

BEFORE THE  
**Oil Conservation Commission**  
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE NO. 985

TRANSCRIPT OF PROCEEDINGS

**ADA DEARNLEY AND ASSOCIATES**  
COURT REPORTERS  
605 SIMMS BUILDING  
TELEPHONE 3-6691  
ALBUQUERQUE, NEW MEXICO

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
December 14, 1955

IN THE MATTER OF:

CASE NO. 985

Northwestern New Mexico nomenclature case calling for the following creations and extensions of pools.

(a) Creation of a new gas pool for Dakota production, designated as the East Companero Dakota Pool, and described as:

Township 27 North, Range 4 West

Section 5: SW/4  
Section 6: S/2  
Section 7: All  
Section 8: W/2

(b) Creation of a new gas pool for Dakota production, designated as the Largo Dakota Pool, and described as:

Township 27 North, Range 9 West

Section 3: S/2  
Section 4: SE/4  
Section 9: NE/4  
Section 10: N/2

(c) Creation of a new gas pool for Dakota production, designated as the Otero Dakota Pool, and described as:

Township 25 North, Range 5 West

Section 22: All  
Section 23: W/2  
Section 26: NW/4  
Section 27: N/2

(d) Creation of a new oil pool for Lower Gallup production, designated as the Bisti Lower Gallup Pool, and described as:

Township 25 North, Range 12 West

Section 9: S/2 SE/4  
Section 10: SW/4 SW/4  
Section 15: W/2 NW/4  
Section 16: NE/4

(e) Creation of a new oil pool for Upper Gallup

production, designated as the South Barker Upper Gallup Pool, and described as:

Township 31 North, Range 15 West  
Section 13: W/2 SW/4  
Section 14: SE/4  
Section 23: N/2 NE/4  
Section 24: NW/4 NW/4

(f) Extension of the Blanco-Mesaverde Pool to include:

Township 27 North, Range 9 West  
Section 3: All  
Section 4: E/2  
Section 9: NE/4  
Section 10: N/2

(g) Extension of the Canyon Largo-Pictured Cliffs Pool to include:

Township 25 North, Range 7 West  
Section 5: NW/4

Township 26 North, Range 7 West  
Section 32: N/2 and SW/4

(h) Extension of the West Kutz-Pictured Cliffs Pool to include:

Township 26 North, Range 11 West  
Section 3: S/2

(i) Extension of the Fulcher Kutz-Pictured Cliffs Pool to include:

Township 28 North, Range 10 West  
Section 7: W/2

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BEFORE:

Honorable John F. Simms, Jr.,  
Mr. E. S. (Johnny) Walker,  
Mr. William B. Macey.

TRANSCRIPT OF HEARING

MR. MACEY: The next case on the docket is Case 985.

(Witness sworn.)

E L V I S A. U T Z

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

DIRECT EXAMINATION

BY MR. KITTS:

Q State your name and position.

A Elvin A. Utz, Engineer with the New Mexico Oil Conservation Commission.

Q Mr. Utz, are you familiar with Case 985 and the recommendations contained therein?

A Yes, sir, I am.

Q Turn, first, to paragraph "e", which relates to the recommended creation of a new gas pool designated as the East Companero Dakota Pool; state what that recommendation is and the basis for it.

A Paragraph "e"?

Q Paragraph "a".

A Sorry. Paragraph "a" has to do with the creation of a new pool called the East Companero Dakota. I recommend that that be extended as advertised -- or created, as advertised, on the basis of the El Paso Natural Gas No. 5 San Juan Unit 27-4, located in the NE/4, Section 7, 24 North, 4 West, which had an initial pressure of 4,206 MCF per day, and shutin pressure of 2,549 pounds in fourteen days.

MR. KITTS: Off the record for just a second.

(Discussion off the record.)

Q Number "b," creation of a new gas pool for Dakota production, designated as the Largo Dakota Pool; explain that, and the basis for it.

A The recommendation is for the creation of a new pool to be known as Largo Dakota Pool; I recommend it be created as advertised on the basis of the J. Glenn Turner No. 2-3C. Hughes, which is located in the SW/4 Section 3, Township 27 North, Range 9 West, initial potential, 524MCF per day, shutin pressure of 2,025 pounds; this is a

dual completion under D C order 219.

Q Paragraph "c," explain that recommendation and the basis for it.

A I recommend that the Otero Dakota gas pool be created as advertised on the basis of the Skelly Oil Company No. 1 Jicarilla C located in the SE/4 of Section 22, Township 25 North, Range 5 West, which had a calculated open flow of 9,500 MCF per day, with shutin pressure of 2,500 pounds in six days; it is producing sixty-two barrels of distillate per 1,000 MCF.

Q Mr. Utz, would you comment on the recommendation for "d," and the basis for it?

MR. MACEY: Just a moment. Mr. Christie has a comment to make on paragraph "c".

MR. CHRISTIE: R. F. Christie. Mr. Utz, are you satisfied that that is in the Dakota formation?

A Well, I have taken the word of our geologist as to the formation.

MR. CHRISTIE: Well, Amerada Petroleum drilled an offset to that well, we have obtained production from what we considered to be the same horizon; our geologists believe that that is in the Cretaceous, so there is some difference of opinion between Skelly and ours, and in that case, unless you are positive it is Dakota, I would suggest to the Commission that it be continued until the geologists get together on the proper formation.

MR. MACEY: Mr. Arnold?

MR. ARNOLD: I don't believe we even have an electric log on this well, so the recommendations are made from the operator's report, he called it the Dakota production, but I have no objection

to continuing it. I would like to request that we get an electric log.

MR. MACEY: Are logs available on the Skelly well?

MR. CHRISTIE: I suppose that they are.

MR. UTZ: I have one, but I didn't look at it.

MR. MACEY: We will continue paragraph "c" until the January 19 hearing pending further study of the formation involved. Does anyone else have any further comment on that portion of the case? If not, we will go on to paragraph "d."

Q Paragraph "d," Mr. Utz, what is the basis for that recommendation?

A I recommend that a new oil pool be created for Lower Gallup production, which shall be called the Bisti, which was the name of a trading post in the area. I recommend that this oil pool be created as advertised on the basis of the El Paso Natural Gas Company's No. 1 Kelly State, in the NE/4 of Section 16, Township 25 North, Range 12 West, initial potential 180 barrels per day, and 100 MCF per day.

Q Paragraph "e", state more fully what the recommendation is, and the basis for it.

A I recommend that paragraph "e" be dismissed entirely until such time as evaluation can be made of the producing formation in the mica shale; there is some doubt now as to whether it is actually Gallup or not.

Q Your request is that it be dismissed and not merely continued?

A Yes, I am sure it is going to have to be re-advertised again anyway.

Q Paragraph "f", extension of Blanco-Mesaverde Pool, what is your recommendation for that?

to continuing it. I would like to request that we get an electric log.

MR. MACEY: Are logs available on the Skeelly well?

MR. CHRISTIE: I suppose that they are.

MR. UTZ: I have one, but I didn't look at it.

MR. MACEY: We will continue paragraph "c" until the January 19 hearing pending further study of the formation involved. Does anyone else have any further comment on that portion of the case? If not, we will go on to paragraph "d."

Q Paragraph "d," Mr. Utz, what is the basis for that recommendation?

A I recommend that a new oil pool be created for Lower Gallup production, which shall be called the Bisti, which was the name of a trading post in the area. I recommend that this oil pool be created as advertised on the basis of the El Paso Natural Gas Company's No. 1 Kelly State, in the NE/4 of Section 16, Township 25 North, Range 12 West, initial potential 180 barrels per day, and 100 MCF per day.

Q Paragraph "e", state more fully what the recommendation is, and the basis for it.

A I recommend that paragraph "e" be dismissed entirely until such time as evaluation can be made of the producing formation in the mica shale; there is some doubt now as to whether it is actually Gallup or not.

Q Your request is that it be dismissed and not merely continued?

A Yes, I am sure it is going to have to be re-advertised again anyway.

Q Paragraph "f", extension of Blanco-Mesaverde Pool, what is your recommendation for that?

A I recommend it be extended as advertised, on the basis of J. Glenn Turner No. 2-3 Hughes, in the SW/4 of Section 3, Township 27 North, Range 9 West, initial potential of 216 MCF per day, shutin pressure of 1,143 pounds; this is a dual completion as ordered by D C No. 219.

Q Paragraph "g," extension of Canyon Largo-Pictured Cliffs; what is the basis for that recommendation?

A It is recommended that it be extended as advertised on the basis of three wells capable of producing, C J 1 No. 3, C J 1, NW/4 of Section 5, Township 25 North, Range 7 West, initial potential of 785 MCF per day, with shutin pressure of 645 pounds in seven days, and the El Paso Natural Gas No. 6 Hamilton State, NE/4 of Section 32, Township 26 North, Range 7 West, with initial potential of 197 MCF per day, with shutin pressure of 598 pounds in seven days, and the El Paso Natural Gas No. 7 Hamilton State, NW/4 Section 32, Township 26 North, Range 7 West, with initial potential of 1,946 MCF per day, with shutin pressure of six hundred and fifty-eight pounds in fourteen days.

Q Paragraph "h," what is the basis for the recommended extension of the West Kutz-Pictured Cliffs Pool?

A I recommend the West Kutz-Pictured Cliffs Pool be extended as advertised on the basis of Griffith-Moore No. 1 Navajo in the SW/4 of Section 3, Township 26 North, Range 11 West with initial potential of 112 MCF per day, with shutin pressure of four hundred and thirty-one pounds in seventeen days.

Q Paragraph "i," tell us what your recommendation is and the basis for it.

A I recommend the Fulcher Kutz-Pictured Cliffs Pool be extended

as advertised, on the basis of the Southern Union Gas Company Angel No. 19, NE/4 of Section 12, Township 28 North, Range 11 West. I don't have an IP record on this well.

Q Is there one available in our office?

A There is one available, I am sure, but it wasn't available at the time this was printed.

Q Mr. Utz, have you prepared an Exhibit?

A Yes, I have.

Q Will you mark this Exhibit No. 1? This contains all the recommendations, does it?

A This contains all the creations and recommended extensions and the basis on which they were made.

MR. KITTS: We offer Exhibit No. 1 in evidence.

MR. MACEY: Without objection, it will be received. Is that all?

MR. KITTS: That is all.

MR. MACEY: Any questions of the witness?

MR. NUTTER: In other words, all these were as advertised, except paragraph "c" continued to January 19, and paragraph "e" dismissed?

A I asked for it to be dismissed, I don't know whether it was or not.

MR. MACEY: We will take the case under advisement with the exception of paragraph "c," which will be continued until January, and paragraph "e" will be dismissed.

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BEFORE THE  
**Oil Conservation Commission**  
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE NO. 985

TRANSCRIPT OF PROCEEDINGS

**ADA DEARNLEY AND ASSOCIATES**

COURT REPORTERS  
605 SIMMS BUILDING  
TELEPHONE 3-6691  
ALBUQUERQUE, NEW MEXICO

BEFORE THE  
OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO  
January 20, 1956

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IN THE MATTER OF:

CASE NO. 985

Northwestern New Mexico nomenclature case calling for  
the following creation:

(c) Creation of a new gas pool for Dakota production,  
designated as the Otero Dakota Pool, and described as:

TOWNSHIP 25 NORTH, RANGE 5 WEST

Section 22: All  
Section 23: W/2  
Section 26: NW/4  
Section 27: N/2  
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BEFORE:

Mr. E. S. (Johnny) Walker,  
Mr. William B. Macey.

TRANSCRIPT OF HEARING

MR. MACEY: Next case on the docket is 985.

E L V I S A. U T Z

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

D I R E C T E X A M I N A T I O N

BY MR. GURLEY:

Q You are the same Mr. Utz that just testified in the previous case, Case No. 999? A Yes, sir, I am.

Q State your recommendation as to the proposed recommendation contained in Paragraph C of Case 985.

A I recommend that this case be further continued until the Four Corners Geological Society can properly identify the producing

formation.

MR. MACEY: Will a one-month extension be sufficient?

We will continue the case to the February hearing.

A Next regular hearing.

MR. MACEY: Does anybody have any questions of the witness?

If not the witness may be excused.

(Witness excused.)

Does anyone have anything further to offer in this case? If not, the case is continued to the February 15 hearing.

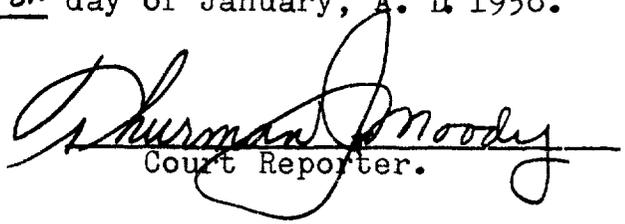
The hearing is adjourned.

\* \* \* \*

STATE OF NEW MEXICO )  
                                  : ss  
COUNTY OF BERNALILLO )

I, THURMAN J. MOODY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the Oil Conservation Commission for the State of New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

WITNESS MY HAND, this, the 27th day of January, A. D. 1956.

  
Court Reporter.

MAIN OFFICE UCC

1933 MAR 19 AM 8:45

BEFORE THE  
**Oil Conservation Commission**  
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE NO. 985

TRANSCRIPT OF PROCEEDINGS

**ADA DEARNLEY AND ASSOCIATES**  
COURT REPORTERS  
605 SIMMS BUILDING  
TELEPHONE 3-6691  
ALBUQUERQUE, NEW MEXICO

BEFORE THE  
OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO  
February 15, 1956

IN THE MATTER OF:

CASE NO. 985 Northwestern New Mexico Nomenclature case  
calling for the following creation:

(c) Creation of a new gas pool for Dakota production,  
designated as the Otero Dakota Pool, and described  
as:

TOWNSHIP 25 NORTH, RANGE 5 WEST

Section 22: All  
Section 23: W/2  
Section 26: NW/4  
Section 27: N/2

BEFORE:

Mr. E. S. (Johnny) Walker,  
Mr. William B. Macey.

TRANSCRIPT OF HEARING

MR. MACEY: The next case on the docket is Case 985.

E. C. ARNOLD,

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

DIRECT EXAMINATION

BY MR. KITTS:

Q State your name and position, please.

A E. C. Arnold, Geologist, Oil Conservation Commission.

Q And where is your office, Mr. Arnold? A Aztec, New Mexico.

Q Mr. Arnold, Case 985, (c), was advertised as a nomenclature  
case originally, for creation of a new gas pool for Dakota produc-  
tion, on the basis of Skelly No. 1 Jicarilla C, which is supposedly

completed in the Dakota Formation. Do you concur and agree that the well is completed in the Dakota? A No, I do not.

Q In connection with your study of this case, Mr. Arnold, have you obtained or prepared certain exhibits?

A Yes, I have. First, I would like to say that we originally thought we would wait until we get the recommendations of the nomenclature sub-committee of the Four Corner Geological Society, but it looks like that is going to be about sixty days before their study is complete, so, rather than wait on that, I made a study on my own, and also sampled the industry to see what the consensus of opinion was insofar as this disagreement as to whether to call this sand the Dakota or the Graneros. These sections, -- I better point them out --

Q Exhibits two through six?

A Yes. This is two, three, four, five and six, which is a composite; this is a composite exhibit using all of the exhibits, two through five.

Q Were those prepared by you?

A No, those were given me by the geological department of the El Paso Natural Gas Company.

Q Are you satisfied as to the accuracy of those exhibits?

A Yes.

Q Do you wish to proceed with Exhibit 1, Mr. Arnold, and --

A These sections were prepared by Mr. Guy Burton, of the El Paso Natural Gas Company in connection with a publication which he made for the Four Corners Geological Society Guide Book in 1955. What he was trying to show was the relationship between the Graneros interval and the Dakota sandstone. ~~Toward the south end of the basin,~~

there is a sand which occurs in what is commonly known as the Graneros interval.

Q That is below the Greenhorn, is it not?

A Yes. In the northern part of the Basin, the Dakota is picked in this body here, but in the south end, this sand has been encountered in the Graneros interval.

Q Will you point out on the Exhibit you are now using, Exhibit No. 5, point out the various formations you are discussing, Mr. Arnold.

A All right. This is the top of the Greenhorn line, the base of the Greenhorn, top of the Graneros shale; this is the sand in question, shaded in here; this is the top of the Dakota as generally depicted in the San Juan Basin. It does vary somewhat due to lensing of the contact with overlying Graneros. Now, all of these sections or locations indicated by these TP logs on the bottom of each section. I believe the best way to show you what each one of them show would be to do it on the composite section, Exhibit 6. The locations of these sections is also shown on the map in red here, E - E-Prime, which is the long section we were just looking at. This one, A - A-Prime, which is this one here, Exhibit 2, B - B-Prime, the next the next one here, C - C-Prime, is the long north-south section here. D - D-Prime is the one farthest to the east. What Mr. Burton did in his study, he used both electric logs and samples and he mapped the inferred northern extent of this sandstone deposition in the Graneras shale. In other words, below the green line, he infers that that sandstone is present; north of the green line, he inferred that it is not, and all the logs that I have looked at bear that out.

Q Will you turn to some of these exhibits to show where this

sandstone in the Graneros is shown, and where it is not?

A Also, I would like to say this dash line on the composite cross section is the same as the green line on this map. What was the question you asked?

Q I was asking to turn your attention to certain exhibits to show where this sandstone in the Graneros appears and where it does not.

A You want me to start with --

Q Start with Exhibit 2.

A All right. A - A-Prime, this sandstone was not found on any of the wells in that section. That is the one to the northeast here -- northwest. On B - B-Prime, which is this section here, it was encountered in the two southerly-most wells, which is Stanolind No. 4, Huerfano and Deeprock No. 1 Edgar. C - C-Prime, which is this section, also shows that the south, the sandstone is only found in the southern part of the area covered by the section. It is present at the Petroleum Production Refining Company's No. 1 Santa Fe; El Paso Natural Gas San Juan 287 Unit No. 1. From that section is what he inferred it goes up into the northern part, the sand being present in this well. D - D-Prime, section farthest to the east, and then that one, the last five wells on the section show that sandstone present, where the Continental South Dulce, farthest to the north, shows it missing. Mr. Burton inferred from his study that the direction of deposition of this Graneros sandstone was to the south, and it probably resulted from a regression of the Mancas at some time considerably later than the Dakota deposition, and it represents a facious change from sand to shale going from south to north.

Q Are there any outcroppings of this sandstone to the south

that would bear out that it is greater in the south than it is in the north?

A Yes. All along the south side of the basin, there is sandstone series outcroppings in the Graneros interval, and they are referred to in U.S.G.S. papers as the Tres Hermanos sandstones, and the two wells that is on the east side and the two wells on the west side, in the Gallup Sunny area, so it would really probably be more correct to call this a Tres Hermanos sandstone. However, we don't have very good control across the south end of the basin, so it can't be definitely established that those sandstones are the same zone as the one producing in the Skelly and Amerada wells. So I believe it would be better to put off that matter until we have further development.

Q What is the usual thickness of the Graneros shale throughout the area you have discussed?

A It is about 120 to 150 feet on the east side of the Basin, it thins gradually going west. However, at no point, even on the west side over here, unless you count this sandstone as Dakota, does it thin to more than about 100 feet.

Q Do you have anymore to say concerning Exhibits 2 through 6?

A I don't believe so. The main reason that I thought it would be a good idea to put these exhibits into the testimony was to show that this zone had been identified by people that had been working in the Basin to show that it could be mapped, and there are people who consider it to be a separate unit from the Dakota sand.

Q Now, just for the record, Mr. Arnold, the Greenhorn is limestone, is it not?

A Yes, that is right.

Q And the Graneros is black shale, and the Dakota is sandstone,

is that correct?

A It's not always quite that clear cut, but that is it, yes.

This is Greenhorn, a line of shale. It is the best time line we have in the lower Mancas, and this section, which is Exhibit 7, is set up on the datum on the base of the Greenhorn, or top of the Graneros shale interval. You can see from this, particularly on the north, this section, by the way, is on that map, and runs from south to north, starting at A to E. It starts in 3- 21N-5W, and ends in Section 6, 28N 2W. You can see at the Continental South Dulce Well, this sand had completely wedged out into shale and is missing. There is a little development in the Southern Union No. 1-A Jicarilla, and these two are the Kelly and Amerada wells which are offset wells which, for the purpose of this hearing, is set up to pool these two wells. The producing zone in the Skelly well is 7110 to 33, which is about right in there, and the Amerada well is 7123 to 76, which is a little wider, about in there. You can see that this whole Graneros section varies very little in thickness across this twenty-mile section. You can also see that there is an upward migration of this sandstone from south to north, which also bears out the fact that is is probably a regressive sand.

Q Where do you pick out on that, do you pick the sandstone in the Graneros?

A This sand is indicated by this deflection on the curb here, here, here, here and here, and here it is disappearing, as you can see, and here you are back almost to the solid shale.

Q What was used in the preparation of that, electric log?

A Electric log.

Q Now, will you point out, again, the completion interval of

the Skelly Oil Company's No. 1 Jicarilla C?

A 7110 to 33, which would be just about where this little nub is here.

Q How far is that from the base of the well, from the top of the Graneros?

A The total Graneros interval is about 150 feet; the top of this sandstone is about thirty feet below the top of the Graneros shale interval. The sandstone zone, itself, is, oh, roughly 35 to 40 feet thick, in both wells.

Q So there is quite an interval, then, from the completion point of this well to the top of the Dakota?

A That's right, about 100 feet of black shale section from the base of the sand to the top of what is normally picked as the top of the Dakota. I want to mention, also, that this has been the Dakota pay particularly in the north end of the Basin. It sometimes varies a little, because of this lensing that is always right in that zone.

Q What do you conclude, then, what formation is the Skelly No. 1 Jicarilla C, where was that well completed, do you think?

A Well, --

Q I mean in what formation?

A Well, it is completely in the Graneros shale interval. Due to the fact that most operators have been calling it the Graneros sand, I would go along with that. I don't think it is exactly scientifically correct to call this the Graneros formation, and then to pick an interval in there and call that the Graneros, I think you would have to call it the Graneros Sandstone for sure. Like I say, I think it would be more consistent with the way we have done in the

past, if eventually we can trace this to an outcropping, call it Tres Hermanos, but for the time being, I will go along.

Q Do you have any recommendations you wish to make as to the name of this proposed pool?

A It is my recommendation it be called the Otero Graneros Pool.

Q Mr. Arnold, do you have any further comments you wish to make?

A Let me look here a minute. The only thing I would like to say is that the study that the Four Corners Society is making, they are putting together a section on the whole Mesaverde - Manca section which they intend to distribute to all the operators in the Basin, and request that they mark their nomenclature the way they see it on this cross section, then when they gather all of these back in, they are going to try to just let the majority rule and see if we come up with some standard names. I have talked to enough of them that I believe that their recommendations will be that we call this Graneros sand, rather than Dakota.

Q Is the top of the Dakota generally agreed upon?

A I think that the only reason, the only reasoning behind calling this Dakota was the way it has been done in the past, was that the first sand you drill below the base of the Greenhorn, you call the top of the Dakota, but I don't believe that that is a very good way to do it, because you can always identify this sand from its position, for one thing; as far as the physical characteristics, it looks about like Dakota sandstone.

Q From your testimony, it would be more logical to call the first sand below the Greenhorn the Dakota if you were in the northern part of the area?

