

BEFORE THE  
**Oil Conservation Commission**  
SANTA FE, NEW MEXICO  
April 20, 1955

IN THE MATTER OF:

CASE NO. 888 - Regular Hearing

TRANSCRIPT OF PROCEEDINGS

**ADA DEARNLEY AND ASSOCIATES**  
COURT REPORTERS  
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ALBUQUERQUE, NEW MEXICO

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
April 20, 1955

IN THE MATTER OF:

The application of the Oil Conservation  
Commission upon its own motion for an order

(a) Consolidating the following oil  
pools in Lea and Chaves Counties, New  
Mexico:

North Caprock-Queen Pool;  
Caprock Pool;  
Drickey-Queen Pool;  
*South Drickey-Queen Pool;*

into one pool, to be designated the  
Caprock-Queen Pool and to include the  
following-described acreage:

NEW MEXICO PRINCIPAL MERIDIAN

Case No. 888

Twp. 12 South, Rge. 32 East

SW/4 Section 1;  
S/2 Section 11;  
W/2 Section 12;  
W/2 Section 13;  
all of Sections 14, 15, 16 and 17;  
E/2 Section 19;  
all of Section 20;  
N/2 Section 21;  
N/2 Section 22;  
N/2 Section 23;  
all of Sections 29, 30, 31 and 32

Twp. 12 South, Rge. 31 East

All of Section 36

Twp. 13 South, Rge. 31 East

All of Sections 1, 2, 11, 12, 13 and 14;  
E/2 Section 15;  
all of Sections 22, 23, 24, 25, 26 and 27;  
E/2 Section 33;  
all of Sections 34, 35 and 36

Twp. 13 South, Rge. 32 East

All of Sections 5, 6, 7, 8, 17, 18 and 19;  
W/2 Section 30;  
W/2 Section 31

Twp. 14 South, Rge. 31 East

All of Section 2 and 3;

E/2 Section 4;

all of Sections 9, 10 and 11;

W/2 Section 14;

all of Sections 15, 16, 21, 22, 27 and 28;

E/2 Section 32;

all of Section 33;

W/2 Section 34

Twp. 15 South, Rge. 31 East

All of Sections 4 and 5;

E/2 Section 7;

all of Section 8;

W/2 Section 17;

E/2 Section 18;

E/2 Section 19;

W/2 Section 20

(b) Establishing pool rules for the above-designated Caprock-Queen Pool pertaining to gas-oil ratio limits, annual well tests in conformance with provisions of Rule 201, casing programs, and such other rules as may be deemed advisable.

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BEFORE:

Mr. E. S. (Johnny) Walker

Mr. William B. Macey

TRANSCRIPT OF HEARING

MR. MACEY: The next case on the docket is Case 888.

S. J. S T A N L E Y,

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

DIRECT EXAMINATIONBy MR. KITTS:

Q State your name and position, please.

A S. J. Stanley, Engineer for the Oil Conservation Commission.

Q Mr. Stanley, you are familiar with Case 888, where there is under consideration a possible consolidation of certain named oil pools?

A Yes, sir, I am. (Marked Commission's Exhibit 1 for identification.)

Q In that connection I believe you have prepared an exhibit that has been marked Exhibit 1 in this case?

A Yes, sir, I have.

Q Will you proceed to that Exhibit and explain that, please?

A Exhibit No. 1 reflects the present boundary of four pools. Outlined in red is the North Caprock Pool, outlined in blue is the Caprock Pool, outlined in green is the present boundary of the Drickey-Queen Pool and outlined in purple is the present boundary of the South Drickey-Queen Pool.

Exhibit No. 1 also shows a contour map on top of the Queen with the contour interval of ten feet. This information was obtained from Commission files, electrical and gamma ray log data, and information supplied by the operators wherever it was requested. There are a few gaps in the trend, due to non-development.

Q What trend?

A In the Caprock trend.

Q All right.

A There are a few gaps in the Caprock trend, due to non-development. This is especially true in the area of Sections 28, ~~28~~, Township 14 South, Range 31 East, and also in the area of Sections 19, 20, 29 and 30 in Township 12 South, Range 32 East. However, the trend, that is the Caprock trend persists and that the entire area is, I believe, connected as one pool as Exhibit No. 1 indicates. Therefore, it is recommended that the entire area colored in yellow as defined by the advertisement in this case, be consolidated into one pool.

In addition to the advertised pool boundary, it is recommended

that additional contiguous acreage be included, namely the north-east quarter of Section 30, Township 13 South, Range 32 East. It must have been noted that the north half was advertised as an extension to the Caprock Pool in the March nomenclature cases. That is the north half of Section 30. However, the present proposed boundary in Case 888 incorporates only the west half. Therefore, to be in accord with the original proposed recommendations in the nomenclature cases, it is recommended that the northeast quarter of Section 30, Township 13 South, Range 32 East be included. The Caprock trend presents a very interesting problem<sup>16</sup> which ~~are~~ are not encountered in the original Caprock Pool, as development extended southward into the Drickey-Queen and South Drickey-Queen Pools as presently defined by the Commission, certain gas areas were encountered in a number of wells. This usually occurs up-dip and on the western flank of the Caprock trend.

More specifically, gas was encountered in the Joseph O'Neil, Junior Well. The Elizabeth A Williams No. 1, the northwest quarter of the northwest quarter of Section 33, Township 14 South, Range 31 East, the top of the Queen was found to be at 2,900 feet. From Commission files we have the following data, drill-stem test No. 1 in the Queen interval from 2,897 to 2,926, shows that they recovered a fair blow of air for four minutes, followed by gas flow, no fluid.

Drill-stem test No. 2, from 2877 to 2926, open two and a half hours, flowed 7,126,000 cubic feet of gas per day. Flowing pressure was from zero to 1,000 pounds; fifteen minute shut-in was 1,000 pounds. Analysis of the gas showed it to be 64 percent nitrogen and the remainder methane. It had a very low BTU content. The well was plugged and abandoned.

Another well, that is Well No. 2 was the Morris R. Antweil Federal Yates No. 1, the southwest quarter of the northeast quarter of Section 33, Township 14 South, Range 31 East. They set six-inch oil string at 3,076 feet with 100 sacks, drilled out to three thousand eighty-four and a half feet, recovered 7,500,000 cubic feet of gas per day. The gas analysis, there was no gas analysis, excuse me. However, the gas was believed to have the same characteristics as the Joseph I. O'Neal, Junior, Elizabeth A. Williams No. 1 Well. Operator perforated pipe from 3,079 to 3,083 after setting a liner, but failed to shut off the gas. There was no trace of oil and the well is presently shut-in.

Another high gas-oil ratio well was the Cities Service Government D No. 1 in the southeast quarter of the northeast quarter of Section 33, Township 13 South, Range 31 East. This well is approximately six miles north of the two wells previously read into the record. The top of the Queen is 2,810 feet. Five and a half inch casing set at 2,867; total depth was 3,147. However, operator did not drill out the cement plug. Perforated pipe from 2,820 to 2,830, with the top of the Queen, of course, at 2,810. Operator proceeded to sand oil frac with eight thousand gallons of oil and four thousand pounds of sand, recovered a load oil and tested approximately 95 barrels of oil per day; 37 degree gravity, with a gas-oil ratio of 21,500 to 1.

Another gas well, or well with a high gas-oil ratio was the Sinclair Oil and Gas Company's Federal Saner No. 2 in the northwest quarter of the southwest quarter in Section 8, Township 15 South, Range 31 East. The top of the Queen is 3,070 feet. This well has a high gas-oil ratio in excess of 25,000 to 1. The oil

production is estimated at four barrels per hour. I believe that future development will result in many more wells completed with high gas-oil ratios in the Caprock trend. I have heard it argued that the gas may be isolated from the reservoir by occurring in pockets. However, two wells have been situated with a gas-oil contacted, namely the Cities Service Government D-1 and the Sinclair Federal Saner No. 2.

Further, I believe that most of the operators are of the opinion that this occurrence of gas is directly connected to the reservoir, and that it may be a source of energy for greater ultimate recovery from oil. Therefore, I recommend that the entire Caprock trend have a gas-oil limit of 2,000 to 1 with respect to the casing program.

Q Let me ask you a question here. Each of the four pools, as designated on that map, they are vertical boundaries or the formation is the Queen and the Queen only, is that right?

A Yes, sir, that is correct.

Q You recommend that this new pool, which you propose also, that the Queen be the vertical delineation and only the Queen?

A Yes, sir, producing from the Queen formation.

Q All right.

A A study pertaining to casing requirements in the Drickey Pool was conducted last year. That is in 1954. This study was made by Jack Frost with the United States Geological Survey in Artesia, and also by the Commission Staff.

I wish to read into the record an outline of the casing program distributed by the United States Geological Survey to all operators holding Federal leases, that the minimum casing program to be approved by the State and Federal regulatory bodies would be a surface string to be set and cemented in the top of the red-beds, at approxi-

300 feet, and a production string to be cemented with not less than a hundred sacks of cement, preceded by mud, circulated back to the surface; and/or in lieu of cementing the surface string, the production string to be two-stage, with not less than 50 sacks on bottom and 50 sacks at the top of the salt. Here is the casing program as outlined by the Commission Staff.

MR. KITTS: You wish to mark that as an exhibit?

(Marked Commission's Exhibit No. 2,  
for identification.)

Q Did you assist in the preparation of that?

A Yes. "September 1, 1954. Directive to: All Operators in the Drickey-Queen Area. From: Oil Conservation Commission-Hobbs-S. J. Stanley, Engineer. Subject: Casing Program in the Drickey-Queen Area. The New Mexico Oil Conservation Commission has completed a study of the Drickey-Queen area pertaining to a casing program for the protection of potable waters and the isolation of the salt section. Hereafter, wells drilled in this area shall set pipe as follows:

AREA 1 - WELLS DRILLED ON TOP OF THE CAPROCK

Surface pipe must be set and sufficient cement used to circulate to the surface. The surface pipe must be set at a sufficient depth to penetrate the red-bed section. Geological correlation of the red-bed section on top of the Caprock is approximately 265 ft., therefore surface pipe must be set at a minimum approximate depth of 257 to 300 ft.

AREA 2 - WELLS DRILLED BELOW THE CAPROCK

(1) Surface pipe must be set and sufficient cement used to circulate to the surface. The surface pipe must be set at a sufficient depth to penetrate the red-bed section. Geological



correlation of the top of the red-bed section below the Caprock is approximately 145 ft., therefore the surface pipe must be set at a minimum approximate depth interval of 155 to 180 ft.

(2) in Lieu of Paragraph (1) above, the operator may exclude the setting of surface pipe below the Caprock provided that:

(a) In cementing the oil string the operator will use sufficient cement to completely cover the salt section or utilize a two-stage cementing tool with a minimum of 50 sax around the bottom of the casing and 50 sax at the top of the salt, or,

(b) In the absence of setting surface pipe as outlined in sub-paragraph above, the operator in addition will state on Form C-103 that there is no surface water in the immediate area of the location, occasioned by the Drilling of a dry water well."

As a result of the drilling of gas wells, since the casing requirements were written, I have changed my idea of surface pipe requirements in a pool, since gas wells have been encountered below the Caprock, and in an area where there is possibly no surface water it is possible that in drilling of a well the surface pipe could be included in the casing program of the well.

Secondly, an economic factor is involved in the setting of an oil string, whereby Mr. John Doe, the operator, has decided to penetrate the Queen pay formation to determine the economic feasibility of running an oil string. A blow-out can occur and they have occurred in the Drickey-Queen area, in the absence of any pipe in the hole, or by landing a cable tool string, for the protection of

make eight barrels; with ten thousand, two barrels; with forty thousand, or so forth?

A That is correct.

MR. MACEY: Anyone else?

MR. KITTS: We offer in evidence, Exhibits 1 and 2.

MR. MACEY: Without objection the exhibits will be received in evidence. Anything further in this case?

MR. McNAUGHTON: John McNaughton, representing Neville Penrose in Fort Worth. On April 7th, we directed a letter to the Commission's attention regarding our stand in this matter. I believe the original of that letter is in the Commission's hands. I would like to briefly outline the content of this letter in the event there is any question about it.

We have no serious objection to the consolidation of these pools, but we do have a strenuous objection to the elimination of the name "Drickey" from the pool name. As the Commission will recall, the original discovery well in the Drickey Pool was the Penrose-Zimmerman No. 1, located in the northwest quarter northwest quarter, Section 15, Township 14 South, Range 31 East.

This well was drilled on geology that was developed by Mr. Paul Drickey and his associates, R. S. Anderson, Incorporated. And, because of that the pool was named to give him some recognition. This field, of course, is developed far beyond our wildest expectations and I presume those of others in the area. We feel that this recognition should be continued, as I previously stated, although we have no objection to the consolidation of these fields, we do not think it is necessary at this time. But, if it so please the Commission to effect this consolidation, we would like for the name

"Drickey" to remain.

If, again, it is not proper to call the whole field the Drickey Field, then we would like to see it called the Drickey-Caprock, or some such similar name.

In regard to the gas-oil ratio, we have no objection to the gas-oil ratio limit as suggested by Mr. Stanley in regard to the casing program, although we are not in entire agreement with the necessity for setting surface pipe, we have no objections to setting it as he suggested.

MR. MACEY: Anyone else?

MR. REIDER: I would like to have Mr. Stanley on the stand.

By MR. REIDER:

Q I believe there was no provision made for no no-flare provisions in this field rule?

A I overlooked that point. I wish to recommend a no-flare order in this particular area.

I would also request to the Commission that I withdraw Exhibit No. 2, place it on the brown line so that prints can be made, and the operators pay for the prints at Hobbs, New Mexico. We have had numerous requests for that map.

MR. MACEY: Exhibit 2 or 1?

A Exhibit 1.

MR. MACEY: I am not sure I understood what you said about the no-flare rule.

A We do have, actually. I recommend 2,000 to 1 gas-oil ratio in the pool. We do have some dry gas whether it be nitrogen or methane, I recommend that the dry gas not be blown to the atmosphere. Therefore, I recommend a no-flare order for the pool.

MR. MACEY: If you have a no-flare order for the pool, they are not tied to a gasoline plant --

A No, sir.

MR. MACEY: What are they going to do?

A Pertaining to the dry gas wells, could they blow them off?

MR. MACEY: No, but you said for the pool?

A I am sorry, I will retract that statement.

MR. MACEY: What you are trying to say is that a completed dry gas well on the reservoir should not be allowed to --

A (Interrupting) Be blown to the atmosphere. However, theoretically, with a 2,000 to 1 ratio, and an operator producing a little bit of oil, he could blow that amount of gas to the atmosphere, equal to 80,000 to 1. That is the complication.

MR. MACEY: Anyone have a questions of Mr. Stanley?

MR. DUREE: My name is Jack Duree, with Pure Oil Company.

By MR. DUREE:

Q Mr. Stanley, about what does the ratio run on most of the wells throughout the Queen sand, wells, including these exceptional wells that you have brought out?

A They are of a low order, generally too small to measure.

Q Would you say somewhere in the 200 foot range?

A Yes, sir, I would say that.

MR. MACEY: Mr. Stanley, have they established a gas-oil contact to a certain datum, is it irregular?

A I think it may be regular. Usually I think that the gas-oil contact, the rule of the thumb is plus 1,400 feet. However, gas has been encountered at lower depths. However, there could be discrepancies in elevation, due to sudden drop-off <sup>from</sup> ~~to~~ the Caprock

and it could be that the gas-oil contract is irregular throughout the entire trend.

MR. MACEY: Anyone else? If not the witness may be excused.

(Witness excused.)

MR. MACEY: I have a telegram from Morris R. Antweil, addressed to the Commission. "We urge Commission to ~~adopt~~ name of Drickey-Queen for entire area. We feel it is wasteful to cover salt section with cement. Will accept Commission's recommendation within reason, Signed: Morris R. Antweil." Telegram is dated April 15th.

Anyone have anything further?

MR. WALKER: Don Walker, with Gulf. I am sorry that I didn't know about this until this morning. Possibly I didn't read my mail close enough. I would like to have this held over long enough to give my management a chance to talk about it. I am reasonably sure we have no objection, but I would like to have the privilege of getting in a letter stating our position.

MR. MACEY: Will 20 days be sufficient?

MR. WALKER: Yes, sir.

MR. MACEY: Anyone else?

MR. DUREE: May we ask for the same thing?

MR. MACEY: Yes, sir. Anyone has an opportunity to submit any statement or proposal they wish to make in this case within the next 20 days.

If nothing further, we will take the case under advisement.

MR. McNAUGHTON: May I make the request that those statements be furnished to the other operators in the field? If they are going to submit statements, as long as they have no objections there would be no question about it, if they have objections my company would

like to know what they are.

MR. MACEY: Would you furnish him with a copy of the letter please?


MR. WALKER: Yes.

MR. DUREE: Yes.

STATE OF NEW MEXICO )  
COUNTY OF BERNALILLO ) SS.

I, ADA DEARNLEY, Court 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 and notarial seal this 30th day of April, 1955.

  
Notary Public, Court Reporter

My Commission Expires:  
June 19, 1955