

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
November 2, 1960  
Examiner Hearing  
Case No. 2114

-----  
IN THE MATTER OF: )

)  
Application of Western Natural Gas Company )  
for a 320-acre non-standard gas proration unit )  
and for an unorthodox gas well location. Appli- )  
cant, in the above-styled cause, seeks an order )  
establishing a 320-acre non-standard gas prora- )  
tion unit in the Jalmat Gas Pool consisting of )  
the E/2 of Section 24, Township 22 South, Range )  
36 East, Lea County, New Mexico. Applicant )  
further proposes to dedicate said unit to a )  
well located on an unorthodox location at a )  
point 330 feet from the North line and 330 feet )  
from the East line of said Section 24. )  
-----

BEFORE:

Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: 2114.

MR. PAYNE: Case 2114. Application of Western Natural  
Gas Company for a 320-acre non-standard gas proration unit and for  
an unorthodox gas well location.

MR. SETH: We have one witness.

(Witness sworn.)

WENDELL B. COOK

called as a witness, having been previously duly sworn, testified  
as follows:

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



DIRECT EXAMINATION

BY MR. SETH:

Q Would you state your full name, please?

A Wendell B. Cook.

Q And by whom are you employed, Mr. Cook?

A Western Natural Gas Company.

Q And what capacity?

A Division Petroleum Engineer, Midland, Texas.

Q Does that include the portion of New Mexico which is the subject of this application?

A Yes, it is.

Q Are you familiar with the area concerned?

A Yes, sir.

Q Are you familiar with the application?

A Yes, sir.

Q Have you testified before the Commission, or Examiner, before?

A Yes, sir.

MR. SETH: May he testify as an expert?

MR. UTZ: Yes.

Q (By Mr. Seth) Will you state, please, for the Examiner, the general purpose of the application?

A Western Natural Gas Company makes application to authorize for its Stake-McDonald No. 21 Oil Yates undesignated a 320-

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-5691

ALBUQUERQUE, NEW MEXICO



DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO

acre non-standard gas proration unit comprising the east half of Section 24, Township 22 South, Range 36 East, Lea County, New Mexico; also to authorize an unorthodox gas well location for the said Stake-McDonald No. 21 well located 330 feet from the North line, 330 feet from the East line of Section 24, 22, 36, Lea County, New Mexico.

Q Do you have a plat showing the location of the well?

A Yes.

MR. UTZ: You want this Exhibit 1?

MR. SETH: Yes, please.

Q (By Mr. Seth) Would you please state for the Examiner what Exhibit 1 shows?

A This Exhibit 1 shows the location of the Stake-McDonald No. 21.

Q Is that circled in red?

A Circled in red, yes, sir.

Q And what about the non-standard unit, is that outlined in red, also?

A Yes, sir, the 320-acre non-standard unit.

Q Now, would you indicate, sir -- state the location of the pool boundaries, the Jalmat?

A The extremity of the Jalmat?

Q Yes.

A The Jalmat comes to the red mark there in the center of Section 24. That is the eastern extremity of the Jalmat Gas Pool.



DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO

Q And how about the Eumont?

A The Eumont is the extreme east edge of Section 24, leaving the 320 acres undesignated.

Q Twenty-four lies between the Jalmat and the Eumont?

A Yes.

Q Now, would you describe the details of the completion and, more or less, the history of your statement?

A The unorthodox location, in the first place, was occasioned by a previously drilled well, drilled by Ohio Oil Company, completed April of 1941 in the old Arrowhead Oil Pool and open-hole section of the Queen.

Q It has produced as an oil well?

A Yes, sir, and as of recently, this year, it has been depleted of commercial quantities of oil and/or gas from this Queen's open-hole section, and Western Natural Gas, being the leasee and operator of a gas lease comprising this Section 24, had the prerogative, or the right, to take over this well and attempt to re-complete in the Yates, or Jalmat, gas, vertical limits.

Q Was this done?

A Yes, sir.

Q Was it completed as though it were a Jalmat well?

A Yes, sir.

Q Do you have the information on depth?

A All right, sir. Four and a half inch casing was originally set at 3514 feet.



Q Do you have the log?

A Yes, sir.

Q If you would refer to Exhibit No. 2 --

A Exhibit 2, the Gamma Ray Neutron Log. Western Natural Gas proceeded to plug back in the four and a half inch casing, setting a cast-iron bridge plug at 3310, with a sack and a half of cement on top, and the perforated intervals indicated a total of eighty feet perforated in nine straight zones of porosity in the Jalmat gas vertical limits. We are above a hundred feet, top of the Queen, so we are strictly in the Jalmat gas vertical limits.

We proceeded then to, of course, test the old casing. All necessary mechanics were passed in pressure testing. We proceeded to frac this zone through two and a half inch tubing with packer set above all perforated zones with 27,000 gallons of water and 27,000 pounds of sand in two stages of fracture, sixty ball sealers. What I mean by two stages, we frac'd the six lower zones separately, or first, you might say; then we pulled up and frac'd the entire section with the subsequent approximately 15,000 gallons. The reason for that being, if you notice on the log, the better zone of porosity here at 2750 indicating if we had have combined all zones, this probably would have taken most of our injection, our water-sand injection.

Q A situation where you had to select?

A Yes, right. In this type of fracturing, we think that you have maximum efficiency in opening up all zones of porosity;

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



as a matter of fact, by selectively selecting the frac'ing, we think we have opened up a porosity, possibly old-hole completions that have not been effectively frac'd.

Q Do you think it would have been more successful if you had not been restricted by the size of the tubing?

A That is right. We didn't want to subject this 20-year-old casing to any abnormal frac'ing pressure.

Q Is there anything else about the log?

A No, I think that will cover it, everything.

Q Did you subsequently conduct some tests on it?

A Yes, sir, we did.

Q Do you have some data on that?

A Yes, sir, we have a multi-point back pressure test.

Q Would you summarize?

A We acquired permission from the Commission office in Hobbs to flare this gas into the atmosphere for a twelve-hour period, the result being 1550 mcf absolute potential, as indicated. The gravity of the gas was assumed.

Q This was a special test to develop data?

A To ascertain some type of productive capacity of this well.

Q A regular official test --

A The official test will be conducted when the application is approved.

Q Is there anything else about it?



DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO

A I believe that is all.

Q Anything else you would like to call attention to?

A I believe that is all.

Q Did the company notify the offset operators of the oil company's intention?

A Yes, sir. We have two letters here from Humble and Ohio.

Q What do they say, in effect?

A That they offer no objection to what we are seeking here.

Q Now, would you refer to Exhibit No. 1, the zones owned by these two companies?

A Humble Oil is direct-east offset, Section 19, 22 South, 37 East; the Ohio, direct-north offset, Section 13.

Q Now, still referring to Exhibit 1, do you have another well in the claim section and, if so, what is the designation?

A The Stake-McDonald Well No. 12 Jalmat Gas Well.

Q And what is the location of that by subdivision?

A Well, it is the southwest quarter of Section 21, I believe that is six-sixty --

Q Section 24?

A Section 24, yes, I am sorry.

Q And what acreage is dedicated to No. 12?

A The southwest 160 acres of Section 24.

Q Are you planning at the present time to make application for dedication of additional acreage to that well?

A Yes, sir, the full 320.



DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO

Q And what would that be, northwest quarter of Section 24?

A That will add the northwest quarter section of Section 24.

Q At the present time is there any other acreage that could be dedicated to the 21 well, or is this the only possible arrangement at the present time?

A Well, the east half of 320?

Q Yes.

A Yes, that is the only possible acreage.

Q Now, as to the No. 12 well, will you give us a little data on that well?

A That well was completed in 1953; again, open-hole completion, with five and a half inch casing set on top of the producing horizon. It was acidized, originally, no frac'ing treatment. The original open flow was 577 mcf with a seventy-two hour shut-in pressure of 1105. In 1956, we proceeded to -- we frac'd this well, I believe, with 10,000 gallons -- I am not sure -- ten or fifteen thousand gallon fracturing treatment, and it increased the open flow by roughly 50% to 890 mcf. At that time, we shut in pressure of 14 psig.

Q Now, you indicated that is an open hole?

A Open hole completion, yes.

Q In your opinion, if you could selectively frac that well, do you believe it could be improved even further?

A Yes, I do, with a liner setting, possibly selective





DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CM 3-6691

ALBUQUERQUE, NEW MEXICO

perforating frac'ing, we could improve that, possibly, a hundred percent, even now.

Q Do you think that would be pretty much typical of wells in this general area?

A I think so. In this marginal area here, what we are talking about, I do.

Q Has there been quite an improvement in the techniques in frac'ing and re-completing since this well was the last time?

A Yes. In the last seven or eight years, very much so.

Q And if I understand you correctly, you have wells in the extreme corners of the section, the northeast and southwest?

A That is true.

Q Both productive wells?

A Both productive.

Q In your opinion, is the entire east half of Section 24, will it be productive of gas?

A Yes.

Q And can reasonably be expected?

A Yes.

Q Do you know whether or not, as far as structure is concerned, is 21 lower than 12 or higher than 12?

A The Stake-McDonald 21 is approximately two hundred feet higher than 12, which is in the southwest quarter of Section 24.

Q And you have that approximation by comparison of logs?

A Right, logs in the area.



Q And some general questions: Do you feel the granting of this application will be in the interest of conservation and prevent waste?

A Yes, sir.

MR. SETH: I believe that is all, Mr. Examiner. We would like to offer in evidence our Exhibits 1 through 5.

MR. UTZ: Without objection, Exhibits 1 through 5 will be entered into the record.

MR. SETH: That is all our direct.

CROSS-EXAMINATION

BY MR. UTZ:

Q Mr. Cook, did you say the No. 12 was a marginal well?

A Well, it is not -- we know in this edge of the Jalmat Field, Mr. Examiner, that we don't have the best, or the better, Jalmat gas wells. It is, let's say, a low-productive Jalmat well.

Q Is it classified as marginal on the porosity schedule?

A No. It is a non-marginal well.

Q How much energy does the well have, or what is its status?

A It is 1605 mcf --

Q Just a minute -- making it 320 allowable?

A Yes.

Q Do you think the duty of the 21 is great enough to make 320-acre allowable?

A I do, Mr. Examiner. I have, for instance, a well here



with a 443 deliverability, and an acreage factor of two. I am just quoting at random, if that is all right -- has a, according to the November allocation, eleven million allocation to it. At this time, it is 5700 under. That is a particular well. But according to the figures that we have on that test, we are expecting anywhere from five hundred to eight hundred mcf deliverability, and, at that rate, assuming that, average monthly allocation would be estimated at eleven million. We are not anticipating that it will be capable of making that.

Q Of course, your C-122 is only a three-hour open?

A Yes, I realize that. Again, Mr. Examiner, that was to get some kind of a test for this hearing.

Q Yes. This Jalmat, does this Jalmat border this on the south?

A I will check. It comes in right here, yes, right here and then on down.

Q This is Eumont to the north?

A Yes.

MR. SETH: The Eumont cuts off here, I believe.

THE WITNESS: That is right.

Q (By Mr. Utz) Now, this interval you perforated between twenty-seven and twenty-eight hundred, what formation is that in?

A That is in the Yates. We have the three, four -- they are marked on the others.

Q So all your perforations are in the Yates?



A Yes, sir.

MR. UTZ: Are there any other questions of the witness?  
If not, the witness may be excused.

Do you have further testimony?

MR. SETH: No, that is all we have.

MR. UTZ: Are there statements in this case? If there  
are none, the case will be taken under advisement.

**DEARNLEY-MEIER REPORTING SERVICE, Inc.**

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO

I, LAWRENCE HOLMES, JR., Certified Shorthand Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF, I have affixed my hand this 22nd  
day of November, 1960.

Laurence Salinas, Jr.  
CERTIFIED SHORTHAND REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Engineering Board of Case No. 2114, heard by me on Nov. 2, 1960.

*[Signature]* Examiner  
New Mexico Oil Conservation Commission



I N D E X

<u>WITNESS</u>	<u>PAGE</u>
WENDELL B. COOK	
Direct Examination by Mr. Seth	2
Cross-Examination by Mr. Utz	10

E X H I B I T S

<u>NUMBER</u>	<u>OFFERED</u>	<u>RECEIVED</u>
Exhibits Nos. 1 through 5	10	10

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO

