NEW MEXICO OIL CONSERVATION DIVISION

STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NO. 10444

IN THE MATTER OF:

The Application of Amerada Hess Corporation for Pool Contraction, Pool Creation, and Promulgation of Special Pool Rules, Lea County, New Mexico

BEFORE:

MICHAEL E. STOGNER

Hearing Examiner

State Land Office Building

February 20, 1992

REPORTED BY:

CARLA DIANE RODRIGUEZ
Certified Shorthand Reporter
for the State of New Mexico

A P P E A R A N C E S

FOR THE NEW MEXICO OIL CONSERVATION DIVISION:

ROBERT G. STOVALL, ESQ.
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FOR THE APPLICANT:

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BY: WILLIAM F. CARR, ESQ.

I N D E X

E X H I B I T S

EXAMINER STOGNER: Hearing will come to order. Call next case, No. 10444.

MR. STOVALL: Application of Amerada Hess Corporation for pool contraction, pool creation and promulgation of special pool rules, Lea County, New Mexico.

EXAMINER STOGNER: Call for appearances.

MR. CARR: May it please the Examiner, my name is William F. Carr with the law firm Campbell, Carr, Berge & Sheridan of Santa Fe. I represent Amerada Hess Corporation in this case, and I have one witness.

EXAMINER STOGNER: Are there any other appearances?

Will the witness please stand to be sworn.

JOAN DENISE WARD-WANN

Having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. CARR:

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

A. Joan Denise Ward-Wann.

Q. Ms. Wann, where do you reside?
A. In Hobbs, New Mexico.
Q. By whom are you employed?
A. Amerada Hess Corporation.
Q. In what capacity?
A. Senior petroleum engineer.
Q. Have you previously testified before the Oil Conservation Division?
A. No, sir.
Q. Could you briefly summarize your educational background and then review your work experience for Mr. Stogner?
A. Okay. I have a B.S. from Oklahoma State in petroleum engineering. I graduated in May of 1981.
Q. Since that time, for whom have you worked?
A. Amerada Hess.
Q. At all times?
A. Yes, sir.
Q. Where have you been located?
A. There in Monument, New Mexico.
Q. The entire time of your employment with Amerada?
A. Yes, sir.

Q. Are you familiar with the geographic area which is involved in this application?

A. Yes, sir.

Q. Are you familiar with the application?

A. Yes, sir.

Q. Are you also familiar with Amerada Hess's wells in this general area?

A. Yes, sir.

Q. Have you made a study of a portion of the Blinebry formation which is involved in this case?

A. Yes, sir.

MR. CARR: We would tender Ms. Wann as an expert witness in petroleum engineering.

EXAMINER STOGNER: Ms. Wann is so qualified.

Q. Would you briefly state what Amerada Hess seeks with this application?

A. Contraction of the vertical limits of the Hobbs-Blinebry Pool, designation of a new pool for the Lower Blinebry formation, and adoption of special pool rules, which would include a GOR of 10,000 to 1 and an 80-acre spacing proration unit.

Q. Could you briefly state why Amerada

Hess is bringing this application to the Division?

A. Currently the pool rules for the Hobbs-Blinebry are 2,000 to 1 GOR, and that results in an allowable of 107 barrels of oil per day and 214 Mcf per day. This allowable prevents Amerada Hess from producing the State "A" #5 and discourages further development of a portion of the Blinebry formation. We're inhibited from producing the 30 days per month due to the GOR limit.

Q. The pool is currently developed on 40-acre oil well spacing?

A. Yes, sir.

Q. Could you identify and review for Mr. Stogner what has been marked as Amerada Hess Corporation Exhibit No. 1?

A. Yes, sir. The current Hobbs-Blinebry pool is outlined in red, and then the Amerada acreage is shaded with either the partial interest or full interest. And then we have highlighted in yellow the wells that have tested the Lower Blinebry formation.

Currently the State "A" #5, the Amerada Hess well, is the only well that is producing

from the Lower Blinebry interval.

Q. You have the test data on each of the wells which has actually tested the interval?

A. Yes, sir.

Q. The only well producing from the interval is the Amerada Hess #5 "A" well?

A. Yes, sir.

Q. Now, there are other well spots on this exhibit. Are those wells that have penetrated the zone?

A. Yes, sir.

Q. All leasehold ownership within a mile of the pool and also in the pool is indicated on this exhibit?

A. Yes, sir.

Q. What are the current vertical limits of the Hobbs-Blinebry pool?

A. Currently it includes the entire Blinebry formation.

Q. Let's go to what has been marked as Exhibit No. 2.

A. Okay.

Q. Could you identify that and review it for the Examiner?

A. Fine. Exhibit 2 is a type log of the

Amerada Hess State "A" #5, which is located in Section 32, Township 18 South, Range 38 East. I've highlighted the top of the Blinebry, the top of the proposed Lower Blinebry interval, and the top of the Tubb.

The way we've identified the top of the Lower Blinebry is from a gamma ray marker which is directly overlying the porosity stringer, which we've perforated.

Q. That's been shown on this exhibit?

A. Yes, sir.

Q. Perforations are identified on this exhibit, is that correct?

A. Yes, sir.

Q. What is the current status of this well?

A. The test as of February 12, 1992 was 13 barrels of oil per day, two barrels of water, and 780 Mcf per day flowing.

Q. Ms. Wann, this was originally drilled to what formation?

A. Originally it was completed in the Drinkard.

Q. This was then recompleted back into the Blinebry?

A. Right. Well, It was a dual well with perforations in both the Drinkard and the top of the Blinebry.

Q. Let's move on to what has been marked as Amerada Hess Exhibit No. 3. Could you identify that?

A. Yes, sir. Exhibit 3 is a structure map of the Lower Blinebry formation across the Hobbs-Blinebry pool. From this map you can locate the highs which have a potential for greatest development in the Lower Blinebry pool.

Q. Your #5 well is virtually as high, structurally, as any well in the pool, is that correct?

A. Yes, sir.

Q. Let's go back at this time to Exhibit No. 1. If you could just review for Mr. Stogner generally the test information on the wells that have been drilled into and tested this particular zone?

A. Okay. In Section 19, the Shell McKinley "A" #11. It was perforated from 6375 to 6377 in April of 1970. After a small acid job, it was swab-tested at 15 barrels of water per hour, and then shortly thereafter it was

squeezed.

The Shell State "A" #7, which is located in Section 32 south of Amerada's acreage, it was DST'd from 6185 to 6226 in June of 1969. The results of that test indicated an oil and gas show.

The State "A" #5, directly north of the Shell location, was perforated and tested in February of 1985 from 6204 to 6275. The initial test was 35 barrels of oil per day, zero barrels of water, and 1125 Mcf per day.

The well to the north in Section 28 is the Shell Grimes #10, and it was tested in October of 1969 from 6284 to 6324. After an acid job, it flowed 12 barrels of oil and 87 barrels of water in nine hours.

Q. Has it been possible, with the information you have available to you on this zone, to pick an oil/water contact in this Lower Blinebry zone?

A. We haven't directly indicated any oil/water contact, but we feel it would be between what is found in the Shell Grimes #10 which was a significant amount of water, and then from the State "A" #5, which structurally tested

no water.

Q. On Exhibit No. 1 you have traces for two cross-sections. Could you identify them and just very generally review those for the Examiner?

A. Yes, I can. The first one is A to A'. We've located the top of the Blinebry, the top of the Lower Blinebry, using the gamma ray marker and the top of the Tubb. You can see that the Amerada Hess well is the structurally highest well. There have been some tests.

I've indicated the wells that are perforated in the top of the Blinebry here, here. This well has no Blinebry perforation.

EXAMINER STOGNER: And you're referring to the Exxon Bowers "A" #38?

THE WITNESS: Yes, sir, it has no Blinebry perforations in it. The Chevron "I" #5 has perforations in the upper. We had perforations here that were squeezed currently in this Lower Blinebry interval.

EXAMINER STOGNER: And you're referring to the State "A" #5?

THE WITNESS: Yes, sir. This one is also in the Upper Blinebry.

STOGNER

EXAMINER ~~CATANACH~~: That's State "B" #5?

THE WITNESS: Yes. Amoco State "G" #6, Upper Blinebry, and the Pinrock Conoco State #2, Upper Blinebry, and the Pinrock Conoco State "A-1" #A is also in the Upper Blinebry. This one has no Blinebry perfs.

EXAMINER STOGNER: And that's the last one?

THE WITNESS: Yes, sir.

Q. (BY MR. CARR) If you go to the B-B', basically your north/south cross-section, again would you just show the perforated intervals and identify the wells as depicted on this cross-section?

A. Yes, sir. The Shell Grimes #10, which is the well we've indicated that's been tested in the Lower Blinebry, and the squeeze after the test indicated all water.

The Shell Grimes #9 is Upper Blinebry, the Chevron "I" #6 Upper Blinebry. The Amerada State "A" #5 was in the Lower Blinebry. The Shell State "A" #7, Upper Blinebry. Marathon State "A" #32 in the Upper Blinebry.

Q. All of these show that the only well

currently perforated in the Lower Blinebry zone, which is the subject of today's hearing, is the Amerada Hess "A" #5 well?

A. Yes, sir.

Q. Let's go to what has been marked as Amerada Hess Exhibit No. 6, your isopach map. Generally, could you review that for Mr. Stogner?

A. Yes, sir. This map was constructed using a porosity cutoff of six percent and a clean gamma ray. From this you can see that the Amerada State "A" #5 virtually has the greatest net pay.

Q. This just shows generally, the highest structural position corresponds with where you find the thickest pay in this reservoir?

A. Yes, sir.

Q. Based on this isopach and the data you have available to you on the reservoir, have you been able to make any reserve estimates for the Lower Blinebry?

A. Yes, sir, we've made some reserve estimates using using volumetric analysis from the isopach for the Hobbs-Blinebry field. From those calculations, we estimate that there's 142,200 barrels of oil in place.

Q. I'm sorry. What was that again?
A. 142,200 barrels of oil in place, and 4.55 Bcf gas in place.
Q. Are these calculations set forth on what has been marked as Amerada Hess Exhibit No. 7?
A. Yes, sir.
Q. Is there anything further you want to say in regard to Exhibit No. 7?
A. No, sir.
Q. Exhibit No. 7 has your volumetric figures for the pool as a whole, correct?
A. Yes.
Q. Let's go to Exhibit No. 8, and these are your calculations for the reserves for the "A" #5 well, is that right?
A. Yes, sir.
Q. What does this calculation show?
A. This is a volumetric calculation for the State "A" #5. The data at the first is data that we were able to arrive at from initial testing and from the logs on porosity.
From this, we anticipate that the initial oil in place is 37,200 barrels, and the initial gas in place is 1.21 Bcf. And based on

an 85-percent recovery rate, we estimate that recoverable oil is 32,200 barrels and 1.03 Bcf.

Q. Now, in making this analysis, you were using 80-acre spacing, is that right?

A. Yes, sir.

Q. Let's move to Exhibit No. 9. Would you identify and review that for Mr. Stogner?

A. Yes. Exhibit 9 is a plot of bottomhole pressure versus cumulative production for the State "A" #5. From this we had two points. We had initial bottomhole pressure in February of 1985 and then a bottomhole pressure in March of 1991.

Based on this plot to abandonment pressure of 500 pounds, we show 1.05 Bcf gas and 41,000 barrels of oil.

Q. Now, when you compare this figure, the 41,000 barrels, with the recoverable oil that you got during your volumetric analysis in Exhibit No. 8, of 32,200 barrels, what does this tell you about 80-acre spacing?

A. It tells us that we should be able to effectively drain 80 acres based on the production--the cumulative production versus bottomhole pressure.

Q. These are close enough so that you feel comfortable with an 80-acre spacing pattern?
A. Yes, sir.
Q. Let's go now to what has been marked as Amerada Hess Exhibit No. 10. Is this a copy of an affidavit confirming that notice of this application has been given as required by the rules of the Oil Conservation Division?
A. Yes, sir.
Q. Attached to this affidavit is there a copy of the letter that was provided to the interest owners in this area and also a list identifying the parties to whom notice was actually given?
A. Yes, sir.
Q. And notice was given to all operators in the pool and within a mile of the pool?
A. Yes, sir.
Q. Were there any working interest owners in the pool that were not leased out or any tracts that were not leased within that area?
A. No, sir.
Q. Could you identify what has been marked as Amerada Hess Exhibit No. 11?
A. It is a letter from Paul Kautz in the

Hobbs District Office in support of the proposed pool changes and pool rules.

Q. Have you reviewed the entire presentation with the representative of the OCD in Hobbs?

A. Yes, sir.

Q. In your opinion, will approval of this application result in the recovery of hydrocarbons from this Blinebry formation that otherwise would not be recovered?

A. Yes, sir.

Q. Will, in fact, this result in more efficient production practices for the Amerada Hess "A" #5 well?

A. Yes, sir.

Q. If this application is granted, will it provide incentive to other operators who are also located structurally high in this lower zone to develop this zone?

A. Yes, sir.

Q. In your opinion, will approval of the application otherwise be in the best interest of conservation, the prevention of waste and the protection of correlative rights?

A. Yes, sir.

Q. Is Exhibit No. 12 a written summary of your presentation here today in this case?

A. Yes, sir.

Q. Were Exhibit 1 through 12 either prepared by you or compiled under your direction and supervision?

A. Yes, sir.

MR. CARR: At this time, Mr. Stogner, we would move the admission of Amerada Hess Exhibits 1 through 12.

MR. STOVALL: Before we do that, I just need to clarify something for the record. There was submitted with your exhibit packet an Exhibit 10, which appears to be the same letter as is attached to your affidavit. The record has the potential of being confusing.

EXAMINER STOGNER: Let's mark one 10(a) and 10(b).

MR. CARR: All right. Basically what you have is, 10 is the letter. Let's mark the affidavit 10(a). Also, in that exhibit packet, it contains the same letter. The text is the same. All right?

MR. STOVALL: Okay. Just didn't want to get confused between the Exhibit 10s.

EXAMINER STOGNER: We can deal with that.

MR. CARR: And, Mr. Stogner, we'll move the admission of Exhibits 1 through 12, if I didn't do that.

EXAMINER STOGNER: Exhibits 1 through 12 will be admitted into evidence, along with 10(a).

MR. CARR: Thank you, along with 10(a). And at this time I would pass the witness for cross-examination.

MR. STOVALL: Let me take care of a notice issue, to make sure we're okay.

EXAMINER STOGNER: Go ahead, Mr. Stovall.

EXAMINATION

BY MR. STOVALL:

Q. What is the current spacing in the existing pool, the Hobbs-Blinebry pool?

A. 40-acre spacing.

Q. So this is an increase in spacing?

A. Yes, sir.

Q. Now, notice was given only to working interest owners, is that correct?

A. Yes, sir.

MR. STOVALL: Mr. Carr, any concerns?

MR. CARR: Mr. Stogner, Mr. Stovall, there is only the one well at this time completed in the Lower zone, the Amerada Hess No. 5A. The interest owners in that well are the only owners who, at this time, could be affected by increasing the spacing. It, in fact, is 100-percent owned by Amerada Hess.

We see no risk or exposure in going forward with the change in spacing at this time in the lower zone, because one, as to existing production, there is no interest owner who will be affected and furthermore, if there is additional development in the pool, at the time those wells are drilled, the spacing would be, if this application is granted, 80-acre spacing, Division orders would be executed based on 80-acre spacing, and we see, in that circumstance, no problem similar to that which was encountered in the Yuton (phonetic) decision.

MR. STOVALL: That is also consistent with my thinking on that. It's the conservative approach, conservative from the standpoint of having to give notice, but I think it's

realistic.

MR. CARR: The alternative would be giving notice to numerous people in town lots, basically, in and about the City of Hobbs. It would, in our judgment, create confusion which really would be unnecessary in this circumstance where there is no production from the zone other than this well, and the ownership in the well is 100 percent Amerada Hess.

MR. STOVALL: I concur, Mr. Carr, because I believe that the only interest that is, as you state, being changed, is the interest in the existing well that is within the pool.

MR. CARR: That's correct.

MR. STOVALL: I'm comfortable with his rationale satisfying the notice requirement.

EXAMINER STOGNER: Thank you, Mr. Stovall.

EXAMINATION

BY EXAMINER STOGNER:

Q. Ms. Wann, referring to Exhibit No. 2, your type log--

A. Yes, sir.

Q. --you talk about the marker lying directly over the porosity interval. Can that be

described a little bit more? Is it a shale marker?

A. Yes, sir, it's a shale bed, a small shale bed that we found on both cross-sections, from A-A' and B-B'. It's easily identified across the pool.

Q. There appears to be some other innerbedded shale zones, in looking at your cross-section, between this marker and the lowermost current perforations throughout the Blinebry. Do you concur with that?

A. Yes, sir.

Q. Would that make that impermeable naturally, and separation of any Blinebry production from this upper producing area in the Blinebry, as opposed to the Lower Blinebry, your proposed new pool?

A. Yes, sir. In our State "A" #5, we had the Upper Blinebry perforated at the time we perforated the Lower Blinebry, and the difference in pressure and production, we felt like we needed to squeeze the Upper Blinebry perfs so that we would not have cross-flowing because of the difference in pressure.

Q. Does your exhibit show those upper

perforations in that State "A" #5?

A. On this particular log.

Q. And that's Exhibit No.--

A. 5.

Q. What were the pressure differences?

A. Well, the upper zone, when it was originally perforated, it had to be put on pump, essentially, right after it was tested, which indicates essentially no pressure to bring the production to the surface; which was very unlike what we found in the Lower Blinebry, which flowed and is still flowing after seven years.

Q. That tends to suggest there's no communication.

A. Yes, sir.

Q. Did you have an opportunity--I'm now referring to Exhibit No. 1, that's the base map--did you have an opportunity to look at the completions in all the other wells that are not on your cross-sections that's completed in the Blinebry?

A. Yes, sir. The ones that are indicated here have all been reviewed.

Q. What did you find on those?

A. We were able to identify the gamma ray

shale bed in, essentially, all of the wells. That's why we feel so comfortable in being able to locate the top of the Lower Blinebry.

Q. How about the perforations? Were they similar to these up here on the wall, in Exhibits 4 and 5? Exhibit 4 being the A-A' cross-section and 5 being the B-B' cross-section.

A. Yes. Essentially everyone has perforated in the top part of the Blinebry. It's approximately the same subsea depth. All of the wells were reviewed for the isopach map to come up with a net pay.

Q. The completion technique or the completion mechanism, is cement required to be brought back behind the casing through the whole Blinebry interval?

A. I'm not sure on that. I would assume that it would be because the San Andres zone is being flooded in the Hobbs area, and I'm sure that it's a requirement to have cement brought up, at least across the San Andres.

Q. So you're not aware of any, say, artificial cross-flow that might occur?

A. No, sir.

Q. What is the production casing size in

most of these wells in the Blinebry?

A. Either 5-1/2 or 6-5/8.

Q. I see the potential of a lot of, perhaps, downhole commingling applications, and like you said already, there's quite a substantial difference. One is pumping and the other is flowing quite a bit. I'm concerned about possible completion techniques such as that.

Do you see a problem, or how would you propose these ~~wheels~~ wells be completed in both zones simultaneously?

A. Well, I think it would be a good idea to have cement across the interval, from the Lower Blinebry to the Upper Blinebry, to prevent any type of cross-flow in between the zones.

I have an idea that most of the wells that are completed in the top of the Blinebry would be squeezed because of the low production. Our well was making about five barrels of oil per day at the time we squeezed it, and we, essentially, thought that would be in the best interest, since the well was already a dual with the Drinkard zone, to squeeze the top of the Blinebry and essentially just produce the Lower

Blinebry.

Q. Did you squeeze those top perforations because Amerada Hess felt like the upper zone was a thief zone?

A. Yes, sir, it could have been. It's my opinion that you cannot produce the top of the Blinebry and the Lower Blinebry up the same string of tubing. You would have cross-flowing if you had both zones open at this same time, without a production packer separating them.

Q. Do you, perhaps, have a geological description of that Lower Blinebry? In an order such as this, I think it's always nice to have at least a paragraph describing the geology and the reservoir mechanics.

A. I don't have that with me, but I can provide it at a later date.

EXAMINER STOGNER: If you would, I would appreciate it.

Mr. Carr, if you would submit that subsequent to today's hearing?

MR. CARR: Yes, sir.

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

MR. STOVALL: I have none.

EXAMINER STOGNER: Does anybody else have any questions of Ms. Wann at this time?

If not, she may be excused.

Anything further, Mr. Carr?

MR. CARR: We have nothing further in this case, Mr. Stogner, and we would be happy to provide a geologic description of the Lower Blinebry.

EXAMINER STOGNER: Does anybody else have anything further in Case 10444? If not, this case will be taken under advisement.

With that, hearing adjourned.

(And the proceedings concluded.)

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10444, heard by me on February 20 1992.

Michael E. Stogner, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

I, Carla Diane Rodriguez, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I caused my notes to be transcribed under my personal supervision; and that the foregoing is a true and accurate record of the proceedings.

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

WITNESS MY HAND AND SEAL February 26, 1992.

Carla Diane Rodriguez

CARLA DIANE RODRIGUEZ, RPR
CSR No. 4