NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE , NEW MEXICO

Hearing Date OCTOBER 13, 1994 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
William F. Carr	Campbell, Carr, Berge + Sheridan	Santa Fe
Fernando E. Flores	Columbia Gas Devel. Corp.	Houston Texas
James Bruce	Hinkle Law Firm	Santa Fe
Pierson McHort	Yates Petroleum	Artesia
W. Kellahin	Kellahin & Kellahin	Santa Fe
Maurice Trimmer	Bynam	S.F.
Gene Dawes	SFER	Midland, Tx.
Gary Green	"	"
[illegible]	Yerday Oil Inc.	Farmington, NM
Dean Price	Meridian Oil Inc	" "
[illegible]INSKI	"	" "
Todd Mushovic	"	"
Leonard J Biemer	"	"
ALAN ALEXANDER	"	"
Rodney Stewart	Marathon Oil Co	Midland
Kurt Miller	"	"
R. Hindi	TEXACO E&P	FARMINGTON

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NAME	REPRESENTING	LOCATION
Michael E. Stogner	NMOCD	Santa Fe
Joe Clement	Great Western	Lovington, NM
Mike Headrick	Great Western	Midland, TX
Dennis J. Hebert	Great Western	Midland, TX
JP Fulleb	Great Western	Midland, TX.

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

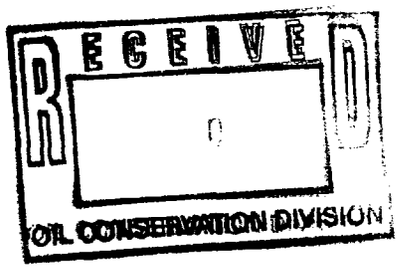
IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:	)	CASE NO. 10,669
IN THE MATTER OF CASE NO. 10,669 BEING REOPENED	)	

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: JIM MORROW, Hearing Examiner



October 13th, 1994

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on Thursday, October 13th, 1994, at Morgan Hall, State Land Office Building, 310 Old Santa Fe Trail, Santa Fe, New Mexico, before Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

I N D E X

October 13th, 1994
Examiner Hearing
CASE NO. 10,669

* * *

E X H I B I T S

	Identified	Admitted
Exhibit 1	6	14
Exhibit 2	8	14
Exhibit 3	9	14
Exhibit 4	9	14
Exhibit 5	9	14
Exhibit 6	11	14
Exhibit 7	12	14

* * *

A P P E A R A N C E S

FOR COLUMBIA GAS DEVELOPMENT CORPORATION:

CAMPBELL, CARR, BERGE & SHERIDAN, P.A.
Suite 1 - 110 N. Guadalupe
P.O. Box 2208
Santa Fe, New Mexico 87504-2208
By: WILLIAM F. CARR

* * *

WHEREUPON, the following proceedings were had at 8:18 a.m.:

EXAMINER MORROW: Call the hearing to order in Docket Number 29-94 and call Case 10,669.

Call for appearances at this time.

MR. CARR: May it please the Examiner, my name is William F. Carr with the Santa Fe law firm Campbell, Carr, Berge and Sheridan.

We represent Columbia Gas Development, the original Applicant in this case, and I have one witness.

EXAMINER MORROW: Will the witness please stand and be sworn?

FERNANDO E. FLORES,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. My name is Fernando Flores.

Q. Where do you reside?

A. I live in Houston, Texas.

Q. By whom are you employed?

A. I work for Columbia Gas Development Corporation.

Q. And what is your current position with Columbia Gas Development?

A. Staff reservoir engineer.

Q. Was Columbia Gas Development the original Applicant in this matter?

A. Yes.

Q. And have you previously testified before the Division?

A. Yes.

Q. In fact, you testified as the engineering witness in the original hearing on this case, did you not?

A. Yes, I did.

Q. At the time of that prior testimony, were your credentials as a petroleum engineer accepted and made a matter of record?

A. Yes, they were.

Q. Are you familiar with the Application filed in the original case?

A. Yes, I am.

Q. And are you familiar with the Northeast Pollack-Wolfcamp Pool and the development therein?

A. Yes.

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

EXAMINER MORROW: Yes, sir, they're fine.

Q. (By Mr. Carr) Mr. Flores, what does Columbia Gas Development seek in this case?

A. We seek the adoption of permanent special rules for the Northeast Pollack-Wolfcamp Pool, including 160-acre spacing and special well location requirements.

Q. And when was this pool created?

A. With Order R-9878, April 15th, 1993.

Q. And what acreage is included in that pool?

A. Included in the pool is the northwest quarter of Section 34, Township 14 South, Range 38 East.

Q. Have you prepared exhibits for presentation here today?

A. Yes, I have.

Q. If you would go to the exhibit booklet and return to the second page, that's Exhibit Number 1. Identify that and review it for Mr. Morrow.

A. Exhibit Number 1 is the land plat that shows in yellow Columbia's acreage position. Outlined in green are the boundaries of the Wolfcamp Pool.

Q. In April of 1993, when this pool was created, how many wells had been drilled and completed in this reservoir at that time?

A. Only one well, the McMillan 34-1.

Q. What is the location of that well?

A. 400 feet from the north line, 1980 feet from the west line, in Unit C of Section 34.

Q. And when was that well initially completed?

A. May, 1992.

Q. Can you review the initial producing rates on that well?

A. The well initially produced 227 barrels of oil and 40 barrels of water per day pumping.

Q. What pool was the well originally placed in?

A. Pollack-Wolfcamp Pool, southwest quarter of Section 33.

Q. And that's because the subject well, the McMillan 34, was within a mile of that pool?

A. Yes.

Q. And what was the spacing for that pool?

A. This pool is under statewide spacing, which is 40 acres.

Q. At the 1993 hearing on this Application, did Columbia present evidence which established that the subject well was in fact completed in a separate source of supply?

A. Yes.

Q. And that portion of this Application is therefore -- is not involved in the hearing today, is it?

A. No, we are seeking the establishment of permanent rules for the pool.

Q. At the time the pool was created on Columbia's Application, temporary rules were adopted; is that correct?

A. Yes.

Q. And what did they provide for?

A. 160-acre spacing, special well location requirements, 660 feet from the outer boundary of the proration unit, 330 feet setback from quarter-quarter section lines.

Q. Mr. Flores, when the pool was originally created, there was one well in the pool. How many wells are completed in that pool today?

A. One.

Q. And at the 1993 hearing on this matter, there was testimony concerning the possibility of an additional well being drilled in Section 27. What happened on that well?

A. Based on the performance of this well, we determined that no additional wells were required or necessary.

Q. Do you anticipate that there will be any additional development at this pool any time in the future?

A. No, we believe this is a one-well pool.

Q. All right. Let's go to Exhibit Number 2, the structure map. Can you review the information on that for the Examiner?

A. This is a structure map on top of the upper Wolfcamp porosity. The source of data used to construct the map are the well control and seismic.

The structure map shows that the McMillan well is situated close to the top of the structure in an optimum structure position to drain the Wolfcamp reservoir reserves.

Q. And basically this shows the small anomaly that's the subject of this hearing?

A. Yes.

Q. Okay. Let's move on, let's go to the next exhibit, the log section, Exhibit Number 3. Can you review this for the Examiner?

A. Exhibit Number 3 is the log on the subject well.

The top of the upper Wolfcamp is at 9336 feet, the base is at 9620 feet. There are 31 feet of net pay with porosity greater than four percent.

Q. Let's go to Exhibit 4. What is this?

A. Exhibit Number 4 is the gas analysis. The analysis shows that there is no H_2S, and it requires no special handling.

Q. Okay. Anything else on Exhibit 4?

A. No.

Q. All right. Let's go on, then, and go to the reservoir data sheet, the next exhibit in the exhibit booklet. Could you review this, please?

A. Exhibit Number 5 describes the reservoir properties.

The initial reservoir pressure was 3808 p.s.i.

Bubble point pressure, based on correlations, is 716 p.s.i.

The reservoir drive mechanism is pressure depletion.

The water saturation calculated from logs averages 33 percent.

The average porosity across 160 acres is six percent.

The net pay calculated from the logs is 31 feet.

The average pay across all of the log sections is 22 feet.

The effective permeability, based on DST Horner plot analysis, is 7.9 millidarcies.

The formation volume factor, based on correlations, is 1.15.

The oil gravity 40 degrees API, gas gravity is 1.037.

The current gas-oil ratio is 10 cubic feet per barrel of oil.

The current oil rate is 44 barrels of oil per day.

The well produces about half an MCF per day and about one-half barrel of water per day.

Cumulative production through August of 1994 is

64,200 barrels of oil.

The oil is sold to Koch.

The small amount of gas produced is flared, and the water is trucked.

The effective drainage area, based on decline-curve analysis and other calculations, is 160 acres.

The estimated recoverable reserves is 124,000 barrels of oil.

Q. Okay, Mr. Flores, let's go now to Exhibit Number 6, your volumetric calculation, and I'd ask you to first go to the top of the exhibit and review the equations with Mr. Morrow, then go down to the actual computation at the bottom and review those figures for him as well.

A. Exhibit Number 6 is the volumetric reserves and the recovery estimates.

The first equation, the volumetric reserve estimate, labeled as N, is barrels per acre, and this equation uses the porosity of six percent, the water saturation of 33 percent, and the average net pay across the 160 acres as 22 feet, and the oil formation volume factor of 1.15.

This equation calculates 5966 barrels per acre as the oil in place. Across 160 acres, this calculates to 954,598 barrels of oil, original oil in place.

The second equation calculated here is the

estimated ultimate oil recovery, which is abbreviated as EUR.

This equation is defined as the cumulative production, and for this well it's through August of 1994, plus the remaining reserves. The remaining reserves are calculated by extrapolating the current production trends, using a decline rate based on current trends.

This equation uses the rate of 44 barrels of oil per day, the economic limit of 13 barrels of oil per day, and a calculated decline rate, based on current trends, of 17.2 percent. The remaining reserves calculated from this equation are 59,800 barrels.

Adding the cum production plus the remaining reserves, we calculate an EUR of 124,000 barrels of oil.

The recovery factor is the EUR divided by the original oil in place. Based on the numbers calculated previously, we calculate a recovery factor of 13 percent. This recovery factor of 13 percent is very reasonable for this type of reservoir in oil properties.

Q. Let's go to the last exhibit, Exhibit Number 7, your decline curve. Would you identify and review the information on this exhibit for the Examiner?

A. Exhibit Number 7 is a semi-log plot of the time on the horizontal scale and the barrels of oil per month on the vertical scale.

Shown in dark squares is the monthly historical oil production through August of 1994. The dashed line is the oil forecast declining and effective rate of 17.2 percent.

This is the graph that was used to calculate the estimated remaining reserves.

Q. And this plot is just an extension of the exhibit that was provided two years ago?

A. Yes, it is.

Q. And how, in your opinion, has the well been performing when you compare it to what you were projecting for the well a year and a half ago?

A. When I compared the previous plot to this plot, the previous plot that we did about 18 months ago estimated that we would be producing about 40 barrels of oil per day, and we currently -- 40-plus barrels of oil per day, and we're currently producing 44 barrels of oil per day. So it gave -- it pretty much estimates the same recoverable reserves.

Q. Is it your understanding that all production information on this well has been reported to the Oil Conservation Division as required by its rules?

A. Yes, it has, all the production is current through the latest month.

Q. What conclusions have you reached from your

engineering study on this one well in this limited pool?

A. The conclusions that I have reached based on the engineering studies are that this pool is and will always be a one-well pool, a 160-acre spacing is appropriate, 40-acre spacing would be inconsistent with how this reservoir performs.

Q. Do you request temporary rules for the Northeast Pollack-Wolfcamp Pool be adopted on a permanent basis?

A. Yes.

Q. In your opinion, will adoption of the rules on a permanent basis be in the best interests of conservation, the prevention of waste and the protection of correlative rights?

A. Yes.

Q. Were Exhibits 1 through 7 either prepared by you or have you reviewed these exhibits and can you testify to their accuracy?

A. Yes, I have.

MR. CARR: Mr. Morrow, at this time we would offer Columbia's Exhibits 1 through 7.

EXAMINER MORROW: 1 through 7 are admitted.

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

EXAMINER MORROW: Okay. Mr. Flores, I had a question or two.

EXAMINATION

BY EXAMINER MORROW:

Q. Tell me again what the location of the one well is from the west line up.

A. The location of the well is 400 feet from the north line, 1980 feet from the west line, in Unit C of Section 34.

Q. Unit C, you say?

A. Yes.

Q. On Exhibit Number 2, it looks like from your structure map that the acreage in the southwest quarter of 27 might have been as good a location as the one you drilled for a well.

Does Columbia hold the acreage in the -- hold a lease on the acreage in Section 27, west half?

A. Yes, we do, we hold the acreage. And the second well we drilled to this -- to try to expand this pool, was the Cave Estate Number 1.

Q. Okay.

A. And that was a dry hole.

Q. Okay. Is that federal acreage or state acreage, or what is the situation there? Fee acreage? Or do you know?

A. This is fee acreage.

Q. I looked for a production record on -- in this

pool --

A. Yes, sir.

Q. -- and I was unable to find even for 1993 any reported production for this well.

A. It's my understanding, based on the department that handles our production, is that New Mexico -- the State of New Mexico has some kind of -- they're going to a new computer system, and they have not updated their records with current production, but they have all the records.

We have tried to also obtain information on other wells that we don't operate and have not been able to get current production data.

Q. That's true. I was talking about 1993, though. Even for the 1993 I was unable to find any production history for this well.

A. We have reported all the production history on the well.

Q. Would you please furnish me a copy of your C-115 report for December of 1993 and also for the most recent month you've filed? Probably it would be August of 1994.

A. Yes, sir.

Q. If you would furnish those to me, I would appreciate it.

Have you been in communication with the Hobbs

district office to obtain approval to flare the gas

A. Yes, sir.

Q. -- that's being flared?

And you do have such approval?

A. Yes, sir.

EXAMINER MORROW: Thank you, Mr. Flores. Appreciate your testimony.

MR. CARR: Mr. Morrow, that's all we have to present in this case.

EXAMINER MORROW: Case 10,669 will be taken under advisement.

(Thereupon, these proceedings were concluded at 8:36 a.m.)

* * *

CERTIFICATE OF REPORTER

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

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

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

WITNESS MY HAND AND SEAL October 13, 1994.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1994

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10669 heard by me on Oct 13 1994.

Examiner
Oil Conservation Division