, whether it's 80 or 160 or 320?

A. Yes.

Q. If that's what's dedicated, everybody shares?

A. Yes.

Q. To get out there and test to see -- if you can pump those fluids off today and you can return this well to production, you have to have a wellbore, do you not?

A. Yes.

Q. If you can't go down there and test, and if you could establish production but you can't get down there and test, those reserves are left in the ground; correct?

A. Yes.

Q. And that would be waste?

A. I believe those wells will be produced, which is not waste. From the State's point of view, it's not waste.

Q. Which wells are you talking about?

A. The Maxwell 26.

Q. I'm asking about the well in the south half of the section.

A. You're asking about whether the loss -- you're asking about a loss, not a waste; right?

Q. I'm asking you that if you don't go down and

test, you don't have a chance to make a new Morrow well; correct?

A. You're personalizing this to me. If I don't drill that well, I will not recover -- I will not recover those reserves. I will not waste them. You know what I mean? They will not be wasted. It's not like I'm damaging and will not allow myself or anybody else to ever get those reserves. I'm confused by the term "waste."

Q. Is your testimony that you wouldn't recover them, but they could be drained by some other well in the reservoir?

A. I truly believe that this well here, because of my projections -- my volumetric reserves are 1.8 bcf. My current projection on the current producing well will take the reservoir to that number. So from my calculations, whether they're right or whatever, I have this well being able to recover all the reserves under Section 26.

Q. And how would you do that?

A. I mean that's what my projection shows on the well.

Q. How would you avail yourself of an opportunity to produce -- how would you recommend anyone avail themselves of an opportunity to today produce what's

under the south half of 26?

A. There are all these new plays in Texas, all these new plays, these Wolfcamp plays, those reserves were in the ground. They were in the ground for everybody to take. But they couldn't get them out economically, and they found a way to do that.

So everything is based on the economics of trying to get those reserves out of the ground for whatever reason. And I'm testifying that to my client, for my client, I would not recommend because the risk is too great and the return is not great enough for the risk that he's taking to participate in trying to get those reserves out of the ground.

Q. And that's your client's right to not do that?

A. Yes.

Q. And economics are a factor?

A. Yes.

Q. And if I had participated in the drilling of a well and paid 75 percent of the costs, and I thought there was a chance that I might produce a bcf of natural gas, and I could use an existing wellbore to test for 90 days and then get out if it doesn't work, but the option would be to let somebody else complete it uphole and then have to go drill a brand new well, wouldn't that negatively impact the economics of my ability to develop

the remaining reserves that you said are there today under the south half of this section?

A. I don't have -- I only expect three-quarters of a B to be taken out of this reservoir by both wells. So your 1 bcf -- and the one bcf is an assumption that -- it's somebody's opinion. So I really don't want to answer your question under those conditions.

Q. Okay. Answer this for me then. If I had a wellbore to go down and test the Morrow on a tract, and the only other option was to go drill another well that, if I'm unsuccessful, I'd have to plug and abandon, doesn't that second well sound like an unnecessary well to test the Morrow, instead of using the one that's there?

A. Things aren't as simple as your question, so I don't know whether to answer it or not.

MR. CARR: Then don't answer it.

I have no further questions of this witness.

CHAIRMAN BAILEY: Commissioner Dawson, do you have any questions?

COMMISSIONER DAWSON: I do have a few questions.

EXAMINATION

BY COMMISSIONER DAWSON:

Q. On your Exhibit 1, on the Green Eyed Squealy

Worm, when you look at this decline curve in contrast to the decline curve that you prepared on Exhibit 13, with the two-well summary, the decline curve on Exhibit 13, is that an exponential decline curve?

A. That is a hyperbolic out to about 2012, where you see another little dot, and then it's exponential.

Q. Then on Exhibit 1, what kind of decline curve is that? Is that a straight line?

A. Exponential.

Q. It looks like a straight line decline curve to me.

A. That's exponential.

Q. This is exponential?

A. Yes, sir. The performance is likely to be hyperbolic, but it's in the part of the hyperbolic part of the curve that's not changing too rapidly. And we're kind of coming out into -- if we look at the current well that's producing, it's exponential. So when this well comes back on, just exactly what both wells are going to do, I'm not sure. I've represented it in two different cases differently, but the reserves come out pretty much the same.

Q. So if Arrington was granted to re-enter that well and re-complete it in the Morrow, would you expect it to produce roughly about half of what the well to the

north, the Maxwell 26 1 well, would produce what it's currently producing?

A. I've had to take into account -- actually, if all things were -- if this well didn't have troubles -- when this well wasn't having troubles, it was taking 75 percent of the reserves out of the reservoir.

But in my judgment, because of the water and the potential damage which I've seen on a ton of wells that we've tried to go back in on in every reservoir where we've had water or some sort of fluid setting up against the formation, particularly a fluid wasn't produced in that formation, then we have problems with it unless we try to stimulate it and get through it.

I tried the take that into account, and I think it's realistic to take that into when we start talking about whether this is a valid proposal or not. This is my best judgment.

Q. Do you know if -- did you look at the completion cards on both of these wells when you were reviewing them?

A. I didn't look at completion cards. But I pulled the well records and some of the forms presented to the State.

Q. Do you know if they were stimulated in the same fashion?

A. I can't remember. But the Morrow does not normally require much of a stimulation. It's just an acid --

Q. Acidized roughly with the same amounts of acid?

A. That's right.

Q. On Exhibit 9, that's the Maxwell 21 well, that's north of the Green Eyed Squealy Worm; correct?

A. Yes, sir.

Q. When you look at the zone there that's roughly 13,010 or 13,006 to 13,016 feet?

A. Yes, sir.

Q. Do you think that's where most of the reserves are coming from?

A. You know --

Q. The perforations aren't depicted on this log, but they're depicted on the Green Eyed Squealy Worm log, which is Exhibit 10.

A. This is one of the reasons -- this well is obviously on the edge of the pay, okay? If I was looking at this well before it produced, I probably wouldn't have given it anything and I probably wouldn't have recommend it being opened.

But apparently when this well was stimulated, it apparently saw enough of that reservoir to be able to

produce out of it. That's sort of reflected when we look at the production curves, when you see what the ability of this well to flow compared to the Green Eyed, and it's reflected in this right here.

But it's just that not all the data tells you the same thing whenever you evaluate data for a well. There's some inexplicable things. And this is one of them for me.

Q. Would you agree with me that the porosity on the Green Eyed Squealy Worm is better than the porosity on the Maxwell 26?

A. That's exactly right.

Q. Also, on the Maxwell 26, Exhibit 9, do you know if they perforated in those other stringers that are below --

A. It had prior perfs in it, yes.

Q. Are they still producing from those prior perfs that are equal to the perfs in the Green Eyed Squealy Worm down below the --

A. Now we're getting into different sands. And I do not remember the production total history of this well. I have to apologize about that.

Q. Okay.

A. But I do know sometimes we complete wells that look really good and they don't work, and sometimes we

have wells like this.

Q. I understand. Do you know what the -- the Maxwell Trust 26 1 in the northwest quarter of 26, do you know what the ultimate cumulatives were on that, total cumes before it ceased production?

A. The Maxwell Trust is producing out of a different Morrow zone. I was asked if these wells produced from Morrow, not exactly the same zone. I don't know how thick the Morrow is here, but there's production throughout the Morrow here in these wells.

Q. And there are several stringer sands?

A. From public record, this well has not been completed in this zone.

Q. It wasn't completed in that zone that was depicted on Exhibit 11, or do you know?

A. No. That zone -- there are no public recordings of perfs in that particular sand, but it is producing from the Morrow.

Q. It is currently producing?

A. I think it is. It's right where it really looks like it needs to be shut in. But I think it had production last month.

COMMISSIONER DAWSON: No further questions.

EXAMINATION

BY COMMISSIONER BALCH:

Q. I have a question on Exhibit 7, page labeled 12 of Exhibit 7. The water data appears to be incomplete. Do you know if that's a lack of data or a lack of production of water?

A. Some wells they're not reporting -- I just assumed that this is correct water production.

Q. So there is no water production?

A. Sometimes they're making water and sometimes they're not, not unusual for a well that doesn't make much water, that they may not -- you know, if it's a flowing well, it may not slug any water for a while and then cough up water and they'll report a few barrels.

So this is only -- the highest month is like two barrels in a day, so this is not unusual of a Morrow well. But some wells make a lot of water.

Q. So the last three years to your --

A. You would have to think that the last three years that it's not making water, that the well is not -- I would assume it's not making water, because if it was making any water at all, that rate may not be able to lift it.

Q. Two wells that are in communication for purposes of oil and gas production, would you also not

expect water production to be in communication?

A. It depends where they are on structure. It could be.

Q. The producing well is down structure from the --

A. I know.

Q. So you would expect fluids to use gravity to be in communication?

A. I would agree. But both of these -- fairly unusual for Morrow wells -- have very similar yields. They produce pretty much the same oil per million, both of these wells do, quite oily for a Morrow sand. The expectation, of course, is gas.

I'm not sure that I would -- of course I didn't take water as a -- it didn't -- it's not one of those things that just -- sometimes you get involved in these things and you're focused in one direction, and all of a sudden the weight of something else comes and tells you I'm important too. That never happened with water.

There's so many different circumstances in the Morrow with the water. I can show you curve after curve and they're all different. They all make no sense at all with the water. I just don't know if -- and this is speculation. I just don't know if they report the water as well as they report the other fluids. I don't know.

I'm not an operations engineer. It's just really not my -- but I do do decline curve work, and I am aware of this. But it didn't mean to me -- I didn't have the suspicion that somehow this was not connected, mainly because there's such a strong connection in the producing gas.

Q. Your volumetric work which led to your pressure conclusions, did they take into account the entirety of the isopach on --

A. No. Section 26. The thing is, I only have three data points. I don't know how to enclose this reservoir. So you notice it's kind of -- the Morrow is laid down and -- you know, sort of in a north/south way like this. Stream channels look -- and pods within that.

So when you start representing limited amount of data, you have to have some way for closure, and you just put in -- you make it look like things you've seen before. Maybe a geologist wouldn't say, that but a reservoir engineer would. Because I look at a lot of geologists' representation of -- somehow there's a limit of data and you have to close it off. You either close it off or you let it go out. I just let it go. I didn't know how to close it off.

Q. If you have two wells that are in competition on a structure, from point of view of pressure

performance over time, would you prefer to be downdip or updip in general, or does that make a difference?

A. In general, you'd probably want to be updip. But it could be that in a lot of situation structures, the updip part of the structure is tighter, not as good a reservoir.

Q. Except in this case the porosity has to be better updip?

A. Yes.

COMMISSIONER BALCH: That's all I have.

CHAIRMAN BAILEY: My questions were asked. Do you have any redirect?

MR. BRUCE: Yeah. I didn't respond to any of Mr. Carr's questions before, just a couple of quick ones.

REDIRECT EXAMINATION

BY MR. BRUCE:

Q. Mr. Carr was asking you about risk, et cetera. What you were looking at was mainly economics, was it not?

A. Well, I was looking at reserves and economics.

Q. Reserves and economics. And again, regardless of a new well or re-entry, if it's not economic, you're not wasting reserves?

A. No.

Q. And Mr. Carr asked you some questions about you don't know what's going to happen in a Morrow re-entry, and you were going to comment on that and Mr. Carr cut you off. Are there factors that you can look at in determining the possibilities of re-entry?

A. I was not going to get to any specific factors. I was just going to get to the fact that every situation is different. All the situations, whether they be within a company or within that particular wellbore or within the structure of the regulations, every situation is different. That was all I was going to say. Sometimes we can get too broad, and I was getting uncomfortable with the broadness.

Q. Now, certainly you haven't heard anything here today -- well, look at page 8 of your Exhibit 7. The way you have mapped this, the better reservoir is to the west of the two producing wells or the two wells that have produced; correct?

A. Yes.

Q. And although you assigned a certain amount of reserves to it, and I don't know if you looked, but Mr. Bucy attributed almost 1.3 bcf of reserves to the Green Eyed Squealy Worm.

Do you know of anything that would prevent Arrington from drilling a well to the west in the thicker

part, the better part of the reservoir?

A. No. If this is correct, and it is based on the logs, obviously I'm looking at volumetrics just for Section 26. There is a limit to how far that Green Eyed Squealy Worm and also the Maxwell 26 can see as far as recovery of reserves. So I don't think it's wrong to use the lease boundaries, mainly because of where the reservoir is and where the wells are.

To assume these wells see across that lease line -- well, they may, at some very low rate, be able to continue to produce if they don't have water involvement.

But yes, this suggests that if Morrow reservoirs on average are greater than three wells, and that would be something I would look at if I was going to go out and jump and say, "Do I want to drill another well over there, even though I'd be inside this well and know that I have it?" But that would tell me that maybe that reservoir isn't too far on the other side of that other well.

If the average -- and I'm not a geologist. They have geologists. If the average reservoir size is such that you wouldn't do that in this area, then of course they wouldn't want to do it. And I don't have that expertise, so I can't comment totally on whether that would be a good idea.

Q. Then finally, Mr. Carr questioned you about Arrington's opportunity to produce the well, the Green Eyed Squealy Worm, from the Morrow. Based on your review, they didn't take that opportunity in 2006, did they, after it was shut in?

A. I thought -- oh, that was in 2007, they worked it over. That's correct.

Q. In 2007 they worked it over briefly and abandoned it?

A. Yes.

Q. They didn't take the opportunity in 2008, did they?

A. No.

Q. They didn't take the opportunity in 2009, did they?

A. No.

Q. And the first half of 2010 they didn't take the opportunity, did they?

A. No.

Q. So they went years and years, and now they're complaining about opportunity?

A. Yes.

MR. BRUCE: That's all I have, Madam Chair.

CHAIRMAN BAILEY: Do you think your

closing statements will take very long?

MR. CARR: Five, 10 minutes.

MR. BRUCE: Less than that. I'm shorter than Mr. Carr.

MR. CARR: He's briefer. I'm shorter.

CHAIRMAN BAILEY: Do you have any other witnesses?

MR. BRUCE: I have no further witnesses. This is the end of our case.

CHAIRMAN BAILEY: We'll go ahead and have closing statements, and then the Commission will go into executive session to deliberate this case and only this case, and then it's lunch time.

So why don't we proceed, and then we can go into executive session afterwards?

MR. BRUCE: Madam Chair, as Mr. Savage just got done testifying, this is not an issue of waste because the proposed re-entry is uneconomic. We submit that Mr. Savage presented the only reasonable case on the economics of this well.

Arrington did not take into account increased costs of re-entry, competition from the offset well, or the pressure drop over the last five to six years. They put in gas prices higher than they currently are, as Mr. Savage pointed out, water standing on this formation for

want release of record the expired oil and gas leases and the JOA. Marshall & Winston has to go to court.

Under Section 72-17, Arrington was required to make a good-faith effort to obtain the voluntary pooling, the voluntary joinder of the working interest owners before filing a pooling application. It didn't do that. In fact, it hasn't presented in either the Division case or in its exhibit package its proposal letters. I've never seen that before. I doubt I'll ever see it again.

In short, they have not conducted a good-faith effort, and based on lack of good-faith effort and the fact that the well is uneconomic in the Morrow, we ask that you deny Arrington's request and affirm the Division's order granting Marshall & Winston's request. Thank you.

MR. CARR: May it please the Commission? I'm going to read a couple of paragraphs during my closing. I'd like to give the orders and rules from which those paragraphs come, because then when I fail to read it correctly, everybody will know I can't read.

May it please the Commission? We've heard in Mr. Bruce's closing discussions about preventing Marshall & Winston from using a road, all kinds of issues that really weren't developed here. Because as you recall, the answer to the question about use of the road was it

was our road we were building.

The problem is that we can discuss a lot of collateral issues and confuse what we're doing here today. But we're here today because two operators with interests in a half section cannot reach an agreement. And it's interesting that we try and save our case by saying they didn't put their proposal letter in the exhibit packet, when in fact, it's before you because it was in theirs.

Arrington is seeking an order compulsory pooling the Morrow Formation to allow them to re-enter and attempt to re-establish Morrow production for 90 days. That's what's behind this case.

We're talking about the Morrow Formation. We can sit here and speculate and Mr. Bucy say one thing and Mr. Savage say another. But we all know that when you talk about the Morrow, you do not know what you have until you go down there and take a look and you try. And Arrington is asking you to give him the opportunity to try, an opportunity for 90 days.

And it may not be economic, but if it isn't economic, Mr. Arrington is prepared to share that risk, so I would think Marshall & Winston would say, "Go spend your money. If you make a well, we'll take a quarter. If you don't we'll take it back and complete in the

Cisco."

What I've handed out is the order entered by the Division denying the application in this case. If you turn to page 5, there is a paragraph, Roman Numeral IV E under "Conclusions regarding legal issues" in this case. And this is a correct statement, and I want to read it.

"Section 70-2-17.C NMSA 1978, as amended, provides that the Division shall issue compulsory pooling orders 'to avoid the drilling of unnecessary wells, or to protect correlative rights, or to prevent waste.' Thus, David H. Arrington Oil & Gas, Inc., as the applicant for compulsory pooling, bears the burden of proving by appropriate geological and engineering evidence, that pooling should be granted for one or more of those reasons."

There are three: To protect correlative rights or to prevent waste. As to the first of those reasons, the unnecessary well, if this re-entry is not approved, the only way to see if the Morrow can be returned under the south half of the spacing unit is to drill another well.

I submit to you that denying 90 days' access to a wellbore we paid 75 percent of and forcing us to drill another would be an unnecessary well.

"means the opportunity afforded, as far as it is practicable to do so, to the owner of each property in a pool to produce without waste."

The law says you afford us an opportunity. We're an owner in the pool. That's all we're asking you to do. But it's couched. It's not a stand-alone right. It's couched in terms with waste. And when you look at the definition of waste, which is the last paragraph, it's quoted on the last page of this material, you see that underground waste is defined -- I've highlighted part of it because it also talks about not wasting reservoir energy -- that the purpose and the definition as it applies today reads, "Underground waste is the drilling, equipping, operating or producing of a well or wells in a manner to reduce or tend to reduce the total quantity of crude petroleum oil or natural gas ultimately recovered from a pool."

We are asking you to let us test to see if we can return this well to production. If we don't, these reserves won't be produced. Some will be drained, some will be left. But if you deny our application and grant Marshall & Winston's, I submit you're taking an action that will tend to reduce the ultimate recovery ultimately obtained from this reservoir.

We're asking you for 90 days. Depending on

what they've done to the well, we might have to come back. But we should only be allowed to do that and seek an extension for good cause shown after notice is provided to them.

But in 2010, in March of that year, when Mr. Bucy went to work for Arrington and they were trying to look at their properties, they decided this well was similar enough to what happened in their Bells Hopper, whatever the name of the well is, but that it merited and warranted spending a significant amount of money to see if the same thing could be done here. That's what they're asking you for permission to do.

And I submit if you do that, you're going to enter orders that won't require the drilling of an unnecessary well, that will afford each interest owner an opportunity to produce without wasting his fair share, and if we can establish production in the Morrow within this short window of time, Arrington will benefit, Marshall & Winston will benefit, because everyone in the spacing unit will share. Thank you.

CHAIRMAN BAILEY: Commissioners, would you like to go into closed session for deliberation on this case?

COMMISSIONER DAWSON: I will.

CHAIRMAN BAILEY: Do I hear a motion to go

into executive session for the sole and only purpose of deliberating this case?

COMMISSIONER BALCH: I make that motion.

COMMISSIONER DAWSON: I second.

CHAIRMAN BAILEY: All those in favor?

We will now go into executive session for the purpose of deliberating on this case, and then we will be holding lunch for everybody.

So we will reconvene at 1:30 to come back out of executive session.

(Whereupon the Commission went into executive session.)

(A lunch recess was taken.)

CHAIRMAN BAILEY: It is 1:32. The Oil Conservation Commission is reconvening after lunch. We've went into executive session. And do I hear a motion for the Commission to come out of executive session?

COMMISSIONER DAWSON: I'll motion.

COMMISSIONER BALCH: I'll second.

CHAIRMAN BAILEY: All those in favor?

The only topic of conversation during the executive session was to deliberate Cases 14497 and 14538.

The Commission has agreed to grant the application of David H. Arrington Oil & Gas for

compulsory pooling. We will be issuing an order pooling all mineral interests from the surface to the base of the Morrow Formation in the following described spacing unit located in the south half of Section 26, Township 15 South, Range 34 East, in Lea County, for the south half for all formations and/or pools developed on 320-acre spacing within this vertical extent, including the North Edison Morrow Gas Pool, the undesignated North Hume Morrow Gas Pool, and the undesignated Grassland Austin Gas Pool; and the southeast quarter for all formations and/or pools developed on 160-acre spacing within this vertical extent.

The unit is to be dedicated to the Green Eyed Squealy Worm Well Number 1 to be re-entered with the proviso that the Morrow Formation will be re-entered, and there will be a time limit of 90 days to test the Morrow. The Commission is taking this action because of its obligations under statutes to prevent waste and to protect correlative rights.

I ask both attorneys to give us findings of fact and conclusions of law by January the 9th, so that we can have an order to be signed at our next Commission hearing in January.

MR. BRUCE: When is the next Commission hearing?

MR. CARR: The 23rd

CHAIRMAN BAILEY: That concludes this case.

Shall we go off the record?

(A discussion was held off the record.)

CHAIRMAN BAILEY: The next case to be called is Case 14720, Application of Agave Energy Company for authority to inject, in Lea County, New Mexico.

Call for appearances

MR. LARSON: Gary Larson of the Santa Fe office of Hinkle, Hensley, Shanor & Martin, for the applicant, Agave Energy Company. I have three witnesses

MR. BRUCE: Madam Chair, Jim Bruce of Santa Fe, representing Kaiser-Francis Oil Company. I will have one witness.

CHAIRMAN BAILEY: Do you have opening statements?

MR. LARSON: I do.

MR. BRUCE: I don't, but I might respond to Mr. Larson's.

MR. LARSON: I will be brief, rather than short.

Madam Chair, Commissioners, Agave Energy requests the Commission's authorization to inject CO2 and H2S into Agave's proposed Red Hills AGI Number 1 well.

REPORTER'S CERTIFICATE

I, JACQUELINE R. LUJAN, New Mexico CCR #91, DO HEREBY CERTIFY that on December 8, 2011, proceedings in the above captioned case were taken before me and that I did report in stenographic shorthand the proceedings set forth herein, and the foregoing pages are a true and correct transcription to the best of my ability.

I FURTHER CERTIFY that I am neither employed by nor related to nor contracted with any of the parties or attorneys in this case and that I have no interest whatsoever in the final disposition of this case in any court.

WITNESS MY HAND this 21st day of December, 2011.

Jacqueline R. Lujan, CCR #91
Expires: 12/31/2011