

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
October 4, 1957

TRANSCRIPT OF HEARING
CASE NO. 1320

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

NEW MEXICO COMMISSION

HARRY HALL

Santa Fe NEW MEXICO

SESSION

HEARING DATE

October 1957

TIME 9:00 a.m.

NAME:	REPRESENTING:	LOCATION:
D. E. Hall	Engineering	New Mexico
L. O. White	-	Santa Fe, N.M.
Foster M. ...	New Mexico	Alameda, N.M.
Wendell J. ...	New Mexico	Dallas, Tex.
J. H. ...	-	-
Edward R. ...	New Mexico	Dallas, Texas
Jack ...	-	Santa Fe
Therese ...	New Mexico	-

ILLEGIBLE

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
October 4, 1957

IN THE MATTER:)

Application of San Juan Gas)
Corporation for approval of)
the San Juan 24-2 Unit)
Agreement in Rio Arriba)
County, New Mexico.)
)

CASE NO. 1320

BEFORE:

ELVIS A. UTZ, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: The hearing will come to order please. Next case on the docket will be Case No. 1320.

MR. COOLEY: Case No. 1320. Application of San Juan Gas Corporation for approval of the San Juan 24-2 Unit Agreement in San Juan County, New Mexico.

MR. MORRELL: If the commission please, I am Foster Morrell representing the San Juan Gas Corporation and I will present direct testimony in this case.

MR. COOLEY: Will you be the only witness, Mr. Morrell?

MR. MORRELL: Yes.

(Witness sworn.)

MR. DOGGETT: Mr. Examiner, for the record will you enter

our appearance as being present, Wendell J. Doggett for Magnolia Petroleum Company.

MR. UTZ: What was the last name, please?

MR. DOGGETT: Doggett. D-o-g-g-e-t-t.

FOSTER MORRELL

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. COOLEY:

Q Will you state your full name and position, please?

A My name is Foster Morrell, Petroleum Consultant, Roswell, New Mexico, employed and appearing on behalf of San Juan Gas Corporation in connection with unitization for the San Juan 24-2 Unit Agreement.

Q Mr. Morrell, have you previously testified before the New Mexico Oil Conservation Commission as an expert witness?

A I have.

MR. COOLEY: Mr. Examiner, are the witnesses qualifications acceptable?

MR. UTZ: Yes, they are.

MR. COOLEY: Will you proceed, Mr. Morrell?

A I am appearing in Case No. 1320 on behalf of San Juan Gas Corporation, an Oklahoma corporation, as applicant for the approval of the Unit Agreement for the Development and Operation of the San Juan 24-2 Unit Area, Rio Arriba County, New Mexico.

I would like for the commission to have a group of exhibits which I will number, there are two sets of them if you like.

MR. COOLEY: You want to make one of these the official set?

A Yes.

MR. COOLEY: Which one do you want to start out with first?

MR. UTZ: You want to number these now?

A I have them and I'll give them to you as we go along, if you would like to I'll give the numbers of all of them right here.

(Marked Exhibit One through Seven)

MR. HOLLAND: Would you enter our appearance for the record? Edward R. Holland representing A. G. Hill.

MR. UTZ: It will be so entered.

MR. COOLEY: How do you spell that?

MR. HOLLAND: H-o-l-l-a-n-d. Just like the country.

MR. UTZ: Who are you with, Mr. Holland?

MR. HOLLAND: A. G. Hill.

MR. COOLEY: Any other appearances in this case? Would you proceed Mr. Morrell?

A The unit agreement as to form, and the unit area involved, were approved by the Acting Director of the United States Geological Survey by letter dated December 4, 1956, copy of which is offered herewith as Exhibit 1. By letters dated January 11 and January

18, 1957, the Acting Director of the Geological Survey modified said approval of the form of unit agreement with regard to the language of Section 2(e). Copies of these letters are offered herewith as Exhibits 2 and 3 respectively.

Further amendment to the form of unit agreement was approved by the Acting Director by letter dated September 30, 1957, in response to letter dated September 9, 1957, from San Juan Gas Corporation regarding minor changes in Sections 10 and 20. Copies of these letters are offered as Exhibits, San Juan's letter of September 9th being Exhibit 4, and the Acting Director's letter of September 30th being Exhibit 5.

A copy of the unit agreement incorporating the original and amended provisions referred to in the letters heretofore mentioned is offered herewith as Exhibit 6. This is the form of agreement which is now being circulated for execution by interested parties. Attached to the agreement is a map of the Unit Area, Exhibit A, and a schedule of lands and leases and ownership thereof, Exhibit B.

By way of explanation, the letters of September 9th and September 30th being Exhibits 4 and 5, pertain to the change in the effective date of the unit agreement. The original approval, the form as originally approved on December 4, 1956, provided for the drilling of five wells to be commenced after November 1, 1956, and completed by November 1, 1957. At a meeting and conference in Washington, D. C. on September 6, 1957, the Geological Survey

recognized that unforeseen delays beyond the control of San Juan had prevented the completion of execution of the Unit Agreement for submission for final approval within the time it would be necessary to have had those wells completed. Reading The time interval for the Test Program was therefore unrealistic and a change became necessary. The Acting Director's approval on September 30, 1957, now approves the drilling program of five wells the same as originally set forth except that they may be drilled within one year from the effective date of the unit agreement.

MR. UTZ: Just a moment, Mr. Morrell. Do you have a plat of the 25-2 Unit?

MR. COOLEY: 24-2.

A Yes, just a moment.

MR. COOLEY: Do you have an extra copy?

MR. DOGGETT: Is there an extra copy of that available?

MR. COOLEY: You may proceed.

A The Unit Area embraces 10,742.42 acres, more or less, in Rio Arriba County, described as set forth in the Notice of Hearing under Case No. 1320. Do you wish me to repeat that for the record, the description?

MR. COOLEY: I don't believe that's necessary, Mr. Morrell.

A I have identified it as you have advertised it.

MR. UTZ: Your exhibit will show this.

A That description is also contained in the approval letter

of December 4, being Exhibit 1, December 4, 1956.

MR. UTZ: That will be satisfactory.

A Within the Unit Area there are 8,420.04 acres of Federal lands, or 78.34% of the Unit Area; and 2,327.38 acres of patented lands or 21.66% of the Unit Area. Those figures and percentages are also shown on Exhibit A attached to the form of Unit Agreement.

The form of Unit Agreement follows essentially the standard form suggested by the Department of Interior and set forth under Title 30, Code of Federal Regulations, Section 226.12, modified to include provisions for approval and actions by the Oil Conservation Commission of New Mexico, and for the establishment of 320-acre drilling blocks comprising the E/2 and W/2 of each Governmental section for all formations lying above the Mesaverde Formation. In the case of irregular or incomplete sections within the Unit Area, namely Sections 3 and 33, acceptable drilling blocks are set forth in Section 11 of the Unit Agreement as follows:

Lots 1, 2, 3, that's Section 11, these acceptable blocks set forth under Section 11 are in Section 3, lots 1, 2, 2, 3, S $\frac{1}{2}$ of the NE, and SE/NW. The second acceptable drilling block in Section 3 would include the SE $\frac{1}{4}$ and the E $\frac{1}{2}$ of the SW $\frac{1}{4}$. In Section 33 the acceptable drilling block would be the S $\frac{1}{2}$ of Section 33.

This Unit Agreement sometimes called the "Township" or "Block" type unit is in all respects essentially the same form as nineteen other agreements heretofore approved by the Oil Conservation

Commission, namely the San Juan 27-4, 27-5, 28-4, 28-5, 28-6, 28-7, 29-4, 29-5, 29-6, 29-7, 30-4, 30-5, 30-6, 31-6, 32-4, 32-5, 32-7, 32-8 and 32-9 Units. All of the above named and numbered unit agreements are currently in effect and are productive of oil or gas in paying quantities except for the San Juan 32-4 Unit which has been terminated.

For purposes of participation under the San Juan 24-2 Unit Agreement each drilling block on which a well is completed and determined to be capable of producing unitized substances in paying quantities for any formation above the base of the Mesaverde, is admitted to the participating area established for the respective productive formation or formations. The total acreage of such admitted drilling blocks comprises a single participating area for each separate productive formation.

For formations below the base of the Mesaverde, participation in production will be based on the establishment of a participating area determined on the basis of geologic inference upon the completion of a well in such a lower formation capable of producing unitized substances in paying quantities. Separate participating area will be established for formation or reservoir for formations below the base of the Mesaverde.

If the commission please, I did not have this marked as an exhibit but since I have listed in my testimony the number of unit agreement that's in the area, I do have a map for your inspection so

that you could see the location, geographically, of the San Juan 24-2 referred to in Case 1320. With respect to the other units that I have testified to, those units are set forth on this map in yellow, as approved; 24-2 Unit is outlined in purple.

MR. UTZ: You don't wish to introduce this as an exhibit?

A Well, I have already given the commission one. I don't know if they want some more or not.

MR. UTZ: That's all right.

A I might locate the San Juan 24-2 Unit with respect to nearby units as lying directly east of the approved Lindrith Unit and directly south of the proposed San Juan 25-2 Unit. In fact the 24-2 Unit includes all of Township 24 North, Range 2 West, not heretofore embraced within the approved Lindrith Unit.

It is provided under Section 10 of San Juan 24-2 Unit Agreement that a minimum of five wells shall be commenced within one year from the effective date of the unit agreement to test the Pictured Cliffs formation, at least two of which shall be exploratory wells and, further, that one of such five wells shall adequately test the Mesaverde formation. As of the date of this hearing, fifteen wells have been drilled within the unit area to test the Pictured Cliffs formation. Two of these fifteen wells were drilled below the Pictured Cliffs. One well in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 1 was drilled to the Mesaverde formation and was recently plugged back and completed as a producing well in the Pictured Cliffs. The other

well in the NW/SE of Section 1 was drilled to the Dakota formation and plugged and abandoned.

A tabulation of the wells drilled is entered as Exhibit 7. From this tabulation it will be noted that five wells have been completed and tested to have an absolute open flow capacity ranging from 844 MCF per day to 2990 MCF per day. These five wells are located in the SE $\frac{1}{4}$ of Section 1, SE $\frac{1}{4}$, Section 14, NW $\frac{1}{4}$ of Section 23, SW $\frac{1}{4}$ of Section 24 and the NW $\frac{1}{4}$ of Section 27. These wells are considered to be capable of production in paying quantities, as provided in the unit agreement, and would entitle the respective half governmental section to be included in the initial Pictured Cliffs participating area effective as of the effective date of the Unit Agreement.

To date the owners of working interests under outstanding oil and gas leases holding approximately 85% of the acreage within the unit area have signed or indicated their intention to execute the unit agreement. Each and every owner of rights or interest within the unit area will be afforded the opportunity to subscribe to and to commit such rights or interest to the unit agreement.

In order to permit orderly exploration and development of the potential gas reservoir and potential oil zones of the area, it is necessary that the San Juan 24-2 Unit be approved by the Oil Conservation Commission at the earliest possible date.

It is further stated that the San Juan 24-2 Unit Agreement

will tend to promote conservation of oil and gas and the better utilization of reservoir energy and to prevent waste, and that such agreement is necessary and advisable in the public interest for the purpose of more properly conserving the natural resources. Also, the unit agreement is in other respects for the best interests of the State of New Mexico.

San Juan Gas Corporation as Unit Operator agrees to file with the Oil Conservation Commission an executed original or executed counterpart of the San Juan 24-2 Unit Agreement not later than thirty days after the effective date of said agreement.

On the basis of the showing made, it is respectfully requested the Oil Conservation Commission, by appropriate order, approve the Unit Agreement for the Development and Operation of the San Juan 24-2 Unit Agreement at its earliest convenience.

At this point I would like to move for the entering of Exhibits 1 through 7 in Case 1320 in the record of this hearing.

MR. UTZ: Any objection to the entrance of Exhibits 1 through 7? If not, they will be accepted. Does that conclude your testimony?

A That concludes my testimony.

MR. UTZ: Are there any questions of Mr. Morrell?

MR. COOLEY: Yes, Mr. Examiner, I have two questions.

BY MR. COOLEY:

Q Mr. Morrell, what are the unitized substances covered by

this unit agreement?

A Oil and gas and other hydrocarbons underlying the unit area. In other words, all formations and all substances are unitized.

Q Would you elucidate further on this participating areas for each formation? I believe I understood you to state that there would be a separate participating area for each formation lying below the base of the Mesaverde. Now, is that true of each formation lying above the Mesaverde?

A That is correct. The only essential difference is the participating area above the Mesaverde area will be established by drilling blocks of 320 Acres.

Q That's what we are coming to.

A Whereas below the Mesaverde is by geologic inference, and that's impossible to determine in advance.

Q What do you mean by established on the basis of 320 Acre Units?

A That is a definition that is set forth in the Unit Agreement for the purpose of determining the acreage to be included in the participating area. Under Section 11 of the Unit Agreement it says "drilling block."

Q I have it.

A "For participation hereunder as to all formations lying above the base of the Mesaverde formation, shall consist of one-half

sections by governmental survey." The point there is that once a discovery is made you know by agreement you have agreed what acreage would be included in the participating area.

Q This portion of the agreement which you have just read contained in Section 11 on page 9 of Exhibit 6, and likewise the portion which you previously referred to as "Acceptable Drilling Blocks" set out in Section 3 and Section 33, have reference to participation rather than spacing?

A That is right.

Q And will this unit agreement be spaced in accordance with the rules and regulations in effect in the particular area?

A The well spacing is subject to all the rules and regulations of the Oil Conservation Commission by specific reference to those regulations.

Q And if the commission --

A I might say that those, Enabling Act and Regulations are specified in Section 1 of the Form of Unit Agreement.

Q If the commission should approve this Unit Agreement you would not consider it an approval of different spacing for the area included in this unit agreement than that prescribed by the rules and regulations of the commission?

A It would be subject to the rules and regulations of the commission. It does permit in the case of the Pictured Cliffs formation this, a well on 160 acres, which would be according with

the fieldwide rules of the Oil Conservation Commission, would bring into participation an additional 160 acres for the purpose of allocation and participation in production under the unit agreement, but it does not prevent the drilling of a second well, if necessary.

Q Let's assume the hypothetical case, a well is drilled to the Pictured Cliffs formation in the southwest quarter of a section found to be productive of unitized substances in paying quantities and entitled to participation in the Pictured Cliffs area. What other quarter section would then be included in the participating area as a result of completion on that well?

A You place the well in the southwest quarter. The northwest quarter would then come into participation in the drilling block specified to be either the east half or west half of each governmental section. That principally is now in active effect under the 28-7 Unit in which there are some dozen Pictured Cliff wells, and further in the 27-4 and 27-5 Units, which have included wells in the northern end of the Tapicito Pool.

Q Is the Unit Area outlined in Exhibit "A" attached to the Unit Agreement in any pool established by the New Mexico Oil Conservation Commission?

A I can not testify specifically as to whether you have extended the Gavilland Pool as originally defined to include 24-2 or not. The Lindrith may or may not have been extended eastward into 24-2.

Q In any event it is not within the defined limits of any prorated gas pool?

A It is not within the limits of any prorated gas pool, I can testify to that.

Q Should a prorated gas pool be established within the, including all or a portion or more than the area outlined as a unit area herein, where a Pictured Cliffs gas pool, in the absence of a change of spacing for Pictured Cliffs formation, it would receive a 160 acre allowable, is that correct?

A That is correct. It would receive the normal allowable for the 160 acre well in the absence of any change in the present rules and regulations.

Q You stated a short while ago what the percentage of commitment of the working interest had been to date, but I didn't catch it. Would you repeat that please?

A My statement was to the effect that 85% have signed or indicated their intention to sign at the --

Q 85% of working interest?

A Approximately, yes.

Q And what per cent of that 85% is owned by San Juan or what per cent of the entire unit is owned by San Juan, the applicant?

A I don't have that figure specifically before me, but I would say the San Juan, under operating agreements, holds approximately sixty-five to seventy per cent.

Q Then at best only half of the working interest other than San Juan, the applicant, have agreed to this Unit Agreement?

A Over half of them have. The reason for that is that the interest in the San Juan are by operating agreements only down to formations to the base of the Mesaverde. The original holders of the lease retain their rights below the Mesaverde, and to get full commitment to the unit we have to have the rights below the Mesaverde committed as well as above. So San Juan interest is only with respect to formations at the base of the Mesaverde in most cases.

Q This 85% commitment is with respect to all unitized substances?

A That is correct.

Q What commitment do you have with respect from the base of the Mesaverde to the surface?

A Actual commitment to date I would say would be in the neighborhood of forty to fifty per cent, to date. It is now being circulated, it was signed by Humble last week.

Q I believe you misunderstood my question, Mr. Morrell. From the base of the Mesaverde to the surface?

A Base of the Mesaverde to the surface?

Q Yes.

A I would say over 50% has been actually submitted to date because my 85% is commitment to date plus what is indicated will

be signed. In other words, we are not coming before you with a completely executed agreement at this time.

Q In the event that the owners in the unitized area or in the unit area which have not shown their indication of an intention to join the unit, do not subsequently do so, would you have sufficient control of the unit to operate it adequately?

A We will have to have sufficient acreage to retain effective control in order to receive approval from the Director of the Geological Survey.

Q What percentage would that be, Mr. Morrell?

A Approximately eighty to eighty-five percent. Normally that is not on percentage alone but the location of the acreage with respect to the Unit Area.

Q Have the Fee Royalty Owners consented to this Unit Agreement?

A We have not approached them as yet. We have discussed it with some. There is one or two we have already received favorable indications.

Q But none of the Fee Owners have signed to date?

A Actually signed, no.

Q Have any of the owners, that term is technically defined "Working Interest Owners", what it actually means is on the Fee Acreage, consented to the agreement?

A Yes, specifically the San Juan Gas Corporation on the

Palmer lease in Section 1, which they hold working interest. San Juan holds.

Q Any other working interest owners other than San Juan on patented acreage consented to this agreement?

A No, we have under discussion with Magnolia, but they have not indicated finally whether they will join.

MR. COOLEY: That's all the questions I have at the present time, Mr. Examiner.

MR. UTZ: Any one else have any questions of Mr. Morrell?

BY MR. NUTTER:

Q Mr. Morrell, you said that 85% of the working interest had signed or indicated that they would sign. Then 50% have actually signed?

A Yes. We have, it's under, being circulated currently at this time for signature.

Q How long will it be before you have 85% of the working interest have actually signed?

A That is one of those indefinite questions to answer. We hope within the month, and that is the reason for the request of the Hearing now. Knowing the normal course of procedure of the commission it might take two or three weeks for approval. We will have those signatures by the time you have your order, so we'll be able to send it in immediately for approval of the Director. The reason for special unit agreements is that the obligation wells will

commence as of the first day of the month the agreement is approved. If we have commenced a well in say November, the agreement becomes effective the first of November, we will then receive credit for that well as an obligation well.

Q Will the Director of the United States Geological Survey approve the Unit on the basis of indications that working interest owners might commit their acreage?

A No, they are only approved by actual percentage of execution letters. The commitments would have to be made in writing.

Q I see. Now, you said that you have, on this unit area there had been fifteen wells already drilled?

A That is right.

Q How many of those wells have actually been completed as producing wells?

A Let me get my table so I don't give you a wrong statement. Five.

Q And how many of them have been plugged as drill holes?

A I know of only four specifically that have been plugged.

Q Out of the fifteen wells?

A Out of the remaining ten, the others are in the status of temporary abandonment, several of which may be reworked and be successful completions. The difficulty in some of them is the matter of shutting off the water from the Pictured Cliffs formation.

Q I see. Now, does this Unit Agreement provide for the elimination of any acreage in the Unit Area --

A It does.

Q -- from the unit, if there is no production or drilling activity on some certain date?

A Within a certain date and that is the reference to Section 2(E), as set forth in Exhibits Two and Three filed with this record, and that elimination may be briefly described that all legal subdivision of 40 acres or governmental lots are not entitled to be in a participating area within five years after the first day of the month following the effective date of the establishment of the initial participating area, first initial participating area established under this unit agreement, shall be automatically eliminated unless at the end of the five year period drilling operations are then in progress and are continued, allowing not more than the 90 day's time between the completion of one well and the commencement of the succeeding well, for a period of an additional five years.

Q Mr. Morrell, some of these wells already completed as producing wells, would they be judged being capable of producing unitized substances in paying quantities and admitted to a Participating Area?

A Only after being reworked and tested and proven as paying quantities, as identified in the --

Q You mentioned some potentials on the wells range from eight hundred forty to twenty-nine hundred and some?

A That is right.

Q Are those wells capable of producing in paying quantities?

A That is the intention of the Unit Operator at this time.

Q So a Participating Area could probably be established in a relatively short time after the --

A It will be established effective as of the effective date of the Unit Agreement because the Unit also provides that we shall submit for the approval of the commission prior to the approval of agreement an application for the initial Participating Area which will be effective as of the effective date of the Unit Agreement.

Q In other words, this acreage elimination clause of five years would actually, in effect, be five years from the date the unit is approved?

A That is correct.

MR. NUTTER: That's all I have.

A I might go one step further for your information. In connection with the establishment of participation on drilling blocks, we recognize that in this type of formation a drill hole of five or seven inches in diameter cutting the formation may be considered to prove or disprove only that immediate area, and provision is made that even though a drill hole is, or a well not capable of producing in paying quantities is completed on a 320 acre

drilling block, a second well drilled on that same drilling block that is capable of producing in paying quantities will include the entire 320 in the participation.

MR. UTZ: Does that complete your answer?

A I think so.

MR. UTZ: Are there any other questions of Mr. Morrell?

BY MR. DOGGETT:

Q I would like to ask Mr. Morrell if a separate Operators Agreement has been prepared?

MR. UTZ: Mr. Doggett of Magnolia.

A A Unit Operating Agreement has been prepared, yes, but it is not submitted for consideration of the commission in this case.

Q Do you have a copy available to submit to us?

A Not at this time, no.

MR. DOGGETT: Thank you.

BY MR. UTZ:

Q Mr. Morrell, I believe you stated that there were five wells completed on this unit as of today, is that correct?

A Five wells capable of producing in paying quantities?

Q Yes, sir.

A Yes, sir.

Q Did you have the open flows on those wells, is that listed on your Exhibit 7?

A That is listed under remarks on Exhibit Number 7 based on

tests, ^{Pits} peto-tube -- not ~~peto~~^{pits}-tube but three quarter inch.

^{choke}
Q Chock test?

A Chock test, made by either San Juan Gas Corporation and or Pacific Northwest Pipe Line Corporation.

Q None of these wells have been connected?

A None of these wells have been connected to date.

Q You have any idea how long it will be before they will be able to have pipe line facilities in this unit?

A Within 24-2 I wish I could answer that question for you now. Within the adjoining unit they are immediately under construction of a pipe line for connections. It is anticipated it will be not more than a month or two before we get connections in 24-2. Connections are now available within a mile or mile and a half of the westernmost boundry of the 24-2 unit.

Q Have you made any purchasing contracts yet?

A San Juan Gas Corporation has, to it's lease hold interests, has made contract with Pacific Northwest Pipe Line Corporation in September, 1956.

Q And it is the El Paso Line that is within a mile and a half of this area now, is that right?

A That is right.

Q It may be some time before Pacific can connect to these wells or there will have to be a trade of some --

A There is under consideration an agreement between Pacific

Northwest that El Paso might extend it's line for and on behalf of Pacific Northwest.

Q Do you have any geological information that pertains to the Mesaverde and Pictured Cliffs formations, that is contours, et cetera, available for this unit?

A Meaning as to the determination of the boundary of the unit area?

Q Yes, sir.

A The boundary of the unit area was established on the basis of block type and had no relationship with respect to geology.

Q Do you have any recommendations or any intentions as to the spacing in this unit, that is the quarter section, so as to which the wells will be located?

A The present practice in the development is to drill the Pictured Cliffs wells in the southeast quarter and northwest quarter of each section.

Q In your opinion would there be some danger in including in your 320 acre block type dedication to participating area, some dry acreage in the off 160 acres?

A If it was oil I would, with gas and the type of formation and the drainage that will take place, I don't see there would be too great a danger, particularly on the basis of my previous statement that a dry hole may necessarily only disprove the the immediate vicinity of that particular bore hole.

