NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

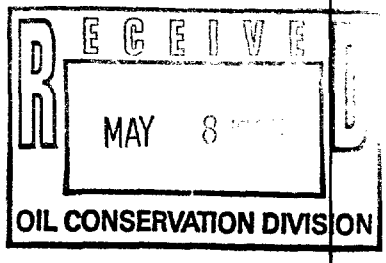
Hearing Date MAY 4, 1995 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
Maurice Trimmer	R.W. Bysam	SF
Shane Lough	Maralo	Midland, TX
SCOTT ELKINGTON	TEXACO	MIDLAND, TX
Charles Sadler	Texaco	Midland, Tx.
Joe Clement	Great Western Drlg.	Lovington, NM
Russell Richards	Great Western Drilling	Midland, TX
SCOTT HALL	MILLER LAW FIRM	SF
William F. Carr	Campbell, Carr & Berge	Santa Fe
James Bruce	Hinkle Law Firm	SF
W. Thomas Kellahin	Kellahin & Kellahin	Santa Fe
Bill Duncan	Exxon	Midland
George Vaughan	DALEN	Dallas
JOE B THOMAS	EXXON COMPANY USA	MIDLAND
Jerry Anderson	Dalen Res.	Dallas, TX
Ron Mayhew	Exxon	Midland

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



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

APPLICATION OF GREAT WESTERN DRILLING COMPANY

CASE NO. 11,191

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

May 4th, 1995

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on Thursday, May 4th, 1995, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, before Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

May 4th, 1995
Examiner Hearing
CASE NO. 11,191

* * *

E X H I B I T S

	Identified	Admitted
Exhibit 1	5	13
Exhibit 2	5	13
Exhibit 3	9	13
Exhibit 4	9	13
Exhibit 5	5	-

* * *

A P P E A R A N C E S

FOR THE APPLICANT:

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

* * *

WHEREUPON, the following proceedings were had at 8:15 a.m.:

EXAMINER CATANACH: Call the hearing to order this morning for Docket Number 13-95.

(Off the record)

EXAMINER CATANACH: At this time I'll call Case 11,191, which is the Application of Great Western Drilling Company for an unorthodox gas well location, Lea County, New Mexico.

Are there appearances in this case?

MR. KELLAHIN: Good morning, Mr. Examiner. I'm Tom Kellahin of the Santa Fe law firm of Kellahin and Kellahin, appearing today on behalf of the Applicant, and I have two witnesses to be sworn.

EXAMINER CATANACH: Any additional appearances?

Will the two witnesses stand and be sworn in at this time?

(Thereupon, the witnesses were sworn.)

MR. KELLAHIN: Mr. Examiner, the purpose of our Application this morning is to seek approval to produce the Morrow formation in an existing wellbore.

This well was drilled in 1982 to test another formation. Subsequently it was deepened, and the operator now wants to go back into the Morrow zone where they have some initial production tests and complete it for

production out of the Morrow formation.

And we intend to present to you some geologic information and some reservoir production information to justify the location.

My first witness is Mr. Russell Richards. Mr. Richards is a petroleum geologist.

RUSSELL RICHARDS,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. For the record, sir, would you please sate your name and occupation?

A. Yes, my name is Russell Richards. I'm division geologist for Great Western Drilling Company.

Q. On prior occasions, sir, have you testified before the Division as a petroleum geologist and had those qualifications accepted and made a matter of record?

A. Yes, I have.

Q. As part of your duties for your company as a petroleum geologist, have you made a geologic investigation of the geology involved in this particular well?

A. Yes, I have.

MR. KELLAHIN: We tender Mr. Richards as an expert petroleum geologist.

EXAMINER CATANACH: Mr. Richards is so qualified.

Q. (By Mr. Kellahin) Mr. Richards, if you'll turn, sir, to the first plat that we've marked as Exhibit 1, let's identify for the benefit of the Examiner the spacing unit that's proposed to be dedicated to the well and identify for him where you have spotted the well.

A. Okay, the proposed spacing unit for the Glenn Cleveland Number 1 is the east half of Section 7, 15 South, 35 East.

The well is located 1980 feet from the east line and 660 feet from the south line of that section. That's unit letter O.

Q. Mr. Richards, you'll find in your package of exhibits that the last item appended in the exhibit package as Exhibit 5 is a certificate of mailing of notification of hearing.

If you'll take that certificate and compare it to the details shown on Exhibit 1, please determine for us if we have notified all the offset operators towards which this well is unorthodox.

A. Yes, we have.

Q. Give us a short summary, if you will, Mr. Richards, of when this well was originally drilled, and at that point what was the intent of the well?

A. If I can call your attention to Exhibit 2, this

exhibit is a Wolfcamp production map. Cumulative production through 12 of 1993 is shown in thousands of barrels.

Prior to Great Western drilling the Glenn Cleveland Number 1, Great Western was operator of the Town Number 1, a Wolfcamp oil well. That well is located in unit letter C of Section 18, 15 South, 35 East. That's a diagonal southwest offset from the Glenn Cleveland Number 1.

That well, at the time the Glenn Cleveland 1 was to be drilled, had made in excess of 200,000 barrels from the Wolfcamp. And as you see, to date it has made over 240,000 barrels of oil.

The zone in that well was one of the primary objectives for the drilling of the Glenn Cleveland Number 1. The well was permitted also as a 12,500-foot Strawn test.

Upon reaching that -- Excuse me. The basis of the Strawn prospect was a seismic anomaly that was shown to exist under this acreage. There's also tests in a nearby well in the Strawn to indicate it is a viable objective.

Upon reaching the permitted depth of 12,500 feet, drilling was continued, and the well was subsequently TD'd at 13,036 feet.

Q. Is that a depth sufficient enough to penetrate

into the Morrow formation?

A. Yes, it does.

Q. All right, what then happened?

A. At that time an amended C-103 form was filed with the Commission and was approved, indicating the new formation TD as well as the drilling data.

Q. All right, sir, then what happened?

A. The well was -- An attempt to complete the well was made in the Strawn. It was unsuccessful. The well was subsequently plugged back to the -- or was subsequently completed in the Morton Wolfcamp zone, and it had a cumulative -- that well IP'd for 396 barrels of oil per day.

Great Western subsequently offset it in two directions, however the cumulative production from that well ended up being only 29,000 barrels.

Q. The cumulative production number of 29,000 barrels of oil was achieved as of what date?

A. That well was temporarily abandoned -- excuse me, let me -- in July of 1991.

Q. After 1991, then, what happened to the wellbore?

A. The well -- Great Western filed with the Commission to leave -- for Rule 203 temporary abandonment, because we knew that there was potential for the Morrow gas production.

However, at that time it was determined that gas pricing did not justify the recompletion at that time.

Q. At this point, have you re-entered the Morrow zone to determine if it is productive of Morrow gas?

A. Yes, we have.

Q. And what do you now seek to do?

A. We seek to produce the Morrow in the intervals that are presently perforated.

Q. And this well would then be at an unorthodox gas location --

A. That is correct.

Q. -- for a Morrow gas well?

As part of your investigation, Mr. Richards, have you determined what is the closest identifiable pool listed by the Oil Conservation Division for production out of the Morrow formation?

A. That pool is the Morton-Morrow Pool. There's one well producing from that. It's located in Section 14 of Township 15 South, 34 East, approximately two miles from the Glenn Cleveland Number 1.

Q. To minimize the administrative processing, then, of this case, do you recommend to the Division that this well be added to that pool?

A. Yes, I do.

Q. Have you made a study of the geology within the

Morrow formation?

A. Yes, I have.

Q. And as part of that study, have you reduced your information to a cross-section and a structural map?

A. Yes, I have.

Q. Let's turn to both those. If you'll unfold your cross-section, which is Exhibit 4 -- and let's use Exhibit 3, which is the structure map, as a locator -- if you'll take the line of cross-section shown on Exhibit 3 and then look at Exhibit 4, which is your A-A' cross-section, start at A and give us a quick summary of left-to-right on the cross-section, what you see.

A. Okay. Just in summary overall, these are all the -- seven of the eight wells within the mapped area that penetrated the Morrow. These are the only -- There are only eight wells in the mapped area that penetrated the Morrow.

Q. For each of those eight wells, have you located on the log where existing reported perforations exist in those wells?

A. Yes, I have.

Q. And what's the purpose of the red shading on the porosity side of the log?

A. That just directs your attention to porosity within the Morrow greater than five percent.

Q. And when we look at the left side of the log, there's a color code?

A. Yes, I've used three colors -- blue, light blue and green -- just to indicate how I correlate the individual units within the Lower Morrow section.

Q. Let's go to the log of the subject well, which is the second from the right.

A. That's correct.

Q. Describe for us what you see, as a geologist, as the potential for Morrow gas production within that wellbore?

A. When the well was originally drilled, the DST was performed across the Morrow. It flowed at a rate of 200 MCF per day, with some slight amount of condensate. Pressures -- Flowing pressures were 474 pounds on the initial flow, and increased up to 579 pounds on the final flow pressure.

Shut-in pressures, both initial and final, were 6300-plus pounds. It's -- Indications are that it is productive, though right at this point in time we think that it has the potential to produce approximately 300 MCF per day.

Q. Have you investigated to determine whether you can find horizontal continuity --

A. Yes, I have.

Q. -- in the pay intervals in your well in relation to the other wells shown on the cross-section?

A. Yes, I have.

Q. And what is your conclusion?

A. That horizontal continuity is very limited, at best. As indicated, the porosity develops in several different sections within the Morrow, and unless you look at a very gross interval, the porosity basically -- it develops differently in every well.

Q. Let's look at the well immediately to the left, the J.M. Huber Cabot "Q" State 1, which is in the west half of the same section.

A. Yes.

Q. Describe for us what you see in that wellbore that you don't see in your wellbore.

A. I've indicated, based on a microlog show, a five-foot interval there at approximately 12,790 feet that I assume has porosity and permeability. That interval grossly correlates with our interval in -- the interval in the subject well, from 12,950 to 12,980.

However, the porosity develops in a different part of the section.

I don't see that there's continuity between that wellbore and the subject wellbore.

Q. Was the operator of the Cabot "Q" State Number 1

well able to achieve commercial gas production out of that zone?

A. There were no tests or attempts at production in the Morrow from that well.

Q. How far do we have to go from your wellbore to find the first successful completion of gas produced out of the Morrow?

A. That's approximately two miles to the west.

That well is the second from the left on the cross-section. The current operator is K.O. Butler.

That well was completed in the Morrow in 1978. It subsequently made 388 million cubic feet and has a current daily rate of 49 MCF.

Q. What is your conclusion geologically about the lateral extent of the Morrow interval that you're producing from?

A. My conclusion is that it's very limited, just based on the indications from the other -- from the other wells.

As I said before, porosity develops inconsistently within the section and shows very little continuity from well to well.

Q. If you're allowed to produce your well without a penalty at its proposed unorthodox location, do you see that you will achieve an unfair advantage over the

offsetting correlative rights of other interest owners?

A. No, I do not.

MR. KELLAHIN: That concludes my examination of Mr. Richards.

We move the introduction of his Exhibits 1 through 4.

EXAMINER CATANACH: Exhibits 1 through 4 will be admitted as evidence.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Richards, in looking at your Exhibit Number 1, can we discuss briefly the offset operator situation?

In the west half of Section 7, who operates that?

A. That's J.M. Huber.

Q. How about in Section 18?

A. The north half of 18 is three different owners relative to the Morrow.

In the northwest quarter of Section 18, it's Texaco.

In the northeast of the northeast of Section 18, that's in -- the 40 acres that's shown as Gulf HBP, that is currently Chevron.

And the balance of the northeast quarter of Section 18 is Yates Petroleum.

Q. Have you had any kind of communication with any

of these offset operators?

A. They did not respond to our notification whatsoever.

Q. Okay. Did you say that this well was initially tested in the Morrow, or was it just recently tested?

A. It was initially DST'd in the Morrow, yes, when it was originally drilled.

Q. And that's the test shown on your -- the cross-section?

A. That's correct.

Q. Okay. Has it been recently tested?

A. Yes, it has. It has been production-tested through the perforations indicated there in the depth column and below.

Q. Is that where you arrived at your 300 MCF a day?

A. That's correct.

Q. Does it appear that the Morrow is not producible in the west half of your section, Section 7?

A. Yes, based on the one penetration that's located in the northwest of the southwest of Section 7, that small -- even if that is valid porosity with permeability, a five-foot interval would not be productive in any commercial quantities.

I might point also to one other well, the third well from the left side of the cross-section, the Adobe Oil

and Gas Scott 1-Y.

That well has indicated porosity, you know, some of it in excess of, you know, eight to ten percent. However, both of those zones were DST'd, and they DST'd basically tight, nonproductive.

So porosity, apparent log porosity, is not always productive.

Q. Based on the well control that you have in this area, is it possible to make a judgment on, say, Section 18 to the south?

A. The -- As to the existence of porosity there or not?

Q. Uh-huh.

A. Not one that I'm comfortable with, except, you know, what I see from the well control, that all the porosity appears to be basically limited in lateral extent. In other words, I can't correlate it very well from well to well.

So I don't see any indications that they will be adversely affected.

EXAMINER CATANACH: I have nothing further of this witness.

MR. KELLAHIN: All right, sir.

Mr. Examiner, at this time we would like to call our petroleum engineer, Joe Clement.

JOE CLEMENT,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Clement, for the record would you please state your name and occupation?

A. Joe Clement, I'm division engineer for Great Western Drilling Company.

Q. And where do you reside, sir?

A. I reside in Hobbs, New Mexico.

Q. On prior occasions have you testified before the Oil Conservation Division and had your qualifications as a petroleum engineer accepted and made a matter of record?

A. No, I have not.

Q. Summarize for us your education.

A. I have a mechanical engineering degree from Texas Tech University in Lubbock, Texas.

Q. In what year, sir?

A. 1980.

Q. And subsequent to that, summarize your employment experience within the oil and gas industry.

A. Following graduation, I was a remedial engineer and an equipment engineer for Gulf Oil Corporation, for approximately three years.

Following that, I ran a saltwater disposal system for a company called Araho, out of Lovington, New Mexico.

And since July of 1984 I have been division engineer for Great Western Drilling. I've been involved in all aspects of production and drilling operations.

Q. Does this wellbore come within your area of expertise and responsibility for your company?

A. Yes, it does.

MR. KELLAHIN: We tender Mr. Clement as an expert engineer.

EXAMINER CATANACH: Mr. Clement is so qualified.

Q. (By Mr. Kellahin) As part of your duties, have you examined the well file available at the Hobbs office of the Oil Conservation Division for this well?

A. Yes, sir, I have.

Q. In addition, have you compared your own company's information concerning this wellbore?

A. Yes, I have.

Q. And are you currently testing this well for production out of the Morrow formation?

A. Yes, we are.

Q. Summarize for us what in your opinion is the likely productivity rates for this well if you're permitted to produce it out of the Morrow formation.

A. Based on the well testing we've done so far, we

did a 24-hour flow test, calculated an absolute open flow, which was 303 MCF a day.

I would expect it to go on line in -- between 200 and 250.

Q. Do you have pressure buildup information to give you an indication of the pressure in the reservoir at this interval?

A. Yes, sir, we do. We did a pressure buildup for 574 hours, and the final bottomhole pressure was 6254 pounds.

Q. As a petroleum engineer, what does that pressure level at depth in the Morrow formation indicate to you?

A. That's normal pressure for a Morrow zone.

Q. Would that be a pressure reasonably expected in a Morrow zone that had not been completed?

A. Yes, sir.

Q. How do you compare that pressure to the low productivity rate and come up with any engineering explanation?

A. Well, using the pressure buildup data, we calculated permeability for this zone, and we came up with a permeability of .04 millidarcies, which is extremely low permeability.

Q. What does that information, plus all the other information you have examined about this wellbore, indicate

to you about the probability that this wellbore would adversely affect any of the offset operators?

A. It would indicate that this seems to be a limited reservoir and high-pressure, low-volume, due to the limited permeability.

Q. In your opinion, would approval of this Application without a penalty impair the correlative rights of any of the offset interest owners?

A. No, it would not.

MR. KELLAHIN: That concludes my examination of Mr. Clement.

EXAMINER CATANACH: I have no questions of this witness.

MR. KELLAHIN: Mr. Examiner, that concludes our presentation in this case.

EXAMINER CATANACH: Okay, there being nothing further in this case, Case 11,191 will be taken under advisement.

(Thereupon, these proceedings were concluded at 8:39 a.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the examiner hearing of Case No. 11191, heard by me on May 4 1995.

David R. Catanach, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

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

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

WITNESS MY HAND AND SEAL May 12th, 1995.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998