

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
MAY 28, 1958

CASE NO. 1446

DEARNLEY - MEIER & ASSOCIATES
INCORPORATED
GENERAL LAW REPORTERS
ALBUQUERQUE, NEW MEXICO
3-6691 5-9546

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
MAY 28, 1958

IN THE MATTER OF: :

CASE NO. 1446: Application of The Texas Company for :
approval of a unit agreement. Appli- :
cant, in the above-styled cause, seeks :
an order approving its Cotton Draw :
Unit embracing 35,144 acres, more or :
less, of Federal, State of New Mexico, :
and patented lands, located in Town- :
ship 24 South, Ranges 31 and 32 East; :
Township 25 South, Ranges 31 and 32 :
East, in Eddy and Lea Counties, New :
Mexico. :

BEFORE:

Elvis A. Utz, Examiner.

T R A N S C R I P T O F P R O C E E D I N G S

MR. UTZ: Next case on the docket will be Case 1446.

MR. PAYNE: Application of The Texas Company for approval
of a unit agreement.

MR. BRATTON: Mr. Examiner, Harry Bratton of Hervey
Dow & Hinkle, Roswell, New Mexico, representing The Texas Company,
the applicant in this case. We have three witnesses and three Ex-
hibits. I'll ask that the witnesses be sworn, please.

(Witnesses sworn)

JOHN H. CLARK,

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

DIRECT EXAMINATION

BY MR. BRATTON:

Q Will you state your name, please?

A John Clark.

Q By whom are you employed and where?

A The Texas Company in Midland, Texas.

Q In what capacity?

A Landman.

Q How long have you held that position?

A Four years.

Q Does your area cover southeast New Mexico?

A It does.

Q And are you familiar with the **proposed Cotton Unit area** and the Cotton Draw Unit agreement?

A Yes, sir.

Q I hand you what has been marked Applicant's Exhibit No. 1, and ask you to identify that please, sir.

A That is a land plat of the proposed Cotton Draw Unit area located in Townships 24 and 25 South, Ranges 31 and 32 East, composed of approximately 35,144 acres broken down as follows: There are 32 Federal tracts containing 31,866 acres or 90 percent of the unit area. There are 9 State tracts containing 3,197 acres or 9 percent of the unit area, and 1 fee tract containing 80 acres or .228 percent of the unit area.

Q The area shown on here as the proposed Cotton Draw Unit

area is the area which has been designated by the United States Geological Survey as suitable for unitization?

A Yes, sir.

Q You are familiar with the proposed Cotton Draw unit agreement?

A Yes, sir.

Q And is that a standard unit agreement form?

A It is, yes, sir.

Q Has the form of the unit agreement been approved by the United States Geological Survey and by the State Land office?

A Yes, sir.

Q Does that unit agreement call for the drilling of a well and, if so, to what depth?

A Yes, sir, it calls for the drilling of a test of the basal members of the Delaware formation or production at lesser depth, but the operator will not be required to drill below 12,000 feet.

Q And The Texas Company is the unit operator under the proposed unit agreement?

A That's correct, yes, sir.

Q What percentage of commitment have you been able to obtain on the agreement to date, Mr. Clark?

A We now have 88 percent of the acreage committed to the unit with a possibility of picking up some additional interest.

Q In your opinion, is that sufficient to give effective control of the unit area?

A It is, yes, sir.

Q In your opinion, will the proposed Cotton Draw Unit agreement result in more economical and efficient development of the area?

A Yes, sir, it will.

Q And in your opinion, would the proposed Cotton Draw Unit agreement prevent waste and protect correlative rights in the unit area?

A It would, yes, sir.

Q Was Exhibit No. 1 prepared by you or under your direction?

A It was.

MR. BRATTON: I would like to offer Exhibit No. 1, and I have no further questions of this witness.

MR. UTZ: Are there any objections to the offering of Exhibit No. 1 in this case? If not, it will be accepted. Are there any questions of the witness?

CROSS EXAMINATION

BY MR. NUTTER:

Q What percentage of the State land has been committed to this unit, sir?

A I don't have that percentage figure handy here. We can get this for you.

Q I would appreciate knowing the percentage of the Federal land and State land, and has the fee land been committed?

A Yes, sir, it has.

MR. NUTTER: That's all.

MR. UTZ: Any other questions of the witness? The witness may be excused.

(Witness excused)

FRANK C. BARNES,

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

DIRECT EXAMINATION

BY MR. BRATTON:

Q Will you state your name, please, sir?

A Frank C. Barnes.

Q And what is your occupation? Where do you live, Mr. Barnes?

A I am an independent geologist, and I live in Santa Fe, New Mexico.

Q Have you previously been qualified by this Commission as an expert geologist?

A Yes, sir, I have.

MR. BRATTON: Are the witness' qualifications acceptable?

MR. UTZ: His qualifications are acceptable.

Q Mr. Barnes, are you familiar with the proposed Cotton Draw Unit area?

A Yes, sir, I am. I was the geologist who did the preliminary work in outlining the unit boundary for the U. S. Geological Survey.

Q This area was -- originally Harrison controlled most of the area, and you did work in the area in connection with the proposal to unitize the area for Pauley and Harrison?

A That is correct. They held the principal acreage within the unit boundary, and the preliminary work, the seismographic work was done by Pauley of **Santa Fe, and Harrison from Los Angeles.**

Q By agreement, The Texas Company is carrying on with the unit agreement and development of the unit area?

A That is correct.

Q I hand you what has been marked Exhibit No. 2, and ask you to identify that, Mr. Barnes.

A Exhibit No. 2 is a generalized geological report which is titled "Application for Designation **of** Unitize Area Cotton Draw Seismograph Structure, Eddy and Lea Counties, New Mexico," which was prepared for Edwin W. Pauley and Raymond Harrison and submitted to them to the U. S. Geological Survey.

Q And you prepared that report?

A Yes, I did.

Q And it shows your conclusions as to this proposed unit area?

A That is correct.

Q And as a part of that report, there is a contour map based upon seismographic work, which has been marked as Exhibit No. 3?

A That is correct.

Q Will you explain what Exhibit No. 3 shows?

A Exhibit No. 3 is a seismograph map which is contoured on or approximately at the Bone Springs level. The map indicates a large structural feature, possibly in the nature of an anticlinorium with one major enclosure and several smaller ones that are within the unit area. The outline or boundaries of the unit were based on this seismograph work.

Q And this work was done under your supervision for Pauley and Harrison?

A The original seismograph work was originally carried as a joint venture by Edwin Pauley and the Stanolind Gas Company, now Pan American Petroleum. This interpretation was prepared mainly as a result of work by Mr. P. E. Narvarte, who is a consulting seismologist, who worked the original Stanolind crew. I worked with Mr. Narvarte as a geologist in collaborating the subsurface data of the area with his geological interpretation.

Q And in your opinion, this interpretation of the area is based upon the best information that can be obtained in the area?

A That is correct. I think that this map represents the best information we have available at the present time, and we have had the benefit of some drilling which was carried on in an adjoining unit to the east, and we have made whatever corrections were necessary to compensate for the additional data supplied by these wells.

Q And basically this map shows a large structure roughly

corresponding to the outline of the proposed unit boundary?

A That's right.

Q And it is based upon this map that the U. S. G. S. designated the area as suitable for unitization?

A That is correct.

Q In your opinion, Mr. Barnes, can this area be more economically and efficiently operated under the proposed Cotton Draw Unit agreement?

A Yes, sir, I believe that's about the only way a structure of this size could be economically operated.

Q And in your opinion, the operation of this area under the proposed Cotton Draw Unit agreement would prevent waste and protect correlative rights?

A That's correct.

Q Do you have anything further you wish to state in connection with your seismograph map or geological report, Mr. Barnes?

A No. I might add that this represents only one horizon, that in preparing the geological and geophysical data, all of the mapable horizons all the way down to the basement were contoured and interpreted by the seismologist, and the picture that we have here is substantiated not just by the work on the Bone Springs but by several springs above and below the Bone Springs.

Q Do you have anything further?

A I believe that's all.

MR. BRATTON: I would like to offer Exhibits 2 and 3 in

evidence, please.

MR. UTZ: Is there objection to the offering of Exhibits 2 and 3 in this case? If not, they will be accepted.

MR. BRATTON: No further questions of Mr. Barnes at this time.

MR. UTZ: Does anyone have a question of the witness?
CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Barnes, what is the primary objective on the test well which is to be **drilled in this area?**

A The primary objective as set forth in the unit application is the Bone Springs limestone. There were several oil and gas **shows in the area in the Bone Springs and that is considered the first objective for that well.**

Q So this is a contour map based on seismographic information of the primary objective?

A That is correct.

Q Mr. Barnes, what is the highest closure that is included entirely within the unit area?

A Oh, you mean on the Bone Springs horizon?

Q Yes, sir, on the seismographic contour map.

A As indicated by this map here, this is approximately a hundred, hundred and fifty feet of closure on the Bone Springs. There may be greater closures than that as indicated by some of the other horizons that were mapped, but that will have to be determined, of course, by the first well.

Q Would a minus 5400 be included entirely in the unit area?

A Minus 5400. No, not quite.

Q Minus 5450 included entirely in the area?

A Minus 5450 extends slightly outside of the unit area and it is possible that minus 5400 might extend outside the unit area, but it wouldn't be too far for all purposes. The principal closure has been included in the area.

Q Mr. Barnes, in your opinion, do you think that the unit area to properly include the structure on which closure could be drawn here, should be extended to the northwest and possibly contracted in the southeast?

A No. You have some other problems in there. For one thing, on the east this unit butts up against the **Poker Lake** unit which is a previously designated unit, and limits the boundaries to a large extent in that direction. As far as the northwest extension goes, there may be some possibility that a part of the structure would extend a little bit outside the unit boundaries, but as near as we can tell, we have covered the main structural feature within the unit boundary.

Q Which is the proposed location for the first one?

A The original location that was picked by Pauley and Harrison has been changed by The Texas Company as a result of later work. They now have it in the northwest of the northeast of Section 18, 25 South, 32 East.

Q The northwest of the northeast of Section 18 --

A 18, 25 South, 32 East, that's right.

Q So that location would actually be, as far as the structure is concerned, about half way down the structure?

A As far as this particular interpretation goes, it would be a little on the flange of the main Bone Springs feature, but, of course, some of the other units that were mapped in there were taken into account. I mean, there isn't an exact coincidence, say between the Bone Springs and some of the deeper or hollower horizon and that represents an average which we believe will test the closure to the Bone Springs.

Q Has any seismographic work been done since the seismographic work of Mr. Navarte, which would change this structure, possibly?

A Yes, sir. The Texas Company has done additional work, but I have not had access to that work. We have not asked for either their records or any of their shooting work. We left it up to them. I believe that as far as the correlation between their work and ours, you would have to ask one of the other witnesses on that.

MR. NUTTER: I believe that's all. Thank you.

MR. UTZ: Any other questions of the witness? The witness may be excused.

(Witness excused)

C. S. JOHNSON,

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

as follows:

DIRECT EXAMINATION

BY MR. BRATTON:

Q Will you state your name, please?

A C. S. Johnson.

Q And by whom are you employed and where and in what capacity?

A The Texas Company at Midland, Texas, as a seismic supervisor.

Q How long have you held that position, Mr. Johnson?

A About four years.

Q Have you previously testified before this Commission as an expert witness?

A Yes.

Q Are you familiar with the proposed Cotton Draw Unit area and the work that has been done in connection with that area?

A Yes, sir, I am.

MR. BRATTON: Are the witness' qualifications acceptable?

MR. UTZ: Your qualifications were accepted prior to this, were they not?

A Yes, sir.

MR. UTZ: They are accepted.

Q Mr. Johnson, in connection with the map that has been introduced as Applicant's Exhibit 3, have you examined the records upon which that interpretation was made?

A Yes, sir. We took a trip to San Antonio with the purpose of checking the seismic information as shown here. We checked that, and we found that it was valid and essentially as it is shown here.

Q And you checked all the records upon which this interpretation was made?

A Yes, sir.

Q And based upon your examination of those records, you would make approximately the same interpretation of the area?

A Essentially the same interpretation, yes.

Q Has The Texas Company done further seismographic work in this area?

A Yes, we have.

Q Over how long a period of time, Mr. Johnson?

A There are about three months' additional work in this area that was done in 1957.

Q And you've examined that work?

A Yes, sir, I have.

Q It was done under your supervision?

A That's right.

Q And has that work done anything to change this interpretation of the area?

A No, it hasn't. Our primary purpose in doing additional work in the area was to try to select a location for this test, and we think we've done that.

Q And based upon your examination of the records upon which this Exhibit was based and upon the additional work that you have done, you would interpret the area as shown on this Exhibit.--

A Yes, that's right.

Q -- which shows the unit boundaries roughly corresponding to the structure in the area?

A Yes.

Q Based upon that interpretation, you are willing to drill a well in that area?

A That's right.

Q In your opinion, Mr. Johnson, can this area be more economically and efficiently operated under a unit agreement?

A Yes.

Q And the Cotton Draw Unit agreement, in your opinion, would prevent waste and protect correlative rights?

A Yes, it would.

MR. BRATTON: I have no further questions, Mr. Johnson.

MR. UTZ: Any further questions of the witness?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Johnson, what was the primary purpose for selecting the well location where it is, in the northeast quarter of Section 16?

A Our work in this area, we didn't base it on structure, we based it on isopach work. In other words, we took several horizons

in there and isopached and found what we thought were thin spots, thin isopach spots. And this well was located on the basis of those areas of thinning.

Q So, the location is not selected on the basis of being high or low on the structure at all?

A I don't think we can say that because it was selected on the structure itself, and we examined this structure to try to find the thin spots, isopachous thin spots which we thought would be better location for drilling.

Q In your opinion, do you think better control of this structure would be obtained by extending the unit area to the north-east and contracting it to the southeast?

A No, I don't. I think this, as set on it here, this unit area as outlined here, would pretty well cover the structure as we have it mapped here and as we found it in our later investigation. Now, there might be advantages to extending it to the west, but as has been said before, that falls under another unit agreement, so we couldn't push that one to the west.

Q The Poker Lake unit is to the west?

A To the west is right.

Q Mr. Johnson, do you believe that the area is unnecessarily large?

A No, sir, I don't think so.

Q Is provision made in the unit agreement for expansion of the unit area.--

A Yes.

Q -- if it is necessary later?

A Yes.

MR. NUTTER: That's all.

MR. UTZ: Mr. Johnson, the contoured closure shown on the map, is that always 5300?

A Yes, sir, that's at 5300, yes, sir.

MR. UTZ: Are there any other questions of the witness?

MR. BRATTON: I have no further questions.

MR. UTZ: If not, the witness may be excused.

(Witness excused)

MR. BRATTON: Mr. Examiner, I would like the record to be corrected. I believe Mr. Barnes said that the Poker Lake unit lay immediately to the east of the proposed Cotton Draw Unit agreement, and Mr. Barnes, I believe, wants to correct that to show that the Poker Lake unit lies immediately to the west and adjoins this unit on the west.

MR. UTZ: That will necessarily prohibit you from extending this unit to the west?

MR. BRATTON: Yes.

MR. UTZ: I believe Mr. Johnson clarified that.

You've entered your Exhibits, have you?

MR. BRATTON: If we haven't, I would like to offer Exhibits 1, 2 and 3.

MR. UTZ: Is there objection to the entrance of Exhibits

1, 2 and 3 in this case? If not, they will be accepted.

Do you have anything further?

MR. BRATTON: We have nothing further.

MR. UTZ: Any other statements to be made in this case?

If not, the case will be taken under advisement.

C E R T I F I C A T E

STATE OF NEW MEXICO)
 : ss
COUNTY OF BERNALILLO)

I, J. A. TRUJILLO, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in stenotype and reduced to typewritten transcript by me and/or under my personal supervision, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal, this, the 13th day of June, 1950, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph G. Trujillo
Notary Public

My commission expires:
October 5, 1960.

I do hereby certify that the foregoing is a complete record of the proceedings in the Estimating hearings at Case No. 1496, heard to me on May 25, 1958.

[Signature] Examiner
New Mexico Oil Conservation Commission