Case No.

1220

Application, Transcript,
Small Exhibits, Etc.

[illegible]
[illegible]
[illegible]

IN THE MATTER OF:)

Application of Amerada Petroleum Corporation for an order promulgating pool rules, instituting gas prorationing, creating a new gas pool and re-[illegible] all the gas pools in the Pennsylvanian formation underlying all or portions of Sections [illegible] and [illegible] of Township 11 South, Range 33 East, and Sections [illegible] of Township 12 South, Range 33 East, [illegible] County, New Mexico. Applicant, in the above-styled cause, seeks an order covering the following points: CASE NO. 129[illegible]

(1) Extension of the horizontal limits, and restrict the vertical limits of the Barley Pennsylvanian Gas Pool to the [illegible] foot zone of the Pennsylvanian formation.

(2) Create a new gas pool for the [illegible] foot zone of the Pennsylvanian formation underlying all or portions of the [illegible] Township 11 South, Range [illegible] [illegible] Township 12 South, Range [illegible], [illegible] County, New Mexico.

(3) [illegible]

(4) [illegible]

[illegible]

MR. BUSHNELL: Mr. Chairman, I would like to make a statement for the record before we prepare with swearing the witnesses or before we start presenting testimony.

MR. PORTER: You may.

MR. BUSHNELL: This is Amerada's Application for delineating horizontally and vertically two sand formations, gas sand formations, in the Pennsylvanian zone of the Bagley field. We have, in presenting our exhibits, sometimes referred to the upper sand as the Permo Pennsylvania, but it can be referred to as the upper Pennsylvanian sand formation 8600 foot. In our exhibits, as to the lower formation, we have referred to that as the Pennsylvanian sand and sometimes as the 9800 foot sand. The manner in which we are presenting this evidence may be, may appear confusing. We will make every effort not to do so, but in presenting our exhibits, we have duplicate purposes in presenting exhibits, (1) first always as to the upper 8600 foot sand and next in order will be a similar exhibit as to the lower 9800 foot sand.

(Marked Amerada's Exhibits No. 1 through 6 for indentification).

R. S. CHRISTIE, having been first duly sworn testified as follows:

DIRECT EXAMINATION

BY MR. BUSHNELL:

Q Would you state your name and the company for which you are employed?

A R. S. Christie, Amerada Petroleum Corporation.

Q In what capacity are you employed?

A [illegible].

Q Have you appeared as a witness and testified before this Commission in that capacity on prior occasions?

A Yes, sir.

Q Mr. Juristic, I hand you what is marked Exhibit No. 1. For the benefit of you who do not have copies, here is Exhibit No. 1. Was this prepared by you or by one under your supervision?

A Yes, sir.

Q Will you state what it represents?

A Exhibit No. 1 is a structure map drawn on top of the Permo-Pennsylvanian or the top of the upper Pennsylvanian [illegible] contour interval twenty feet.

Q What controls if you use [illegible] those are the [illegible]?

A Those points were selected from electric logs.

Q Is that true as to all of the [illegible]?

A Yes, sir.

Q [illegible]

[illegible]

[illegible]

we choose to call the [illegible] foot Pennsylvanian zone [illegible]

call it the lower Pennsylvanian gas zone. [illegible] contour interval of twenty feet. Likewise the points of control on this Exhibit **were** taken from the electric logs. Outlined in green, I should have mentioned, Exhibit No. 1, the outline in red is the limits of what we think are producing, what we think is the producing area. The outline in green on Exhibit 2 is the outer limits of what we think is the productive limits of the [illegible] foot zone.

Q Exhibit No. 2 was also prepared by you or one under your supervision, isn't that correct?

A Yes, sir.

Q Referring to the [illegible] outline of this pool and referring to Exhibit No. 3, which is this one, would you state, was that prepared under your supervision?

A Yes, sir.

Q What does that purport to show?

A Exhibit [illegible] outline of what we interpret to be the [illegible] Pennsylvanian [illegible] zone. [illegible] electric logs.

[illegible]

[illegible] the 9300' [illegible] zone.

Q Now, referring to both exhibits [illegible], is [illegible] relate to the particular specific formations, Exhibit No. 3 as the upper 3600' zone and No. 4 relating to the lower or 9300' [illegible] zone, in drawing your [illegible] outline of the area, did you have equal control throughout?

A No. You'll notice on the west side of the field, we had no control and that area was more or less picked from structure, in other words, using our structure [illegible] shown in Exhibit 1 and 2, so there may be some question about the limits of production on the west side of the field.

Q So that whereas on the east side of each of these two areas the limits are based on controls from wells in which we know that represents the eastern limit of the productive portion of the formation, on the western portion you had to draw it on the basis of the structure, is that correct?

A Yes, sir.

[illegible]

Amerada's Caudle #2, Caudle [illegible] and Amerada's Mathers "[illegible]" [illegible],
Amerada's Caudle #5 and Amerada's State BT "I" #1 and Amerada's
State BT "C" #1, and Amerada's State BT "[illegible]", [illegible] and [illegible].

Q Now I hand you what is marked Exhibit No. [illegible], was this
prepared under your supervision or by one under your supervision?

A Yes, sir.

Q Would you state what that represents?

A Exhibit No. [illegible] is similarly a cross-section through the
Bagley field in a north-south direction, which begins with
Amerada's the Caudle #1, going north to [illegible], Amerada's
Mathers #[illegible] and Mathers #1, and Amerada's [illegible]
BT "[illegible]" #1, and incidentally [illegible] "[illegible]" [illegible]
Amerada's [illegible] "[illegible]" [illegible].

Q What do these two exhibits [illegible]
with reference to the [illegible]

[illegible]

A [illegible]'s [illegible] No. [illegible] is located in the [illegible] Quarter of the Northwest Quarter of Section [illegible], Township [illegible], [illegible] Range [illegible] East.

Q In what manner is [illegible] well now completed?

A The [illegible] No. [illegible] was originally completed in the Pennsylvanian zone and has been depleted of oil production. It has since been re-completed as a dual producer in the two gas zones, the upper and the lower gas zones as shown on Exhibit No. 6 and also on No. [illegible].

Q Now, in your application you have stated that in this well you found the location of the two formations as follows: The upper sand, the top of which is at [illegible] feet and the base of the upper sand at [illegible] feet. The top of the lower sand is at [illegible] feet, and the base of the lower sand at [illegible] feet. Were these figures [illegible] from the [illegible] on the [illegible]?

A Yes, sir, they were.

[illegible]

[illegible]

[illegible]

A Exhibit [illegible] is a tabulation of all drillstem tests taken in the upper [illegible] foot zone and the lower [illegible] foot zone and this information was the information that was used in determining [illegible] limits of [illegible].

Q For the purpose of delineating the respective pools vertically?

A That's right, yes, sir.

Q Correction, horizontally.

A Yes, sir.

Q Now, from the study you have made and from the data that is shown on this Exhibit No. [illegible], what conclusions have you made as to the minimum amount [illegible] acreage that one well can drain in each of these two zones?

A Based on the potentials as shown on some of these tests, based on bottomhole pressures, and based on micro logs, and further [illegible] [illegible] that one well [illegible] [illegible].

[illegible]

MR. P[illegible]: [illegible] question?

MR. CHRISTIE: I might point out for the record, the potentials in the Caudle [illegible] well, which is [illegible]ually completed was [illegible] for the [illegible] zone, [illegible] for the [illegible]. [illegible] tests [illegible] been turned into the Commission [illegible] tests.

MR. P[illegible]: [illegible] Campbell.

MR. CAMP[illegible]: [illegible], [illegible] Russell, Roswell, New Mexico, appearing on behalf of Texas Pacific [illegible] and [illegible] Company.

[illegible]

By MR. CAMPB[illegible]:

Q Mr. Christie, you have [illegible] to the basis for the outline of the [illegible] the [illegible] State, [illegible] state how many wells [illegible]

[illegible]

A Yes, sir.

Q As the distillate production has fallen off in that well, has not the gas production also fallen off?

A Well, of course, it is pretty hard to tell. [illegible] to the amount of gas we can produce from an oil well. I am not positive whether it would fall off.

Q You don't know whether it has fallen off in relation to the proportion of distillate?

A No.

Q The only production history you have and the only actual producing well from the [illegible] is the producing well that you have referred to [illegible]

A Yes, except for the [illegible].

Q You have never produced the [illegible]

A No, sir, except to [illegible].

Q [illegible] the entire [illegible]

[illegible]

A Yes, sir.

Q With regard to the [illegible] foot zone, how many wells are actually producing from that zone and where are they located?

A At the present time there are two wells completed in the 9,?00 foot zone. They are the Shell Amerada State "A"-1, located in the Southeast Quarter of the Southeast Quarter of Sec. 33, Township 11 South, Range 3? East, the Texas Pacific Coal and Oil Company State "C", Account ?, ?1 well located in the Northeast Quarter of the Northeast Quarter, Sec. 4, Township 12 South, Range 3? East.

Q The Texas Pacific well is a direct offset to the Amerada Shell well, is it not?

A Yes, sir.

Q [illegible] in the calculations for the [illegible]

A [illegible], sir.

Q [illegible]

A [illegible], sir.

Q [illegible]

A [illegible]

[illegible]

its relationship with your American [illegible] well is concerned?

A Well, I would like to know [illegible] that was very shutin, how long has it [illegible] [illegible] a low permeability.

Q Does it indicate [illegible] lack of communication between the two wells?

A No, I don't think so.

Q All of the wells that have been drilled thus far and are producing from these gas zones have been drilled upon the State-wide 160-acre spacing, have they not, Mr. Christie?

A I assume so, yes.

Q At least the two wells that you referred to as being the only producing wells in the [illegible] foot zone are direct offsets?

A Yes, sir. Actually the Shell well was [illegible] [illegible]-acre tract [illegible] communitized with an [illegible]-acre [illegible] [illegible].

[illegible]

[illegible]

over

A We are presently attempting a completion in a well in that section.

Q Do you feel that the drilling of the additional well and the possible completion of the well in Section 1 will give you additional information concerning these two gas zones?

A It will give us additional information, as to that particular area. I don't think it will help us any from the Shell well and the Texas Pacific well east to the limits of the producing, what we choose to call the producing zone.

Q You have stated that your Eumble A well is dually completed. From what zone are you now producing?

A It is not being produced.

Q It is shutin completely?

A Yes, sir.

interference test and we found that the pressure in the [illegible] has been reflected by the production from both of the producing, at least from the, I assume the Shell and the Texas Pacific well and also from the Mathers "A" 2.

Q The only information you have with respect to the 9800 foot zone is the information obtained from the production from your Amerada Shell well and the Texas Pacific well, plus your potentials on the Caudle #7, is that correct?

A Yes, sir.

Q Upon that history, you believe the Commission should delineate this pool to the extent that you have set out in Exhibits 3 and 4?

A I think it's sufficient evidence, yes, sir.

Q If the Commission should see fit to set up a [illegible] unit, what acreage do you plan to attribute to your [illegible]

A We would request that the Commission [illegible]

A No, sir.

Q Have there been any interference tests as between wells in the same [illegible] zone in this field?

A Yes, at least I call these interference tests. The original pressure on the Shell Amerada State "A"-1 was [illegible] pounds, the latest pressure that we obtained was I think I reported, was 3200. We took that was sometime in February, we took a bottomhole pressure in that same zone in our Caudle #7 which showed a bottomhole pressure of 3[illegible]9, which is a fairly good check for that distance, similarly in the [illegible], the original pressure in this reservoir, we obtained by averaging six drillstem tests, which gave us an average of 2921 pounds, I believe it was 29[illegible] pounds, [illegible]1 pounds. We took a pressure February [illegible]. Our pressure had declined to [illegible] in our Mathers [illegible]. In our Caudle [illegible] the same depth [illegible] [illegible] [illegible].

[illegible]

[illegible]

your Shell [illegible] well?

A I believe it's approximately [illegible]

Q At the approximate price [illegible] ten cents?

A I believe so, yes, sir.

Q How much distillate are you [illegible]

A I can't answer that specifically.

MR. ABBOTT: About eighty barrels a day.

Q How much do you get from your distillate?

A I assume the top price for crude oil.

Q Have you made any calculations as to the payout on the well in the 9500 foot zone?

A No, sir. We hadn't planned to drill another [illegible] zone, we weren't interested in payout.

MR. CAMPBELL: I believe that's all.

MR. [illegible]: Mr. [illegible].

[illegible]

, sir.

[illegible] some

A I think it's probably just [illegible] permeability or could be caused by a method of completion, I don't know. The log looks practically as good as the Cornish [illegible] the Shell well. It appears as though it [illegible] the Shell well.

Q Do you have any drillstem tests on this [illegible] in any other portion of the pool that might back up from what you think about good communications?

A Well, the drillstem tests that we have taken are all shown on Exhibit 7.

Q Weren't they all the [illegible]?

A There is a part two that [illegible].

Q It would be rather hard to tell [illegible] Pressures are not, possibly not, maximum or minimum [illegible] to be told if you have [illegible] the permeability.

[illegible]

Q Both [illegible] in the Pennsylvanian formation, is that true?

A Yes, sir.

Q Some of the [illegible] Barley Pennsylvanian Oil Pool, some of the area in Barley Pennsylvanian Gas Pool is included in the horizontal limits of the [illegible] as you outline them on your exhibits?

A Yes, sir.

Q What then would you propose the vertical limits of the Barley Pennsylvanian Oil Pool should be in that we encounter both an oil pool and a gas pool at the same point?

A I think you could take them off certain wells from exhibits 5 and 6 and possibly pick the highest well structurally and down to the water zone and call that your vertical interval in your oil zone.

[illegible]

to your Mathers [illegible] the Southeast Quarter of Section [illegible] [illegible] foot zone?

A. We would probably ask that the [illegible] within the dashed lines shown on Exhibit [illegible] would assign to Canale [illegible], with the possible exception of the North Half of the Southwest Quarter of Section [illegible]. To be specific we would ask for the Northeast Quarter of Section 1[illegible], the [illegible] Half of the Northwest Quarter of Section 11 and the West Half of the Southwest Quarter of Section [illegible], and the Southeast Quarter of Section 3, all in Township 1[illegible] South, Range [illegible] East. We may possibly ask for the North Half of the Southwest Quarter of Section [illegible], I don't know. There may be some question about the North Half of the Southwest Quarter.

Q. You would not propose to drill [illegible] wells to the [illegible] foot zone [illegible]?

convert another well, how do you propose to do it. You don't have anything deep enough there, do you?

A [illegible] can't imagine [illegible] well for that purpose at this time. We would probably wait until we get an [illegible] well that has been depleted.

Q Possibly an oil well in the [illegible] Devonian?

A Yes, sir.

MR. [illegible]: That is all.

MR. PORTER: Mr. Cooley.

BY MR. COOLEY:

Q I have one further question. In the event this application is granted, there would be the necessity of promulgating pool rules as requested in the application. [illegible] the [illegible] rules [illegible]

A [illegible].

[illegible]

recommending in that respect if we were [illegible] to have some time to look over the specific order you are referring to.

MR. [illegible]: [illegible] some recom[illegible] here on what the rules should be in the event the application should be granted.

MR. BUSHELL: Do you have some specific rule in mind?

MR. [illegible]: We have a pretty standardized system now established as a result of the recommendations of the Gas Committee concerning marginal wells, classification of marginal wells. The assignment of allowables, [illegible] the existing gas rules throughout the State. [illegible] prorated gas pools in the State, [illegible].

MR. BUSHELL: If I understand you correctly, I take it with reference to your manner of [illegible] testify that [illegible].

MR. [illegible]: [illegible].

[illegible]

[illegible] the

Texas [illegible].

benefit of the Commission your Exhibit No. 1?

A On Exhibit 1, Numbers 1, I may say "A"?

Q "A"?

A "A" is in the Southeast quarter of the Northwest Quarter of Section 3, Township 17 North, Range 13 East.

Q Is there 80 acres that that well is located on within the proposed 640 acre unit that you ask for?

A Yes.

Q What did the well test on initial potential for the zone?

A It tested [illegible] cubic feet.

Q Per what -- per hour, per day or what?

A Per day.

Q You propose that this well receive its proper allocation per that test?

A Yes, sir. [illegible]

calculations are assumptions on drillstem tests, are they?

A No, we used log, electric logs to some extent.

MR. PORTER: Are there other questions of the witness? Did you wish to submit your exhibits?

MR. BUSHNELL: I would like to offer exhibits 1 through 7 into the record.

MR. PORTER: Without objections, the exhibits will be admitted.

The witness may be excused.

MR. PORTER: The meeting will come to order, please. Mr. Campbell, will you proceed with your examination?

JOHN YURONKA

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

DIRECT EXAMINATION

BY MR. CAMPBELL:

Q Will you state your name, please?

A John Yuronka.

Q Where do you reside and by whom are you employed?

A I live in Midland, Texas and I am employed by Texas Pacific Oil Company.

Q In what capacity, Mr. Yuronka?

A Petroleum engineer.

Q Have you testified before this Commission on previous occasions in your professional capacity?

A Yes, sir, I have.

Q Are you acquainted with the application of Amerada in Case No. 1220 before the Commission?

A Yes, I am.

Q And in connection with that case, have you made a study of the Bagley area with reference to the gas zones for which the pool rules are requested?

A Yes.

Q Would you state generally what the nature of that study has been and what information you based your conclusions on?

A We used structure maps for both zones and then we drove some cross sections to show the net porosity, and I would like to make that point clear before we go any further. As can be seen, there is a marked difference between our cross sections and what Amerada has presented, and what we have shown. The red is the eighty-six hundred and the green is the ninety-six hundred foot zone. We have shown what we think is the productive part of the pay, and that included the whole pay as Amerada has in both pay zones. In other words, we have not included what we think will produce water or such items such as that, merely what we think will produce gas and distillate.

Q you have taken into consideration what you consider to be lack of, or low porosity, is that correct?

A Yes.

Q In each of the two gas zones?

A Yes.

Q Now referring to what is shown on the board there as T[illegible] Exhibit No. 1, will you state what that is?

A Exhibit No. 1 is a structure map of the eighty-six hundred foot pool, contoured in fifty foot intervals with the cross sections indexed.

Q And will you identify through the index, the various cross sections that appear on the board. I believe you have "AA" Prime over here, "BB" Prime, "CC" Prime and "DD" Prime.

A "AA" Prime is the cross section over there, and that starts with Amerada State Shell "A" No. 1 and goes east and includes Amerada's State BT "K" No. 1; State BT "N" No. 1; State BT "C" No. 4; and State BT "C" No. 1. Cross section "BB" Prime, which is this one, starts with Texas Pacific Coal and Oil Company State C Account No. 2 Well No. 1, and eastward, including Amerada Caudle, No. 2; Caudle, No. 7; Mathers 1-A; Caudle, No. 5 and State BT "I" No. 1. Cross section "CC" Prime, which is this one here, starts with Amerada BT "K" No. 1, goes down south to Caudle No. 7; Mathers A-2, and Mathers No. 3, and "DD" Prime, which is this one here on the board, starts out north with State BT "M" No. 1; goes south to include State BT "N" No. 1: Caudle No. 5, and Mathers No. 1.

Q And does Exhibit No. 2 there reflect the same information with reference to the eight hundred foot zone?

A Yes. Exhibit No. 2 is a structure map of the ninety-eight hundred foot pool and also the same cross section indexed as I have on the structure map of the eighty-six hundred foot pool.

Q Now referring to Exhibit No. 3, which is your "AA" Prime cross section over on this wall. Will you step over there and point out what your cross sections show? First state what information you used to--

A Well, these cross sections or correlations were done with the aid of our geological department and it does not indicate structure in any way whatsoever. We, all we have done is used the electric log and marked it off. We picked up the porosity which we thought was productive and if there was a drillstem test in that interval, it has been included in this cross section.

Q There were not drillstem tests in all instances?

A To my knowledge, I couldn't find them.

Q Will you go ahead and show by referring to your eighty-six hundred foot interval, what that particular "AA" Prime cross section reflects, referring first to the eighty-six hundred foot interval?

A This on the extreme left is Amerada's State Shell "A", No. 1 and from the micrologs taken in the eighty-six hundred foot pool, we couldn't find any porosity at all for the zone that Amerada is calling productive in that zone. And then in the State BT "K", No. 1, we found fourteen feet of porosity. State BT "N", No. 1--

Q Will you turn around so the Commission can hear you. Use your other hand.

A State BT "N", No. 1, we found two feet of porosity and State BT "C", No. 4, five feet of porosity. In the upper zone, Amerada has perforated 8582 to 8600; and 8624 to 8642, and this porosity shown here is in that upper perforation interval. And this BT "C", No. 1, there isn't any porosity at all. In this interval they haven't perforated at all, and I found six feet of porosity in that interval they have perforated.

Q Now, I would like you to refer to the other exhibits in

in the eighty-six hundred foot zone before you go to the ninety-six hundred foot.

A In cross section "BB" Prime, starting with the TP State C Account No. 2 Well No. 1, I found eighteen feet of porosity in the eighty-six hundred foot zone of that well, and I might add that is the most net foot of need porosity we found in any well in the eighty-six hundred foot.

Q Which well is--

A State C Account No. 2 Well No. 1, TP well. And Caudle No. 2, I found nine feet of porosity. Caudle No. 7, twelve feet, and at this point, I might show this particular item. In the bottom perforation interval for Amerada, 8624 to 8642, the micro-log showed a complete void of porosity. Mathers A-1 has seven feet of porosity and in Caudle, No. 5, in the State BT "I" No. 1, I couldn't find any porosity at all in the eighty-six foot hundred zone. Now, cross section "CC" Prime, BT "K" No. 1, of course, was on cross section "AA" Prime; forty-two feet of porosity, and of course, Caudle No. 7 is again included and Mathers A-2 had eight feet of porosity and Mathers No. 3, had six feet of porosity. And in section "DD" Prime, State--pardon me, State BT "M" No. 1 has eleven feet scattered porosity, State BT "A" No. 1 had two feet of porosity. Caudle No. 5, again didn't show any, and Mathers No. 1 had eight feet of porosity all in the six hundred foot zone.

Q Now referring the Exhibit marked TP, Exhibit No. 7 on the board, will you state what that is and explain to the Commission what it reflects with reference to these cross sections in the eighty-six hundred foot zone that you have been referring to?

A This is an isopach of net porosity for the proposed eighty-six hundred foot pool. This outline in red is what Amerada wishes to call the eighty-six hundred foot zone; outlined in yellow is the proposed proration units that will be asked by Amerada, six hundred and forty acres for Caudle No. 7, and from the application, I just presume it would be one hundred and sixty for Mathers No. 2, At this point, I would like to show that in the six hundred and forty acres being asked for Amerada's Caudle No. 7 in the eighty-six foot hundred zone, Caudle No. 5, right here shows no porosity, this portion right here shows no porosity.

Q That's the portion on the west edge of the southwest corner of the unit?

A Yes, and then here in the northwest quarter of the unit in approximately eighty acres, by our isopach, we show no porosity.

Q So that there would be acreage attributed to the six hundred and forty acre unit which, in your opinion, would not be productive of gas from the eighty-six hundred foot zone, is that correct?

A That's right.

Q Now, Mr. Yuronka, will you make the same explanation with reference to the ninety-six hundred foot zone on the cross section that you have prepared?

A Getting back to the cross section "AA" Prime, the Amerada State "A" No. 1, had thirty feet of net porosity: State BT "B" No. 1, had twenty-seven feet of porosity; State BT "H" No. 1, had twenty-one feet of porosity; State BT "C" No. 4, did not penetrate that zone, and State BT "C" No. 1, a micrelog was not available for the ninety-eight hundred foot zone, and we did approximately

ten feet from the gamma ray neutron logs. In cross section "BB" Prime, TP State C Account No. 2 Well No. 1, shows twenty-four feet of porosity. At this point, I might add, incidentally, this orange on these cross sections indicate the perforating intervals that are open at the present time in the zones, gas zones, requested by Amerada. We have the zone down here of fourteen feet, 9875-9889, that we originally tried to complete, and after approximately five weeks of production, the oil depleted so it wasn't feasible to continue producing, and we went back and set our packer above our upper zone here. At the present time, we are producing from both zones. Caudle No. 2 shows thirteen feet of porosity; Caudle No. 7, shows thirty-four feet of porosity; Mathers 1-A, shows twenty-nine feet of porosity; Caudle No. 5, twenty-five feet; and BT "I" no. 1, again we estimated that to be twenty-three feet because we did not have a microlog.

Cross section "CC" Prime, BT "K" No. 1, as mentioned before, twenty-seven feet; Caudle No. 7, thirty-four feet; and Mathers A-2, the south offset for the well, asking six hundred and forty acres for, we could not find any porosity at all in the zone. There is some porosity, I might add down here about, somewhere approximately ninety-nine hundred, but we believe that this would be mostly water. In cross section "II" Prime, State BT "Y", has twenty-four feet of porosity, which is about the most in any well in that zone. [illegible] BT "N" has twenty-one, Caudle No. 5, twenty-five; and Mathers No. 1, thirteen feet.

Q Mr. Turonka, referring to H Exhibit No. 9, will you indicate to the Commission what that is and what it reflects?

A Well, again this is an isopach of the net porosity with a ninety-eight hundred foot pool. Outlined in green is the boundaries, the horizontal limits requested by Amerada for the pool, and outlined in yellow are the proration units that would be alloted each well. Caudle No. 7 again had six hundred and forty acre and Amerada State Shell "A" No. 1, has one hundred sixty, and TP State C Account No. 2 Well No. 1 would also have one hundred sixty.

Q And there were likewise, areas in that particular zone where there is no porosity as far as you have determined from your study?

A Well, as I mentioned, when I explained cross section "CC" Prime, the south offset for Caudle No. 7, with this Mathers A-2, we didn't find any porosity at all and that's in the southwest corner of the requested six hundred and forty acres and just estimating, it would be a little over forty acres there on our isopach that we show no porosity at all.

Q Now, Mr. Yuronka, based upon these cross sections and your isopach, what conclusions are you able to draw with reference to the uniformity of these gas zones or the probability of drainage by one gas well.

A Well, the history of the Parley Pennsylvanian pool, the oil pool, which is also true in this case, is intervaled in lines of porosity, and in one well you can get production, you can go and perforate the same interval in an offset well and you wouldn't get anything at all.

Q Do you feel that that type of situation lends itself to a large proration unit in one well?

A No. I don't believe a well should have six hundred and forty acres assigned to it.

Q Now, go ahead and sit down. Do you have any information with reference to the bottom hole pressure in the Amerada State well and the TP well to the south of the TP State "C" Well?

A Well, in March 26, 1956, bottom hole pressure was taken on the Amerada State "A" Well and the pressure was thirty-three hundred and seventeen pounds. Bottom hole pressure was also taken on the TP Well and it was twenty-eight hundred and eighty-seven, then in February 15, of 1957, bottom hole pressures were again taken on the well and Amerada's State "A" had thirty-one hundred and seventy and the TP Well has twenty-six hundred and twenty-seven. The approximate shut-in time for our well is what it has been for wells of that depth, which is approximately forty-eight hours and I just presume that Amerada's was approximately the same.

Q What conclusion do you draw or what explanation can you make for the wide variations in the bottom hole pressures in those offset wells in the same gas zones?

A Well, it would seem to me that there is some sort of permability block between the Amerada State Shell "A" Well and the TP Well. Mr. Christie testified, I believe, to the fact that Gauge No. 7, the well Amerada has now completed and had bottom hole pressure in the ninety-eight hundred foot zone of approximately thirty-two hundred and forty. I am not quite sure what it was, but since it is the same zone, and this well is two locations east, and one location south, and the bottom hole pressures were approximately the same, but yet for the TP Well [illegible] and it

would seem there is some sort of permability lock between them.

Q And if such permability block exists or if such porosity variations exists, as had been indicated by your analysis of the cross section, do you believe that in those circumstances, that six hundred and forty acres spacing is proper spacing?

A No, I don't believe it is proper spacing.

Q What is your opinion in so far as the application of Amerada is concerned?

A Well, I believe that the well should be prorated in state-wide rules with rateable take.

Q Would that be until such time as additional information--

A Until additional information is obtained. As Mr. Christie testified, they are in the process of trying to complete the well up here in the Southwest Quarter, Southwest Quarter of Section 28, Township 11 South, Range 33 East, and they have filed a location in section 33--

Q And that is in the same section as--same six hundred and forty acre tract, and there is another well of theirs diagonally offsetting it, is that correct?

A Yes.

MR. CAMPBELL: That's all.

MR. PORTER: Does anyone have a question of Mr. Yuronka?

MR. BUSHNELL: If the Commission pleases, we, Amerada requests a recess for ten minutes to give us an opportunity to look these exhibits over more closely.

MR. PORTER: We will have a ten minute recess.

(RECESS)

MR. PORTER: The meeting will come to order, please.

MR. CAMPBELL: Before we start, I want to offer into evidence Exhibits One through Eight.

MR. PORTER: One through Eight?

MR. CAMPBELL: Yes.

MR. PORTER: Without objection, the exhibits will be admitted. Mr. Bushnell, did you have a question?

MR. BUSHNELL: Yes, sir.

CROSS EXAMINATION

BY MR. BUSHNELL:

Q Mr. Yuronka, am I pronouncing that correctly?

A Yuronka.

Q Yuronka, excuse me. I understand from your testimony that your determinations of these cross sections are made from micrologs, is that correct?

A That's right.

Q However, the exhibits of these cross sections show that they are from electric logs.

A Well, the electric logs were used in the cross sections. However, the micrologs were used to pick the porosity. The part that we show, that I show in these cross sections here--for instance, these little black marks here (indicating), that was picked off the micrologs.

Q You don't have the micrologs here?

A No, sir. I sure haven't.

Q You recognize now, that there can be a difference of opinion as to the correlation of [illegible] cross sections,

is that not correct?

A Well, yes, as long as there are two geologists looking at the same cross section.

Q You have pointed out on certain ones of these exhibits, in particular I am referring to the cross sections, to certain wells not showing any porosity at all, is that correct?

A That's right.

Q Now, you will admit, will you not, that although that may be a condition around the well that that doesn't admit to any conditions beyond the well?

A Will you repeat--

Q Although that might be the condition in that particular well, where the well was drilled, you are not testifying that that is, from the fact, that that is the condition beyond that well?

A No.

Q Have you made any stucy of the samples from the Mathers A-2 Well?

A No, sir, I haven't.

Q On your cross section exhibit, you do not show any porosity in the upper formation in the Mathers A-2, is that correct? Lower, excuse me.

A In the lower. Yes, I do not.

Q Did you make any study of the samples from that formation, from the Mathers A-2?

A I didn't have any samples available.

Q If you found from the samples, in the lower zones in the Mathers A-2, that there was an indication of porosity, would you

accept that?

A Well, I probably would.

Q On the basis of these exhibits, the cross sections, and as you have correlated this information, in the upper eighty-six hundred formation, on the basis of that information alone, would you conclude that it would be economical to drill a well in that formation?

A Economical from what standpoint?

Q Economical to the operator?

A Probably not, depending on what the pipeline would nominate as allowable. Well, may I make this statement? All wells so far that have been completed in both zones, you can not just count the gases, there is also distillate and perhaps, on that basis, it would be a lot more economical to drill a well. I might add that Amerada Shell State "A" No. 1, it produces approximately a little over two thousand MCF's a day and by our last figures of ten cents per MCF and three dollars per barrel of distillate, that's gross income of approximately five hundred and forty-five dollars per day.

Q I asked, excuse me, my question was predicated on the assumption that the conclusion would be reached only on the basis of cross section information that you have here, assuming you had no other information.

A Yes. You--

Q Your testimony is that doubt that it would be economical to drill a well to the eighty-six hundred formation?

A Probably would.

Q Is that correct? Do I understand you correctly?

A Yes, sir. Probably would.

Q Well, in your opinion, would it be economical to drill a well to either formation based on a hundred and sixty acre allowable?

A Well, sir, as erratic as the porosity is, anything is a gamble. Structure doesn't mean much in either zone, in the eighty-six hundred foot zone it is relatively flat and in your ninety-eight hundred foot zone, as depicted on the structure map, it is a little sharp, and of course, as you go on down, the sharper the structure becomes.

Q Mr. Yuronka, you have stated in your testimony that there, that you concluded from these exhibits that there is an indication of a permability block. Do you mean to say that there is a complete block within this area?

A I couldn't testify to that, sir, I couldn't tell.

Q You did not testify to that?

A I couldn't answer that question properly.

Q But you do not testify that there is a complete block?

A There is a block of some sort, I don't know what sort it is. In my opinion there is.

MR. BUSHNELL: That's all the questions I have.

MR. PORTER: Anyone else have a question of Mr. Yuronka? Mr. Cooley.

BY MR. COOLEY:

Q Mr. Yuronka, you made some recommendations in the determinations on your direct examination, and I didn't quite understand.

Do you view the two pools or the two formations, the ninety-eight hundred and the eighty-six hundred, as being two separate sources of common supply?

A Yes.

Q There are presently, while being separate, they are at present within the same pool?

A Yes.

Q The Bagley Pennsylvenian Pool?

A Yes, sir.

Q Is it your recommendation that two pools be created or that they remain together?

A Two pools be created.

Q Two pools. And what was the spacing?

A Well, I recommended that for the time being, it continued under Statewide Rules, with rateable take from all gas wells, depending on any further development, or what may happen with the two wells now in the process of being completed, and also, there is a possibility--we have been talking about going in there and doing some work in our well in the eighty-six hundred foot zone.

Q I take it then, from your recommendation, that the well be produced rateably but you do not propose proration at the present time?

A That's right.

MR. COOLEY: I believe that's all.

MR. PORTER: Mr. Mankin.

BY MR. MANKIN:

Q Mr. Yuronka, the well which you related in the Southwest

Quarter, Southwest Quarter of Section 28, you said there is still some work to be done. Hasn't that been found to be predominantly all productive, do you know?

A Well, they have done an awful lot of work to it, and it seems to me that they were not getting much of anything. I may be wrong, In fact, the last report I got on it, the perforations that were open had been squeezed. What they have done since then, and that was about the beginning of this month, that was approximately two weeks ago, and what has been done since that time, I don't know.

Q I have one more question. Do you have any recommendations as to the limits of the oil pool, which we presently know as the Bagley Pennsylvanian Oil Pool and which has been requested that the vertical limits be withdrawn to include that zone lying between the two proposed gas pools? Do you have any recommendation as to the changing of the limits of that pool, or would you suggest leaving those the same?

A What sort of limits, horizontal or vertical?

Q Horizontal.

A They can remain the same.

Q As far as you are concerned, they can remain the same?

A Yes.

Q The vertical limits, do you agree that the vertical limits should be contracted to eliminate these two gas zones?

A Yes, I believe the main body of the oil pool is from about oh, approximately 8850 to 8400.

Q Do you have knowledge that all wells that are presently

carried in the Bagley Pennsylvanian Gas Pool are in the zone from around 8900 to around 9400 foot, except, with the exception of the Mathers A-2, which has now gone to an oil well?

A No, Mathers No.--

Q Mathers No. 2.

A That's the only well at the moment that is producing from the eighty-six hundred foot pool, and the Caudle No. 7 that Amerada has completed.

Q Then all wells are properly in the zone which they have requested of around 8900 to 9400, which would segregate them from these two gas zones?

A Yes.

MR. MANKIN: That's all.

BY MR. UTZ:

Q Mr. Yuronka, as I understand your testimony, you indicate that there are three zones in the Bagley Pennsylvanian Gas Pool?

A Yes.

Q Do you have any recommendation as to what we should call these zones?

A Pardon?

Q Do you have any recommendation as to what we should call these zones? They are all Pennsylvanian, am I right?

A That's right.

Q Would you call them Upper Pennsylvanian, Middle Pennsylvanian, or Lower Pennsylvanian, Zone, A, B, or C?

A I would just call one Eighty-six Hundred Foot Zone, Gas Zone, and one Ninety-eight Hundred Foot Gas Zone, and then the

pool. Well, you can use whatever designation you wish. In Texas in various--you have pools that have various formations that they are producing from and they will call one, for instance, the Goldsmith Field. You've got Goldsmith Field; you've got Goldsmith Fifty-six Hundred; Goldsmith Clear Fork. They have various formations, it is just the depth.

Q That has not been used up to now in New Mexico, has it?

A Well, I don't know, to my knowledge it hasn't, no.

Q Do you not agree that it would be simpler to call them Gas Zone "A", Oil Zone "B", and Gas Zone "C" or something similar to that. I am just fishing for some advice.

A Well, I have given about all the advice I can on the situation.

Q What is your frank opinion of the situation?

A Well, this is just an opinion. The Bagley Pennsylvanian Eighty-six Hundred Foot Gas Pool and Bagley Pennsylvanian Gas Pool and just the Bagley Pennsylvanian Oil Pool.

MR. UTZ: That's all I have.

BY MR. BUSHNELL:

Q Mr. Yuronka, in your opinion, is there enough gas in place in one hundred sixty acres to pay out a well?

A I haven't gone into that. I have done no reservior calculations on this thing at all, Mr. Bushnell.

MR. BUSHNELL: That is all.

MR. CAMPBELL: I have nothing further.

BY MR. PORTER:

Q Mr. Yuronka, [illegible] have only three separate

pools here. Did you make any recommendations as to what the vertical limits of the two gas pools should be?

A No.

Q Do you have any suggestions?

A Well, I would concur with Amerada.

Q You would concur with Amerada's recommendations?

A That would be it, approximately, yes.

MR. PORTER: Any further questions of Mr. Yuronka? If not, the witness may be excused.

MR. WOODWARD: John Woodward for El Paso Natural Gas Corporation. We have one question of Mr. Yuronka.

MR. PORTER: Go ahead, Mr. Woodward.

BY MR. WOODWARD:

Q El Paso is the only purchaser in the field, is that correct, at the present time?

A Yes, for high pressure gas, yes.

Q You indicated in this case, that you request the Commission to issue an order requiring rateable take and no proration of production, is that correct?

A According to present Statewide Rules, I recommended that it be prorated as such.

Q Are there any Statewide Proration Rules?

A About the only thing I know of is rateable take between offsetting gas wells, and I believe there is a one hundred and sixty acre proration unit.

Q In other words, you are setting up--asking the Commission to issue an order establishing a one hundred and sixty acre [illegible]

unit and proration it on an acreage basis?

A Yes.

MR. CAMPBELL: Mr. Woodward, I think you have it a little confused about the legal aspect of this. Perhaps I can clarify that. We have no objection, of course, to an order which defines these pools as separate pools, but we prefer, for the time being at least, to remain on the statewide drilling unit basis, and not to have any proration with gas, but to rely upon the purchaser and the general rateable take provisions of statutes to provide what he is referring to as a proration--

MR. WOODWARD: There is no statewide proration in your--

MR. CAMPBELL: I am not referring to statewide proration, I am referring to taking rateably whether there is proration or not.

MR. WOODWARD: Well, now--

MR. CAMPBELL: In other words, we do not want at this time any proration order issued on the pool. We are satisfied with the present situation so long as the purchaser takes rateably, which they haven't been doing.

MR. WOODWARD: As the purchaser, I will address this question generally to Texas Pacific, its witnesses or attorney. We, of course, want to take rateably, but we are puzzled by how we take rateably in the absence of proration, or in the absence of a standard that we would be forced to adopt ours.

MR. CAMPBELL: Well, aren't you taking gas from some areas where gas is not being prorated at the present time?

MR. WOODWARD: That is true. In accordance with a standard, we must necessarily adopt in either the contract or in an attempt

to comply with the rateable take requirements, but what we are trying to find out here is whether there are any recommendations made as to the basis, or standard, under which we will take rateably.

MR. CAMPBELL: For the time being, we are satisfied with the procedures that we are using where you do not take prorated gas; also, where is the standards you just mentioned, either by contract or by the rateable take provisions that the statute of the department set on acreage basis?

MR. WOODWARD: Of course, we are required under the statute to take rateably in any event without the provision or requirement, but if the special requirement is made to that effect in this particular pool, we would like a standard established by the Commission against which we can make our rateable take. For example, here you have no statewide proration rule or statute which would define the basis. That is, what allowable you would give to the well in order to make a rateable purchase from it. Is it on the basis of one hundred sixty acre proration unit with straight acreage as the formula, or is it on some other basis? If it is the former, and we are required especially by order to purchase on that basis, I think then the pool should be prorated on that basis. If they are concerned with delaying the allocation of each of these intervals, I think we could have a proration unit for the field on that basis, then we would know how to take rateably.

MR. CAMPBELL: Well, Mr. Commissioner, I think that El Paso has been trying to take rateably for years, before proration was ever thought of, on a one hundred sixty acre statewide basis on your contract, and you used the acreage factor only before proration

went in these other pools, but if it would simplify it any, we have no objection to setting up a proration unit of one hundred sixty acres at this time. We don't want a six hundred and forty acre proration unit at this time.

MR. WOODWARD: We are doing it as required by the statutes. We are not doing it under any statewide rule because there is no such thing as a statewide proration unit.

MR. PORTER: Mr. Cooley.

MR. COOLEY: Mr. Woodward, is it your desire that the Commission say what is rateable in these gas pools; have the Commission determine it, is that your desire?

MR. WOODWARD: No, not necessarily. We are willing to undertake to set up some sort of a standard against which we will make a rateable take if that is necessary. But I'll call your attention to provision 65-3-17-E, which provides that any common purchaser taking gas produced from gas wells from a common source of supply, such take rateably, under such rules, regulations, and orders concerning quantities may be promulgated by the Commission consistent with the act. Now we read the rateable take requirement as something we are required to do independent of proration. If the Commission does not proration these pools, we nevertheless attempt to take rateably, and in order to do that, we must establish some standard, which we are willing to do and have done in the past, but if the burden of this recommendation is that we be required to take rateably under the order on any particular standard, that that be spelled out in the order so that we may know if it is a one hundred sixty acre unit allocated on a state acreage basis. That is the

only point that we are making here.

MR. COOLEY: Thank you.

MR. PORTER: Does anyone else have a question of Mr. Yuronka? If not, the witness may be excused.

MR. COOLEY: Mr. Bushnell, in your application, you have requested that proration be instituted in the ninety-eight hundred and eighty-six hundred foot zones in the area under consideration in this case. Possibly I overlooked it or didn't hear it, but I don't believe any reasons have been given why proration should be instituted at this time. Would you like to recall your witness or make a statement to that effect? We would like to hear it.

R. S. CHRISTIE

recalled as a Witness, having been previously sworn testified as follows:

REDIRECT EXAMINATION

BY MR. BUSHNELL:

Q Mr. Christie, would you proceed to answer the question Mr. Cooley asked?

A If I understand the question, our application is asking that the Commission grant us a six hundred and forty acre unit, whether our other units in the field do not have six hundred and forty acres. We will later apply, of course, for a well on a six hundred and forty acre unit. We must have some way to allocate that in the different size units. Is that what you had reference to?

MR. COOLEY: Well, I want to hear your reasons why you think proration should be instituted in the gas pools under consideration here. Your reason you just stated was that in the event that they

have different amounts of acres dedicated to it.

A You must have some way to allocate that production.

MR. COOLEY: Mr. Christie, do you feel that these wells would be discriminated against if a proration unit was not instituted?

A Yes, I do. If no proration or no gas proration unit is established we have a well that we can produce, our Caudle No. 7, and we don't know what size unit to assign to that well unless it would be one hundred and sixty acres, in the absence of any other rules. Obviously, the production from that well would require other developments in order to protect our royalty interests, and that is what we are trying to get away from, because it is not economical to drill new wells and we want to make available the present wells and later on if necessary, re-complete old wells, and we think we can accomplish the purpose and satisfy our royalty owners as well as ourselves by developing this or producing it on a six hundred and forty acre basis.

MR. PORTER: Any other questions of the witness? Mr. Nankin.

RECROSS EXAMINATION

BY MR. NANKIN:

Q Going on with the conversation, Mr. Christie, do you indicate that a well in the ninety-eight hundred foot zone would not be economical on one hundred sixty acres?

A If you could only produce the gas under one hundred and sixty acres, no.

Q What is your reaction to a well on one hundred sixty acres for the eighty-six hundred foot?

A The same holds true.

Q Eighty-six hundred is not nearly as attractive as the ninety-eight hundred, is that true?

A That would be my opinion, yes, sir.

MR. MANKIN: That is all.

MR. PORTER: Any further questions? If not, the witness may be excused. Does anyone wish to make a statement?

MR. CAMPBELL: No, sir, too late.

MR. BUSHNELL: No.

MR. PORTER: If there is--

MR. SETH: Shell would like to make a statement. O. L. Seth for Shell Oil Company, and I will read the statement. It is a little bit long.

Shell is interested in the limits that may be established for the Bagley 9800-foot gas zone and in the field rules, if any, that may be promulgated as it is the owner of lease from the state of New Mexico that covers the E-1/2 of the SE-1/4 of Section 33, T-11-S, R-33-E, and completed thereon the first gas well that was completed from the 9800-foot pool. This well, the Shell State 1-A, was completed in November 1951 with an initial potential of 23,000,000 cubic feet of gas per day. The well was shut in until sometime in 1953 waiting for a market. When a market was secured, a 160-acre gas unit consisting of all of the SE-1/4 of Section 33 was created by pooling Shell's lease with that of part of Amerada's Mather Lease covering fee land in the N-1/2 of that quarter section.

As to the limits of the pool, Shell recommends to the Commission that they be fixed not to exceed 1[illegible] to 13[illegible] acres for the following reasons. In the first place, a qualitative analysis of

of the drillstem tests made of the 9800-foot zone in the drilling of the wells that have penetrated that zone will disclose that only in a relatively small area, not exceeding two sections in size, were the results of those tests of sufficient size to indicate that the accumulation in the vicinity thereof was commercial. In a great many of the tests gas either failed to reach the surface in measurable quantities or was tested at quantities of less than one million cubic feet per day which would certainly not be commercial for the depth of the pool. We recognize that drillstem tests data are not conclusive but certainly are indicative of what may reasonably be expected for the long pull.

In the second place an engineering analysis involving volumetric and material balance calculations will show that the area of the field cannot exceed 1200 to 1300 acres. The data on which such calculations can be made are in the Commission's files.

It is obvious that the determination of this matter affects the correlative rights of the operators for if non-productive lands are included the rights of some operators are enlarged over what they should be and the rights of the remaining operators are to the same extent diminished. This truth is recognized in the statutes under which this Commission was created in that the Commission is therein especially given the power to determine the limits of pools in connection with its duty to prevent waste and to protect correlative rights. We therefore urge the Commission to confine the limits thereof to that area which is reasonably productive.

The pool limits are a matter of great concern to operators, such as Shell who have only small segregated leaseholds therein,

to other operators, such as Amerada which controls a big part of the land in the pool area as proposed by it, the possible inclusion of non-productive lands is not such a matter of concern. Shell with only its one small 80-acre tract however wishes all barren land excluded.

In connection with Amerada's evidence that the 9800-foot productive formation was found in several wells that were drilled for production from the Devonian Formation, we call the Commission's attention to the fact that the presence of a formation in the space penetrated by a well does not necessarily mean that the formation is productive there; for as we all know formations vary in permeability and porosity and dry spots show up in the middle of a field. Thus Shell's State No. 1-A in which Shell has an interest and which is presently producing from the Bagley 9800-foot zone was dry in the 8690-foot gas formation although it is right in the middle of the area that Amerada is today proposing as the area to be included within the 8600-foot pool.

As to the proposed field rules Shell is opposed to the creation of a 640-acre basic proration unit. The basis of its opposition is that its correlative rights rather than being protected by the creation of such a size unit, will be injured. Where, as here, a pool is small and contains not over 1200 to 1300 acres and the basic proration unit is fixed at 640 acres and one unit is formed in the middle of the pool, as Amerada proposes to do here, it is obvious that those owning under the rim leases will find it very difficult to form a full size unit and that if they do so it will be a most peculiarly shaped one. The shape if formed would be

somewhat like a tire around the inside unit. This would obviously place the rim operators at a tremendous disadvantage. In all probability, under such circumstances, the formation of a unit by the rim leases would prove impossible and the owners thereof would be forced to drill several wells to produce the same amount of gas as the big unit operator could produce from one. This is not right.

Amerada can argue that in this field, since it owns a considerable part of the rim leases, that the Commission should disregard the inequity to them that would result from the establishment of a 640-acre basic proration unit rule. The Commission, however, should take into consideration the correlative rights of every operator regardless of the amount of acreage held in the field. Furthermore, each set of field rules fixes the mold for field rules that will be adopted in the future, and from that viewpoint we should be careful in establishing a precedent that would generally be unfair to rim leases in small pools.

In conclusion, Shell's position is first, that the drillstem test data, if qualitively reviewed, and an analysis involving volumetric and material balance claculations will show that the 9800-foot gas zone does not exceed an area of 1200 to 1300 acres and second, that the establishment of 640-acre proration unit in a small pool is adverse to the correlative rights of the operators therein, especially where all of the central part of the pool is controlled by one operator since it allows that operator to develop his acreage on a pattern that as a practical matter is not available to other operators who as a consequence are not afforded the opportunity to produce their just and equitable share of the gas on an

equal basis.

Shell therefore recommends to the Commission that it confine the pool to 1200 to 1300 acres. If it does not do so, that it promulgate a rule that all acreage attributable to a well for proration purposes shall be within that distance of the wll that would not exceed the diagonal of a quarter section plus the diagonal of a quarter quarter section, this in order to keep barren acreage in proration units to a minimum; in any event Shell recommends that it limit the size of proration units to either 160 acres or 320 acres. In this connection Shell sees no real reason to depart from the 160-acre basic proration unit heretofore used in the field but believes that the correlative rights of the operators can be protected if a rule providing for 320-acre basic units is promulgated. Proration units larger that 320 acres, however, will definitely adversly effect the correlative rights of Shell and it respectfully and vigorously protest the granting of such.

MR. PORTER: Does anyone else have a statement?

MR. BUSHNELL: Mr. Chairman, I said I didn't care to make one, but after hearing Shell's general statement, I feel compelled to make a statement.

I appreciate the fact that the so-called statement contains Shell's attitude, and it contains apparently comments as to some evidence presented here today. It also, if I recollect correctly, makes certain recommendations. However, it seems to go a little bit further in attempting to present to the Commission, in lieu of the normal procedure, no testimony, it has commented on certain evidence that has not been presented here, and therefore we would

object. Perhaps I shouldn't say object to it in toto, be we do object to any portion of the statement that purports to include information or facts in lieu of any testimony, which they should have put on in that manner, and I have no objection to the Commission having knowledge of any of the information contained in the statement, but I do have to go on record as objecting to its inclusion for any evidentiary purpose.

MR. CAMPBELL: If the Commission please, if it would relieve Mr. Bushnell's fears and concerns, we will adopt it as our statement to go along with the facts we have presented.

MR. BUSHNELL: Thank you. If I heard what I thought I heard, I [illegible] like to [illegible] would like to say one more thing and that is [illegible] is concerned about the size of this p[illegible]osed pool, a[illegible] you will recollect, that in our testimony [illegible]y the delineations as drawn on our exhibits, if I remember [illegible] several hours ago, No. 3 and 4. In drawing those lines [illegible] full control as to the productive limits, and we had [illegible]pecifically in the western portion on the structure, c[illegible]ved to be the location of the structure. We would [illegible]bjection, [illegible]'s what I am concluding we would have no obj[illegible] the Commission reducing the size of that proposed field [illegible] information, providing it didn't choose to r[illegible] [illegible] of six hundred and forty acres that we ha[illegible]t. That's all.

MR. PORTER: Any [illegible] statements?

MR. COLE: I [illegible]y we are obtaining a general objection, but not one on w[illegible] wished a ruling, Mr. Campbell?

MR. SETH: I think it is a complaint rather then an objection

Mr. Bushnell: I would say this, that if this case is appealed, I want it to be known on record that I have objected to any attempt of Shell's statement to present information in lieu of of testimony, which should have been presented in the normal manner, and I would hope that on appeal, that that information could not be considered as evidence, that's the purpose for my statement. I am not objecting to its use by the Commission.

MR. COOLEY: Then you are not objecting to it in the record?

MR. BUSHNELL: That's right.

MR. PORTER: Anyone else have anything further in this case? If not, we will take the case under advisement.

STATE OF NEW MEXICO)
: ss
COUNTY OF BERNALILLO)

We, ADA DEARNLEY and J. A. TRUJILLO, Notaries 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 Oil Conservation Commission ofr the State of New Mexico was reported by us in Stenotype and reduced to typewritten transcript by us and that same is a true and correct record to the best of our knowledge, skill and ability.

WITNESS my hand and seal this 26th day of March, 1957.

Ada Dearnley
Notary Public, Court Reporter

Court Reporter

My Commission Expires:

June 19, 1959.

AMERADA PETROLEUM CORPORATION

DRILL-STEM TEST DATA
BAGLEY PERMO-PENN ZONE

Caudle #2	(#2) DST 8565-8717'. 4-hr test. Gas to surface in 4 min, mud and distillate. 8 min. Flowed 41.40 bbls distillate in 4 hrs. Gas volume 6,850 Mcf/day. FFP 1575#. BUP 3050#.
Caudle #3	(#1) DST 8665-8722' - Gas to surface in 3 min, oil in 16 min. F 79.96 BO/4 hrs. Gas volume 1,672 Mcf/day. FFP 840#. BUP 2770#.
Caudle #4	(#1) DST 8644-8765'. Gas to surface in 6 min, distillate in 2 hrs 5 min. F 10.61 bbls dist/4 hrs. Gas volume 2,543 Mcf/day. FFP 1350#. BUP 2785#.
Caudle #7	(#1) DST 8585-8665' - Gas to surface in 3 min, distillate in 10 min. F 37.62 bbls dist/4 hrs. Gas volume 6965 Mcf/day. FFP 1970#. BUP 3060#.
Chambers #2	(#1) DST 8665-8723' - 4 hrs test - no show.
Mathers #1	(#2) DST 8610-8675', gas to surface in 3 min, volume diminished from 71 Mcf/day to 36 Mcf/day at end of 4 hr. test. Rec. no oil or water. FFP 100#. BUP 855#.
Mathers #2	(#1) DST 8645-8715'. Gas to surface in 4 min, oil in 35 min. F 89.16 bbls, dist. in 4 hrs, gas volume 802 Mcf/day. FFP 1150#.
Mathers #3	(#1) DST 8644-8725', no show - 4-hr. test.
Mathers "A" #2	(#1) DST 8615-8670' - gas to surface in 3 min. Distillate in 31 min. F 26.58 bbls dist/4 hrs. Gas volume 3436 Mcf/day. FFP 1100#. BUP 2950#.
Simmons #1	(#1) DST 8675-8726', gas to surface in 6 min, volume diminished from 138 Mcf/day to 67 Mcf/day at end of 4-hr. test. FFP 0#, BUP 1230#.
State BT "A" #2	(#1) DST 8580-8771', no show in 4-hr. test.
State BT "I" #1	(#1) DST 8585-8771', no show in 4-hr. test.
State BT "K" #1	(#1) DST 8586-8672', gas to surface in 3 min, distillate in 6 min. F 35.92 bbls dist/4 hrs, gas volume 5420 Mcf/day. FFP 1630#, BUP 2970#.

AMERADA PETROLEUM CORPORATION

DRILL-STEM TEST DATA
BAGLEY 9800' ZONE

Caudle #2	(#11) DST 9764-9830', gas to surface in 6 min, mud and dist. in 1 hr, 50 min. F 8 bbls dist/4 hrs. Gas volume 1628 Mcf/day. FFP 765#, BUP 3580#.
Caudle #4	(#6) DST 9830-9955', gas to surface in 1 hr, 5 min. Volume too small to measure. FFP 220#, BUP 305#.
Caudle #5	(#4) DST 9731-9860', gas to surface in 5 min. Distillate in 1 hr, 20 min. F 13 bbls dist/4 hrs. Gas volume 1958 Mcf/day. FFP 780#, BUP 3375#.
Caudle #7	(#5) DST 9768-9892', gas to surface in 4 min. Gas volume 1064 Mcf/day. FFP 505#, BUP 3555#.
Chambers #2	(#6) DST 9714-9805'. Gas to surface in 1 hr. Gas volume too small to measure, oil show. FFP 245#, BUP 340#.
Mathers #1	(#7) DST 9769-9835', gas to surface in 50 min. Gas volume too small to measure. FFP 100#, BUP 665#.
Mathers "A" #1	(#5) DST 9753-9853', gas to surface in 4 min. Distillate in 55 min. F 40 bbls dist/4 hrs. Gas volume 3192 Mcf-day. FFP 860#, BUP 3070#.
	(#6) 9853-9960', gas to surface in 7 min. Gas volume 550 Mcf/day. Rec. 210' oil, 360' mud, 30% oil cut, 720' mud, 2% oil cut, 90' salt water. FFP 2375#.
Mathers "A" #2	(#5) DST 9801-9900', gas to surface in 65 min, gas volume 4 Mcf/day. FFP 250#, BUP 1190#.
State BT "C" #3	(#5) DST 9725-9814'. Gas to surface in 16 min, volume 321 Mcf/day, increasing to 406 Mcf/day in 4 hrs. Rec. 420' dist. FFP 2250#.
State BT "K" #1	(#6) DST 9800-9880', gas to surface in 6 min, distillate in 2 hrs, 9 min. F 11.56 bbls dist/ 4 hrs. Gas volume 562 Mcf/day increasing to 1216 Mcf/day in 4 hrs. Rec. 120' salt water. FFP 675#, BUP 3550#.
State BT "M" #1	(#6) DST 9765-9840', gas to surface in 8 min. Gas volume 362 Mcf/day increasing to 611 Mcf/day in 4 hrs. FFP 310#, BUP 3360#.
State BT "N" #1	(#4) DST 9731-9831', gas to surface in 3 min, distillate in 28 min. F 25.41 bbls dist/4 hrs. Gas volume 3736 Mcf/day. FFP 940#, BUP 3345#.

BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF AMERADA PETROLEUM CORPORATION FOR AN ORDER AMENDING EXISTING ORDERS, FOR PROMULGATING RULES AND REGULATIONS RELATING TO GAS POOL DELINEATION, GAS PRORATION, AND OTHER RELATED MATTERS AFFECTING THE POOL OR POOLS UNDERLYING THE S/2,S/2 N/2 Sec. 33; S/2, NW/4, NE/4 Sec. 34; SW/4 Sec. 35-11S-33E; E/2, N/2 SE/4 Sec. 4; N/2,N/2 SW/4, SE/4 SW/4, SE/4 Sec, 3; NW/4, W/2 SW/4 Sec. 2; NE/4 Sec. 10; W/2 NW/4 Sec. 11-12S-33E; All in Lea County, New Mexico.

CAUSE NO. 1226

APPLICATION

Comes now, Amerada Petroleum Corporation, Tulsa, Oklahoma, and alleges and states:

1. That Applicant has drilled and dually completed the J.T.Caudle Well #7, located in the center of the NE/4 NW/4 Sec. 3-12S-33E, Lea County, New Mexico, and tested gas in paying quantities in two separate sources of supply, the first in what is commonly known as the 9800 feet Pennsylvanian zone with the top encountered at 9756 feet and the base at 9925 feet; and in the 8600 feet zone, called the Permo-Penn, the top of which is at 8589 feet and the base at 8645 feet.

2. That other wells in this area, as shown on the attached plat, are completed and producing from the two separate sources referred to above, said wells including:

(a) Shell-Amerada State Well A-1, located in SE/4 SE/4 Sec. 33-11S-33E, completed in and producing from the 9800 feet zone on an 160-acre unit comprising the SE/4 of Sec. 33;

(b) The Texas Pacific Coal & Oil Company Well #C-1, located in the NE/4 NE/4 Sec. 4-12S-33E, completed in the 9800 feet zone, capable of producing in paying quantities, and believed to be on an 160-acre unit comprising the NE/4 of Sec. 4;

(c) The Amerada-Mathers #2 Well, located in SE/4 SE/4 Sec. 3-12S-33E, classified as an oil well but now producing gas and distillate from the 8600 feet Permo-Penn zone.

3. That Applicant has knowledge that other wells located in this area and completed in the Devonian encountered one or both of the reservoirs referred to herein.

4. That the 9800 feet Pennsylvanian zone underlies all or a substantial portion of the S/2, S/2 N/2 Sec. 33; S/2, S/2 NW/4, NE/4 Sec. 34; SW/4 Sec. 35-11S-33E; and N/2 NW/4, SE/4 NW/4, NE/4, N/2 SE/4 Sec. 4; N/2, N/2 SW/4, SE/4 SW/4, SE/4 Sec. 3; NW/4, W/2 SW/4 Sec. 2-12S-33E, Lea County, New Mexico.

5. That the 8600 feet Permo-Penn zone underlies all or a substantial portion of the SW/4 SW/4, E/2 SW/4, SE/4, SE/4 NE/4 Sec. 33; S/2, S/2 N/2 Sec. 34; in 11S-33E; and the N/2, N/2 SE/4 Sec. 4; E/2, N/2 SW/4, SE/4 Sec. 3; N/2 SW/4 Sec. 2; NE/4 Sec. 10; W/2 NW/4 Sec. 11-12S-33E, Lea County, New Mexico.

6. That one well in each of the two reservoirs may efficiently and economically drain a minimum area of 640 acres.

7. That in order to properly develop the two sources of supply to prevent waste and avoid the completion of unnecessary wells and to protect correlative rights of interested parties therein, it is necessary and proper for the Commission to enter its order defining the vertical and horizontal limits of each of the separate reservoirs, to allocate and prorate the gas production among the several wells in each reservoir and to enter such other special rules as the Commission may deem necessary.

WHEREFORE, Applicant respectfully requests that the Commission set this application for public hearing at the time and place to be fixed by the Commission, that due and proper notice be given as required by law, and at the conclusion of said hearing the Commission make and enter its order defining the proper productive limits of the two separate reservoirs, referred to above, and enter such other rules and regulations as the Commission deems necessary for the purposes herein stated.

DATED, this 11th day of February, 1957.

AMERADA PETROLEUM CORPORATION

By H. D. Bushnell

H. D. Bushnell, Attorney.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 1220
Order No. R-991

APPLICATION OF AMERADA PETROLEUM
COMPANY FOR AN ORDER PROMULGATING
RULES AND REGULATIONS RELATING TO
GAS POOL DELINEATION, GAS PRORATION,
AND OTHER RELATED MATTERS AFFECTING
OR CONCERNING THE GAS POOLS IN THE
PENNSYLVANIAN ZONE, BAGLEY POOL, LEA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on March 14, 1957, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission.

NOW, on this 15th day of May, 1957, the Commission, a quorum being present, having considered the application and the testimony adduced, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this case and the subject matter thereof.

(2) That on November 10, 1955, the Commission issued Order No. R-713 creating the Bagley-Pennsylvanian Gas Pool, the vertical limits of which comprise the Pennsylvanian formation.

(3) That development subsequent to the issuance of Order R-713 has shown that there are two separate common sources of supply of gas within the Pennsylvanian formation in the subject area, one being referred to as the "9600-foot" or "Upper" zone and the other being referred to as the "9800-foot" or "Lower" zone.

(4) That all wells producing from the Bagley-Pennsylvanian Gas Pool, as the same is presently defined, are completed in the "9800-foot" zone.

(5) That the vertical limits of the Bagley-Pennsylvanian Gas Pool should be restricted to the "9800-foot" zone and that the horizontal limits should be extended to include the other wells in the zone presently from the same zone.

(6) That the name of the Bagley-Pennsylvanian Gas Pool should be changed to "Bagley-Lower Pennsylvanian Gas Pool" in order to more accurately reflect the vertical limits of said pool.

(7) That a new gas pool should be created for the common source of supply known as the "8600-foot" or "Upper" zone of the Pennsylvanian formation and that said pool should be designated the "Bagley-Upper Pennsylvanian Gas Pool."

(8) That under present conditions proration of gas is not necessary in either of the aforementioned pools.

(9) That the applicant has failed to prove that one well in either of the aforementioned gas pools will drain 640 acres.

(10) That Special Rules and Regulations should be promulgated to govern the drilling, spacing and operation of wells completed in the Bagley-Upper Pennsylvanian Gas Pool and the Bagley-Lower Pennsylvanian Gas Pool.

(11) That provision should be made in said rules and regulations to assure ratable take of gas from all wells in either of the aforementioned common sources of supply.

(12) That on December 9, 1949, the Commission issued Order 850 defining the Bagley-Pennsylvanian Pool as an oil pool, the vertical limits of which comprise the Pennsylvanian formation.

(13) That the aforementioned "8600-foot" and "9800-foot" gas zones underlie certain portions of the horizontal limits of the said Bagley-Pennsylvanian Oil Pool as the same are presently defined.

(14) That the vertical limits of the Bagley-Pennsylvanian Oil Pool should be restricted to that interval lying between the two aforementioned gas zones.

(15) That no dry gas or casinghead gas produced from the Bagley-Upper Pennsylvanian Gas Pool, the Bagley-Lower Pennsylvanian Gas Pool, or the Bagley-Pennsylvanian Oil Pool should be flared or vented unless specifically authorized by the Commission after notice and hearing.

IT IS THEREFORE ORDERED:

(1) That a new pool for the production of gas from the upper Pennsylvanian formation be and the same is hereby created and designated as the Bagley-Upper Pennsylvanian Gas Pool, with vertical and horizontal limits as are set forth in Exhibit "A" attached hereto and made a part hereof.

(2) That the vertical limits of the Bagley-Pennsylvanian Oil Pool, as heretofore classified, defined, and described, be and the same are hereby redefined as set forth in Exhibit "B" attached hereto and made a part hereof.

(3) That the vertical limits and the horizontal limits of the Bagley-Pennsylvanian Gas Pool, as heretofore classified, defined, and described, be and the same are hereby redefined as set forth in Exhibit "C" attached hereto and made a part hereof. Further that the name of said Bagley-Pennsylvanian Gas Pool be and the same is hereby changed to Bagley-Lower Pennsylvanian Gas Pool.

(4) That the special pool rules applicable to the Bagley-Upper Pennsylvanian Gas Pool and the Bagley-Lower Pennsylvanian Gas Pool be and the same are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
BAGLEY-UPPER PENNSYLVANIAN GAS POOL
AND THE
BAGLEY-LOWER PENNSYLVANIAN GAS POOL

RULE 1. Any well drilled a distance of one mile or more outside the boundary of either the Bagley-Upper Pennsylvanian Gas Pool or the Bagley-Lower Pennsylvanian Gas Pool shall be classified as a wildcat well. Any well drilled less than one mile outside the boundary of the Bagley-Upper Pennsylvanian Gas Pool or the Bagley-Lower Pennsylvanian Gas Pool shall be spaced, drilled and operated in accordance with the regulations in effect in said Bagley-Upper Pennsylvanian Gas Pool provided said well is projected to and/or completed in the so-called "8600-foot" zone, or in accordance with the regulations in effect in said Bagley-Lower Pennsylvanian Gas Pool provided said well is projected to and/or completed in the so-called "9300-foot" zone.

RULE 2. (a) Each well drilled or recompleted within the limits of the Bagley-Upper Pennsylvanian Gas Pool or the Bagley-Lower Pennsylvanian Gas Pool shall be drilled, spaced and operated in accordance with the applicable provisions of Rule 104 of the Commission Rules and Regulations; provided, however, that a non-standard drilling unit may be formed after notice and hearing by the Commission or under the provisions of Paragraph (b) of this rule.

(b) The Secretary of the Commission shall have authority to grant an exception to Rule 2 (a) without notice and hearing where application has been filed in due form and where the following facts exist and the following provisions are complied with.

1. The non-standard gas proration unit consists of contiguous quarter-quarter sections or lots.

2. The non-standard proration unit lies wholly within a single governmental section.

3. The entire non-standard gas proration unit may reasonably be presumed to be productive of gas.

4. The length or width of the non-standard gas proration unit does not exceed 5280 feet.

5. That applicant presents written consent in the form of waivers from all offset operators and from all operators owning interests in the quarter section in which any part of the non-standard gas proration unit is situated and which acreage is not included in said non-standard gas proration unit.

6. In lieu of Paragraph 5 of this Rule, the applicant may furnish proof of the fact that all of the aforesaid operators were notified by registered mail of his intent to form such non-standard gas proration unit. The Secretary of the Commission may approve the application, if, after a period of 30 days following the mailing of said notice, no operator has made objection to the formation of such non-standard gas proration unit.

RULE 3. Each gas purchaser in the Bagley-Upper Pennsylvanian or the Bagley-Lower Pennsylvanian Gas Pools shall take ratably from all wells producing from each common source of supply, apportioning its takes during any given calendar year among said wells on the basis of the acreage dedicated thereto.

RULE 4. No natural gas nor casinghead gas produced from either the Bagley-Upper Pennsylvanian Gas Pool or the Bagley-Lower Pennsylvanian Gas Pool shall be flared or vented unless specifically authorized by the Commission after notice and hearing.

RULE 5. The monthly gas production from each well shall be metered separately and the gas production and associated liquid hydrocarbon production therefrom shall be reported to the Commission in accordance with the applicable Commission Rules and Regulations.

IT IS FURTHER ORDERED:

That no natural gas nor casinghead gas produced from the Bagley-Pennsylvanian Oil Pool shall be flared or vented unless specifically authorized by the Commission after notice and hearing.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

[illegible], Chairman

[illegible], Member

A. L. [illegible], Jr., Member & Secretary

ir/

EXHIBIT "A"

BAGLEY-UPPER PENNSYLVANIAN GAS POOL

The Horizontal Limits of the Bagley-Upper Pennsylvanian Gas Pool shall be as follows:

TOWNSHIP 12 SOUTH, RANGE 33 EAST, NMPM
Section 3: N/2 and SE/4

The vertical limits of the Bagley-Upper Pennsylvanian Gas Pool shall be as follows:

Minus 4[illegible]0 feet to minus 4510 feet subsea datum.

EXHIBIT "B"

BAGLEY-PENNSYLVANIAN OIL POOL

The vertical limits of the Bagley-Pennsylvanian Oil Pool shall be as follows:

Minus 4600 feet to minus 5200 feet subsea datum.

EXHIBIT "C"

BAGLEY-LOWER PENNSYLVANIAN GAS POOL

The horizontal limits of the Bagley-Lower Pennsylvanian Gas Pool shall be as follows:

TOWNSHIP 11 SOUTH, RANGE 33 EAST, NMPM
Section 33: SE/4

TOWNSHIP 12 SOUTH, RANGE 33 EAST, NMPM
Section 3: NW/4
Section 4: NE/4

The vertical limits of the Bagley-Lower Pennsylvanian Gas Pool shall be as follows:

Minus 5400 feet to minus 5920 feet subsea datum.

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

May 2, 1957

COPY

Mr. H. B. Bushnell
Amerada Petroleum Corp.
P.O. Box 2040
Tulsa, Oklahoma

Dear Sir:

We enclose a copy of Order R-991 issued May 1, 1957, by the Oil Conservation Commission in Case 1220, which was heard on March 14th.

Very truly yours,

A. L. Porter, Jr.
Secretary - Director

bg
Encl.

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

May 2, 1957

Mr. Jack Campbell
P.O. Box 721
Roswell, New Mexico

Dear Sir:

On behalf of your client, Texas Pacific Coal & Oil Company, we enclose a copy of Order R-991 issued May 1, 1957, by the Oil Conservation Commission in Case 1220, which was heard on March 14th.

Very truly yours,

A. L. Porter, Jr.
Secretary - Director

bp
Encl.

COPY

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 861
Order No. R-639-A

APPLICATION OF EL PASO NATURAL
GAS COMPANY FOR AN ORDER
PROMULGATING POOL RULES AND
INSTITUTING GAS PRORATIONING FOR
THE CROSBY DEVONIAN GAS POOL IN
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 13, 1956, at Santa Fe, New Mexico, before the Oil Conservation Commission, hereinafter referred to as the "Commission".

NOW, on this 28th. day of December, 1956, the Commission, a quorum being present, having considered the record and testimony adduced, and being fully advised in the premises,

FINDS:

(1) That due notice of the time and place of hearing having been given as required by law, the Commission has jurisdiction of this case and the subject matter thereof.

(2) That Anderson-Prichard Oil Corporation did complete its American Republics-Federal No. 1 discovery well in the NE/4 SW/4 of Section 28, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico on or about January 18, 1955.

(3) That said well potentialed 30,000 MCF of gas per day on an absolute open flow test from the Devonian formation in the depth interval of 8270 to 8390 feet.

(4) That said well discovered a new common source of supply in this area.

(5) That under date of May 27, 1955, the Commission issued its Order No. R-639 creating the Crosby-Devonian Pool. That Order R-789 and R-914 has extended the horizontal limits of the Crosby-Devonian gas pool.

(6) That the pool has already been developed to the extent that a 640-acre drilling and proration unit could not now be formed within the probable productive limits of the pool as evidenced by siesmic surveys and geological information taken from existing wells.

(7) That the probable areal extent of the common source of supply is limited, and as a result thereof a proration unit of more than 160 acres could cause the inclusion in units of acreage that cannot reasonably be assumed to be productive of gas.

(8) That one well will will efficiently and economically drain 160 acres of the said common source of supply.

(9) That in order to provide for the orderly development of the common source of supply, and to prevent waste, drilling units of 160 acres, well-spacing regulations, a casing program and the allocation and proration of gas production should be established for said common source of supply.

(10) That the producing capacity of the gas wells in the Crosby-Devonian Gas Pool is greater than the market demand for gas from such pool and the pool should therefore be prorated.

(11) That a proration formula based on 100% acreage would provide a just and equitable allocation of the gas from the Crosby Devonian gas pool, and that nothing further would be accomplished by the incorporation of a pressure factor in the proration formula.

(12) That for the prevention of waste a "no-flare" rule should be adopted to prohibit the flaring, venting, or wasting of casinghead gas or any other type of gas in any of the gas or oil pools referred to and affected by this order.

IT IS THEREFORE ORDERED:

(1) That Order R-639, Order 787 and R-914 be and the same are hereby superseded.

(2) That the horizontal limits of the Crosby-Devonian Gas Pool shall be the area as described in Exhibit "A" attached hereto and made a part hereof. That the vertical limits shall include all the formations that can reasonably be considered to be of Devonian age.

(3) That no gas, either dry gas or casinghead gas shall be flared or vented in the Crosby-Devonian gas pool unless specifically authorized by order of the Commission after notice and hearing.

(4) That within 15 days after the date of this order, operators of all wells in the Crosby-Devonian gas pool shall comply with the provisions of Rule 1107, pertaining to Form C-104; Rule 1109, pertaining to Form C-110; and Rule 1127, pertaining to Form C-128; of the Commission Rules and Regulations.

CASING PROGRAM REQUIREMENTS:

RULE 1. The casing program for the field shall include three strings of casing set in accordance with the following plan:

(a) The surface string shall be new or reconditioned pipe with a mill test of not less than two thousand (2,000) pounds per square inch and shall be set and cemented at a depth of approximately five hundred (500) feet, such depth being sufficient to protect the fresh water bearing sands of the Santa Rosa formation.

Cementing shall be by the pump-and-plug method, and sufficient cement shall be used to fill the annular space back of the pipe to the surface of the ground or the bottom of the cellar. Cement shall stand a minimum of sixteen (16) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating pressure tests. Before drilling the plug, this string shall be tested by the application of at least one thousand (1,000) pounds per square inch and, if at the end of thirty (30) minutes the pressure shows a drop of one hundred fifty (150) pounds per square inch or more, the cementing job shall be condemned. After corrective measures have been taken, the pipe shall again be tested in the same manner.

(b) The intermediate string shall consist of new or reconditioned pipe that has been tested to two thousand (2,000) pounds per square inch and shall be set at approximately thirty-six hundred (3,600) feet. Cementing shall be by the pump-and-plug method, and sufficient cement shall be used to fill the calculated annular space back of the pipe to a point one hundred (100) feet above the top of the Salado formation. The cement shall stand a minimum of twenty-four (24) hours under pressure and a total of thirty (30) hours before drilling plug or initiating tests. Casing shall be tested by the application of at least twelve hundred (1200) pounds per square inch pump pressure. If, at the end of thirty (30) minutes, the pump pressure shows a drop of one hundred (100) pounds per square inch or more, the cementing job shall be condemned. After corrective measures have been taken, the pipe shall again be tested in the same manner.

(c) The producing or oil string shall be new or reconditioned casing that has been tested to four thousand (4,000) pounds per square inch and shall be set at a depth not less than the top of the Devonian formation. Cementing shall

be with a minimum of three hundred fifty (350) sacks of cement applied by the pump and plug method and shall stand a minimum of twenty four (24) hours under pressure and a total of forty eight (48) hours before drilling the plug or initiating tests. After cementing, the casing shall be tested by pump pressure of at least fifteen hundred (1,500) pounds per square inch for a period of at least thirty (30) minutes. If, at the end of 30 minutes the pressure shows a drop of one hundred (100) pounds per square inch or more, the cementing job shall be condemned. After corrective measures have been taken, the pipe shall again be tested in the same manner.

WELL SPACING AND ACREAGE REQUIREMENTS FOR DRILLING AND PRORATION UNITS.

RULE 2. Any gas well drilled to the Devonian formation within one mile of the horizontal limits of the Crosby-Devonian Gas Pool shall be spaced, drilled, operated, and prorated in accordance with the rules and regulations in effect in the said Crosby-Devonian Gas Pool.

RULE 3. No well shall be drilled, completed or recompleted, and no Notice of Intention to Drill or drilling permit shall be approved, unless,

(a) Such well be located on a designated drilling unit of 160 acres of land, more or less, said acreage to be substantially in the form of a square conforming to a legal sub-division (quarter-section) of the U. S. Public Lands Survey, in which unit all the interests are consolidated by pooling agreement or otherwise, and on which unit no other well is completed or approved for completion in the pool.

(b) Such well shall be located not closer than 660 feet from any outer boundary line of the tract, nor closer than 330 feet from any quarter-quarter section or sub-division inner boundary, nor closer than 1320 feet from a well drilling to or capable of producing from the pool.

(c) The Secretary of the Commission shall have authority to grant an exception to the well location requirements of sub-paragraph (b) above without notice and hearing where application has been filed in due form and

1. The necessity for the unorthodox location is based on topographical conditions, and

2. (a) The ownership of all oil and gas leases within a radius of 660 feet of the proposed location is common with the ownership of the oil and gas leases under the proposed location, or

   (b) All owners of oil and gas leases within such radius consent in writing to the proposed location.

   (c) In lieu of sub-paragraph 2 (a) and (b) of this rule the applicant may furnish proof of the fact that said offset operators were notified by registered mail of his intent to drill an unorthodox location. The Secretary-Director of the Commission may approve the application if, after a period of twenty days following the mailing of said notice, no operator has made objection to the drilling of the unorthodox location.

RULE 4. The provisions of Paragraph (k) of Commission Rule 104 shall not apply to the Crosby-Devonian Gas Pool located in Lea County, New Mexico.

RULE 5. The acreage allocated to a gas well for proration purposes shall be known as the gas proration unit for that well. For the purpose of gas allocation in the Crosby-Devonian Gas Pool, a standard proration unit shall consist of between 158 and 162 contiguous surface acres substantially in the form of a square which shall be a legal subdivision (quarter-section) of the U. S. Public Land Surveys with a well located at least 660 feet from the nearest property lines.

The allowable production from any non-standard gas proration unit as compared with the allowable production therefrom if such tract were a standard unit shall be in the ratio that the area of such non-standard proration unit bears to 160 acres. Any gas proration unit containing between 158 and 162 acres shall be considered to contain 160 acres for the purpose of computing allowables.

If during a proration month the acreage assigned a well is increased the operator shall notify the Proration Manager in writing (Box 2045, Hobbs, New Mexico) of such increase. The increased allowable assigned the gas proration unit for the well shall be effective on the first day of the month following receipt of the notification by the Proration Manager.

DETERMINING POOL ALLOWABLE.

RULE 6. At least 30 days prior to the beginning of each gas proration period the Commission shall hold a hearing after due notice has been given. The Commission shall cause to be submitted by each purchaser its "Preliminary Nominations" of the amount of gas which each in good faith actually desires to purchase within the ensuing proration period, by months, from the Crosby-Devonian Gas Pool. The Commission shall consider the "Preliminary Nominations" of purchasers, actual production, and such other factors as may be deemed applicable in determining the amount of gas that may be produced without waste within the ensuing proration period. "Preliminary Nominations" shall be submitted on Commission Form C-121-A.

RULE 7. In the event a gas purchaser's market shall have increased or decreased, he may file with the Commission prior to the 10th day of the month a "Supplemental Nominations," showing the amount of gas he actually in good faith desires to purchase during the ensuing proration month from the Crosby-Devonian Gas Pool. The Commission shall hold a public hearing between the 13th and 20th days of each month to determine the reasonable market demand for gas for the ensuing proration month. "Supplemental Nominations" shall be submitted on a form prescribed by the Commission.

The total allowable to be allocated to the pool each month shall be equal to the preliminary or supplemental nominations (whichever is applicable) together with any adjustments which the Commission deems advisable.

DETERMINING WELL ALLOWABLES.

RULE 8. The Commission after determining the market demand for the pool, as set out in Rules 6 and 7, above, shall determine a monthly allowable for each well in the pool which is entitled to an allowable in accordance with the following procedure:

(a) Each well shall be assigned an acreage factor determined by dividing the acreage assigned to the well by 160 acres.

(b) The allowable to be assigned to each marginal well shall be equal to the maximum production during any month of the preceding 6 months gas proration period.

(c) The pool allowable remaining each month after deducting the total allowable assigned to marginal wells shall be allocated among the non-marginal wells entitled to an allowable in the proportion that each well's acreage factor bears to the total of the acreage factors for all non-marginal wells in the pool.

(d) The Commission may assign minimum allowables to prevent the premature abandonment of wells.

CLASSIFICATION OF WELLS

RULE 9. (a) Effective January 1, 1958, and at the beginning of each subsequent gas proration period, any well which had an underproduced status at the beginning of the preceding gas proration period and which did not produce its allowable during at least one month of such preceding gas proration period may be classified as a marginal well unless prior to the end of said preceding gas proration period, the operator or other interested party presents satisfactory evidence to the Commission showing that the well should not be so classified.

However, a well which in any month of said proration period has demonstrated its ability to produce its allowable for said proration period shall not be classified as a marginal well.

(b) A well which has been reworked or recompleted shall be classified as a non-marginal well as of the day of reconnection to a pipeline until such time as production data, deliverability data, or other evidence as to producing ability indicates that the well is improperly classified.

(c) A marginal well shall not be permitted to accumulate underproduction, and any underproduction accrued to a well prior to its classification as a marginal well shall be cancelled.

(d) The director may reclassify a marginal or non-marginal well at any time the wells production data, deliverability data, or other evidence as to the wells producing ability justify such re-classification.

(e) If at the end of a proration period a marginal well has produced more than the total allowable assigned a non-marginal unit of corresponding size, the marginal well shall be reclassified as a non-marginal well and its allowable adjusted accordingly.

(f) All wells not classified as marginal wells shall be non-marginal wells.

BALANCING OF PRODUCTION

RULE 10. The dates 7:00 a.m., January 1, and 7:00 a.m., July 1, shall be known as balancing dates and the periods of time between these dates shall be known as gas proration periods.

However, the first proration period for the Crosby-Devonian gas pool shall begin April 1, 1957 at 7:00 a.m., and shall continue until January 1, 1958 at 7:00 a.m.

RULE 11. Underproduction. Any non-marginal well which has an underproduced status at the end of a gas proration period shall be allowed to carry such underproduction forward into the next gas proration period and may produce such underproduction in addition to the allowable assigned during such succeeding period. Any allowable carried forward into a gas proration period and remaining unproduced at the end of such gas proration period shall be cancelled.

Production during any one month of a gas proration period in excess of the allowable assigned to a well for such month shall be applied against the under-production carried into such period in determining the amount of allowable, if any, to be cancelled.

RULE 12. Overproduction: Any well which has an overproduced status at the end of a gas proration period shall carry such overproduction forward into the next gas proration period, provided that such overproduction shall be made up during such succeeding period. Any well which has not made up the overproduction carried into a gas proration period by the end of such gas proration period shall be shut-in until such overproduction is made up. If, at any time, a well is overproduced an amount equaling six times its current monthly allowable it shall be shut-in during the current month.

Allowable assigned to a well during any one month of a gas proration period in excess of the production for such month shall be applied against any overproduction carried into such period in determining the amount of overproduction, if any, which has not been made up.

The Commission may allow overproduction to be made up at a lesser rate than would be the case if the well were completely shut-in upon a showing at public hearing after due notice that complete shut-in of the well would result in material damage to the well.

RULE 13. Any allowable accrued to a well at the end of a proration period due to the cancellation of underage and redistribution thereof, shall be applied against the overproduction carried into said proration period.

CONTENTS OF GAS PRORATION SCHEDULE.

RULE 14. (a) The Commission shall issue a proration schedule setting out the amount of gas which each well may produce during the ensuing proration month along with such other information as is necessary to show the allowable-production status of each non-marginal well on the schedule.

(b) The Commission shall include in the proration schedule the gas wells in the Crosby-Devonian Gas Pool delivering to a gas transportation facility, or lease gathering system, and shall include in the proration schedule of the said gas pool any well which it finds is being unreasonably discriminated against through denial of access to a gas transportation facility, which is reasonably capable of handling the type of gas produced by such well.

GRANTING OF ALLOWABLES.

RULE 15. No gas well shall be given an allowable until Form C-104 and Form C-110 have been filed together with Form C-128 showing acreage attributed to said well and the locations of all wells on the lease.

RULE 16. Allowables to newly completed gas wells shall commence on the date of connection to a gas transportation facility, as determined from an affidavit furnished to the Commission (Box 2045, Hobbs, New Mexico) by the purchaser, or the date of filing of Form C-104, Form C-110 and Form C-128 or the approval of a non-standard proration unit or filing of an affidavit of communitization, whichever date is the later.

The date of first allowable for all gas wells which are within the Crosby-Devonian Gas Pool or within one mile thereof shall be April 1, 1957, provided the provisions of this rule and Rule 11 have been complied with.

RULE 17. The allowable revision for a well after workover or recompletion shall become effective:

(a) On the date of reconnection after workover, such date to be determined from Form C-104 as filed by the operators, or

(b) A date 15 days prior to the approval of Form C-104 by the Commission's office, (Box 2045, Hobbs, New Mexico); (Form C-104 shall specify the exact nature of the workover or remedial work; if the nature of the work cannot be explained on Form C-104, in that event, Form C-103 shall be also filed in accordance with Rule 1106 of the Commission's Statewide Rules and Regulations).

Whichever date is later.

REPORTING OF PRODUCTION.

RULE 18. The monthly gas production from each well shall be metered separately and the gas production therefrom shall be reported to the Commission on Form C-115 so as to reach the Commission on or before the 20th day of the month next succeeding the month in which the gas was produced. The operator shall show on such report what disposition has been made of the gas produced.

Each purchaser or taker of gas in the Crosby-Devonian Gas Pool shall submit a report to the Commission so as to reach the Commission on or before the 20th day of the month next succeeding the month in which the gas was purchased or taken.

Such report shall be filed on either Form C-111 or Form C-114, (whichever is applicable) with the wells being listed in approximately the same order as they are listed on the proration schedule.

Forms C-111 and C-114 referred to herein shall be submitted in duplicate, the original being sent to the Commission at Box 871, Santa Fe, New Mexico, the other copy being sent to Box 2045, Hobbs, New Mexico.

Form C-115 shall be submitted in accordance with Rule 1114 of the Commission's Rules and Regulations.

The full production of gas from each well shall be charged against the well's allowable regardless of what disposition has been made of the gas; provided, however, that gas used on the lease for consumption in lease houses, treaters, compressors, combustion engines and other similar lease equipment shall not be charged against the well's allowable.

DEFINITIONS.

PROVIDED FURTHER, After the effective date of this order no well shall be completed or recompleted in such a manner that the producing zone of the overlying gas pool and the producing zone of the underlying oil pool are both open in the same well bore unless specifically authorized by order of the Commission after notice and hearing. Dual completions may be effected in accordance with the provisions of Rule 112-A of the Commission's Rules and Regulations.

PROVIDED FURTHER, Gas-liquid ratio tests shall be taken in accordance with the provisions of Rule 301 of the Commission Rules and Regulations. Said tests shall be taken on all oil and gas wells within the Crosby-Devonian Gas Pool or within one mile thereof during the month of March, 1957, and annually, thereafter as scheduled by the Commission.

PROVIDED FURTHER, That in filing Form C-101 "Notice of Intention to Drill or Recomplete" all operators shall strictly comply with the provisions of Paragraph (e) of Rule 104.

PROVIDED FURTHER, That failure to comply with the provisions of this order or the rules contained herein shall result in the cancellation of allowable assigned to the affected well. No further allowable shall be assigned to the affected well until all rules and regulations are complied with. The Proration Manager shall notify the operator of the well and the purchaser in writing of the date of allowable cancellation and the reason therefor.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN F. SIMMS, Chairman

E. S. WALKER, Member

A. L. PORTER, Jr., Member & Secretary

S E A L

ir/

EXHIBIT "A"

The horizontal limits of the Crosby-Devonian shall be as follows:

TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM
Section 28: All (from R-639)
Section 29: E/2 (from R-787)
Section 33: N/2 (from R-914)

GENERAL OFFICES
120 BROADWAY NEW YORK

AMERADA PETROLEUM CORPORATION
BEACON BUILDING
P. O BOX 2040
TULSA 2, OKLA.

ROBERT J. STANTON
GENERAL COUNSEL
JOHN S. MILLER
ASSISTANT GENERAL COUNSEL

LEGAL DEPARTMENT

H. D. BUSHNELL
HAROLD J. FISHER
ROBERT T. JAMES
ROBERT E. LEE
JAMES C. McWILLIAMS
VIRGIL C. MORELLE
ARDEN E. ROSS
ATTORNEYS

April 5, 1957

The Secretary
New Mexico Oil Conservation Commission
P.O.Box 871
Santa Fe, New Mexico

Re: Case No. 1220, in the matter of the application of Amerada Petroleum Corporation for rules and regulations relating to gas pool delineation and gas proration in the Bagley Field, Lea County, New Mexico.

Gentlemen:

We enclose copies of the proposed order setting forth the suggested rules pertaining to development of the Upper and Lower Pennsylvanian Gas Pools in the Bagley Field, referred to in captioned case.

Copies of these rules are being furnished to Shell Oil Company and Texas Pacific Coal & Oil Company, the two companies which made an appearance at the hearing in captioned case heard in Santa Fe on March 14, 1957.

Very truly yours,

H. D. Bushnell

HDB:MJ

Air Mail

V

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 4-11-57

CASE 1220 Hearing Date 3-19-57

My recommendations for an order in the above numbered cases are as follows:

Findings.

1. The evidence shows that there are three separate pools in the Penn. formation in the Bagley area.
2. The upper pool is a gas pool, the middle zone an oil pool and the lower pool a gas pool.
3. A new pool should be created for the upper Penn. gas Pool.
4. The horizontal limits of the Lower gas Pool should be extended. ~~To include~~
5. The vertical limits of upper, middle, lower pools should be defined.

Order:

1. ~~The~~ horizontal limits of the ~~Upper~~ Penn Gas Pool ~~shall be~~ are:

T 11S - R 33E,
Sec. 33, S½,
T 12S - R 33E
Sec. 3, NW¼,
Sec. 4, NE¼

Staff Member

(2)

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date_____

CASE_____ Hearing Date_____

My recommendations for an order in the above numbered cases are as follows:

Order:

1. The horizontal limits of the ~~upper~~ Bagley-upper Penn-gas pool shall be:
   12S-33E.
   Sec. 3, N/2 and SE/4.
2. The horizontal limits of the Bagley-~~Middle~~ Penn. oil pool shall be as presently defined by the NMOCC.
3. The horizontal limits of the Bagley-~~Upper~~ Lower Penn Gas pool should be extended to include the NW/4 sec. 3, 12S-33E.
4. The vertical limits ~~that is~~ of the three Pools shall be as ~~follows~~:

   Bagley-upper Penn gas pool — minus 4250 to minus 4510 subsea level.
   Bagley-Middle Penn Oil Pool — minus 4600 to minus 5200 subsea level.
   Bagley-Lower Penn gas Pool — minus 5400 to minus 5620 or the water-gas contact whichever is higher.

_____
Staff Member

(3)

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date_____

CASE_____ Hearing Date_____

My recommendations for an order in the above numbered cases are as follows:

5. The standard drilling and proration unit shall be 160 acres with the usual non-standard unit provisions.

6. Spacing shall be in conformance with Rule 104.

7. The well in each pool shall be produced ratably in proportion to the acreage.

Yours but not Truly

Staff Member

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

COPY

MEMORANDUM:

TO: **Mr. A. L. Porter, Jr.**

FROM: **E. A. Utz**

SUBJECT: **Case 1220**

Amerada Bagley-Pennsylvanian application for:

(1) Extension of horizontal limits and restudying the vertical limits of the 9800 foot Pennsylvanian gas zone.

(2) Create a new gas pool for the 8600 Pennsylvanian gas zone.

(3) Restrict the vertical limits of the Pennsylvanian oil zone between the two gas zones.

(4) ~~640~~ 160 **acre spacing and proration in the two gas pools.**

My recommendations will follow closely to the following:

(1) Limit the horizontal limits of the 9800 zone to the 160 acres the wells are in. Determine the vertical limits.

(2) Create a new gas pool for the 8600 zone. The horizontal limits to include the 160 acres the wells are in.

(3) Determine the vertical limits of the Pennsylvanian oil zone.

(4) Deny 640 spacing and gas proration.

(5) Set up 160 spacing and a ratable take stipulation in the order.

March 27, 1957

/dea

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO._____

Order No._____

THE APPLICATION FOR AN ORDER AMENDING, REVISING OR ABROGATING EXISTING RULES AND REGULATIONS OF THE OIL CONSERVATION COMMISSION, AND THE PROMULGATING OF RULES AND REGULATIONS RELATING TO GAS POOL DELINEATION, GAS PRORATION, AND OTHER RELATED MATTERS AFFECTING OR CONCERNING THE GAS POOLS IN THE PENNSYLVANIAN ZONE, BAGLEY FIELD, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m., on March 14, 1957, at Santa Fe, New Mexico before the Oil Conservation Commission, hereinafter referred to as the "Commission".

NOW, on this _____ day of _____, 1957, the Commission, a quorum being present, having considered the records and testimony adduced and being fully advised in the premises,

FINDS:

(1) That due notice of the time and place of hearing and the purpose thereof having been given as required by law, the Commission has jurisdiction of this case and the subject matter thereof.

(2) That Applicant has drilled and duly completed the J. T. Caudle Well No. 7, located in the center of the NE/4 of NW/4 of Section 3-12S-33E, Lea County, New Mexico, and tested gas in paying quantities in two separate sources of supply, known as the Upper and Lower Pennsylvanian Gas Pools respectively.

(3) That the two gas zones within the Pennsylvanian formation are separate gas reservoirs and should be defined vertically and horizontally as set forth in this order.

(4) That the Pennsylvanian Oil Pool underlying this area should be defined as set forth in this order.

(5) That one gas well in either of the two Pennsylvanian gas pools herein defined can efficiently drain 640 acres.

(6) To prevent waste the vertical limits of the Pennsylvanian Oil Pool and the two Pennsylvanian Gas Pools should be defined, as hereinafter provided in this order, so that the vertical limits of the Pennsylvanian Oil Pool will not conflict with the two Pennsylvanian Gas Pools as herein defined.

(7) That the horizontal limits of the two gas pools named in Finding No. 6 should be defined as hereinafter set forth in this order.

(8) That in the interests of conservation, the special rules hereinafter set forth governing the production of gas from wells completed within the vertical and horizontal limits of the Pennsylvanian Gas Pools should be adopted.

IT IS THEREFORE ORDERED:

(1) That the Lower Pennsylvanian Gas Pool be and the same is hereby created. The vertical limits of the Lower Pennsylvanian Gas Pool shall extend from 9756 feet to 9925 feet, as found in the Amerada-Caudle No. 7 Well, located in the NE/4 NW/4 of Section 3-12S-33E, Lea County, New Mexico. The horizontal limits of the Lower Pennsylvanian Gas Pool shall be the area as described in Exhibit "A" attached hereto and made a part hereof.

(2) That the Upper Pennsylvanian Gas Pool be and the same is hereby created. The vertical limits of the Upper Pennsylvanian Gas Pool shall extend from 8589 feet to 8645 feet as found in the Amerada-Caudle No. 7 Well. The horizontal limits of the Upper Pennsylvanian Gas Pool shall be the area described in Exhibit "B" attached hereto and made a part hereof.

(3) The vertical limits of the Pennsylvanian Oil Pool shall extend from 8930 feet to 9414 feet, as found in the Amerada-Caudle No. 7 Well. The lower limit of the oil zone is defined by the water-oil contact at a subsea depth of 5150 feet.

(4) That no gas, either dry gas or casinghead gas shall be flared or vented in the Upper or the Lower Pennsylvanian Gas Pools or in the Pennsylvanian Oil Pool unless specifically authorized by the Commission after notice and hearing.

SPECIAL RULES AND REGULATIONS FOR THE UPPER AND LOWER PENNSYLVANIAN GAS POOLS

Well Spacing and Acreage Requirements for Drilling tracts:

RULE 1. Any well drilled a distance of one mile or more outside the boundary of either the Upper or the Lower Pennsylvanian Gas Pools shall be classified as a wildcat well. Any well drilled less than one mile outside the boundary of either the Upper or the Lower Pennsylvanian Gas Pools shall be spaced, drilled operated and prorated in accordance with the regulations in effect in the Upper or the Lower Pennsylvanian Gas Pools.

RULE 2. Each well drilled or recompleted within the Upper or the Lower Pennsylvanian Gas Pools on a standard proration unit after the effective date of this rule shall be drilled not closer than 1320 feet to any boundary line. Any well drilled to and producing from the Upper or the Lower Pennsylvanian Gas Pools prior to the effective date of this order at a location conforming to the spacing requirements effective at the time said well was drilled shall be considered to be located in conformance with this rule.

RULE 3. The Secretary of the Commission shall have authority to grant exception to the requirements of Rule 2 without notice and hearing where application has been filed in due form and the necessity for the unorthodox location is based on topographical conditions or is occasioned by the recompletion of a well previously drilled to another horizon.

Applicant shall furnish all offset operators a copy of the application to the Commission, and applicant shall include with his application a list of names and addresses of all operators within such radius, together with a stipulation that proper notice has been given said operators at the addresses given. The Secretary of the Commission shall wait at least 20 days before approving any such unorthodox location, and shall approve such unorthodox location only in the absence of objection of any offset operators. In the event an operator objects to the unorthodox location the Commission shall consider the matter only after proper notice and hearing.

GAS PRORATION

RULE 4. (a) The acreage allocated to a gas well in either the Upper or the Lower Pennsylvanian Gas Pools for proration purposes shall be known as the gas proration unit for that well. For the purposes of gas allocation in either gas pool, a standard proration unit shall consist of 4 contiguous governmental quarter sections, substantially in the form of a square, with a well located at least 1320 feet from the nearest unit lines; provided, however, that a non-standard gas proration unit may be formed after notice and hearing by the Commission, or under the provisions of Paragraph (b) of this Rule.

The allowable production from any non-standard gas proration unit as compared with the allowable production therefrom if such tract were a standard unit shall be in the ratio of the area of such non-standard proration unit expressed in acres to 640 acres.

In establishing a non-standard gas proration unit the well shall not be drilled closer than 660 feet to any boundary line of the tract nor closer than 330 feet to any quarter-quarter section or "property line" nor closer than 1320 feet to a well drilling to or capable of producing from the same pool; provided, however, that any well drilled to and producing from either the Upper or the Lower Pennsylvanian Gas Pools, as defined herein, prior to the effective date of this order at a location conforming with the spacing requirements effective at the time said well was drilled shall be considered to be located in conformance with this rule.

(b) The Secretary of the Commission shall have authority to grant an exception to Rule 4 (a) without Notice and Hearing where application has been filed in due form and where the following facts exist and the following provisions are complied with:

1. The non-standard gas proration unit consists of contiguous quarter-quarter sections or lots.

2. The entire non-standard gas proration unit may reasonable be presumed to be productive of gas.

3. The length or width of the non-standard gas proration unit does not exceed 5280 feet.

4. The applicant presents written consent in the form of waivers from (a) all offset operators and operators owning interests in the sections in which any part of the non-standard gas proration unit is situated and which acreage is not included in said non-standard gas proration unit.

5. In lieu of paragraph 4 of this Rule, the applicant may furnish proof of the fact that said offset operators were notified by registered mail of his intent to form such non-standard gas proration unit. The Secretary of the Commission may approve the application, if, after a period of 20 days following the mailing of said notice, no operator has made objection to the formation of such non-standard gas proration unit.

GRANTING OF ALLOWABLES

RULE 5. No gas well shall be given an allowable until Form C-104 and Form C-110 have been filed together with a plat showing acreage attributed to said well and the locations of all wells on the lease.

RULE 6. Allowables to newly completed gas wells shall commence on the date of connection to a gas transportation facility, as determined from an affidavit furnished to the Commission (Box 2045, Hobbs, New Mexico) by the purchaser, or the date of filing of Form C-104 and Form C110 and the plat described above, whichever date is the later.

REPORTING OF PRODUCTION

RULE 7. The monthly gas production from each well shall be metered separately and the gas production therefrom shall be reported to the Commission on Form C-115 so as to reach the Commission on or before the 20th day of the month next succeeding the month in which the gas was produced. The operator shall show on such report what disposition has been made of the gas produced.

Each purchaser or taker of gas from either of the gas pools herein defined shall submit a report to the Commission so as to reach the Commission on or before the 20th day of the month next succeeding the month in which the gas was purchased or taken, and such report shall be filed on Form C-111 or Form C-114 (whichever is applicable).

Forms C-111 and C-114 referred to herein shall be submitted in duplicate, the original being sent to the Commission at Box 871, Santa Fe, New Mexico, the other copy being sent to Box 2045, Hobbs, New Mexico.

Form C-115 shall be submitted in accordance with Rule 1114 of the Commission's Rules and Regulations.

The full production of gas from each well shall be charged against the well's allowable regardless of what disposition has been made of the gas; provided, however, that gas used on the lease for consumption in lease houses, treaters, compressors, combustion engines and other similar lease equipment shall not be charged against the well's allowable.

DEFINITIONS

RULE 8. A gas well shall mean a well producing in either of the two gas pools herein defined.

RULE 9. The term "gas purchaser" as used in these rules, shall mean any "taker" of gas either at the wellhead or at any point on the lease where connection is made for gas transportation or utilization. It shall be the responsibility of said "taker" to submit a nomination.

DUAL COMPLETION

RULE 10. The Secretary of the Commission shall have authority to approve the dual completion of any well; provided, that applicant shall furnish all operators who offset the lease upon which the subject well is located a copy of the application to the Commission and applicant shall include with his application a written stipulation that all offset operators have been properly notified. The Secretary of the Commission shall wait at least 10 days before approving any such dual completion, and shall approve such dual completion only in the absence of objection from any offset operator. In the event an operator objects to the dual completion, the Commission shall consider the matter only after proper notice and hearing.

The Commission may waive the 10-day waiting period requirement if the if the applicant furnishes the Commission with the written consent to the dual completion by all offset operators involved.

PROVIDED, HOWEVER, that in filing Form C-101 "Notice of Intention to Drill or Recomplete" all operators shall strictly comply with the provisions of Rule 104, Paragraph (e).

PROVIDED FURTHER, that failure to comply with the provisions of this order or the rules contained herein shall result in the cancellation of allowable assigned to the affected well. No further allowable shall be assigned to the affected well until all rules and regulations are complied with. The Proration Manager shall notify the operator of the well and the purchaser in writing of the date of allowable cancellation and the reason therefor.

EXHIBIT "A"

Horizontal limits of the Lower Pennsylvanian Gas Pool

TOWNSHIP 11 SOUTH, RANGE 33 EAST
S/2, S/2 N/2 Sec. 33
S/2, S/2 NW/4, NE/4 Sec. 34
SW/4 Sec. 35

TOWNSHIP 12 SOUTH, RANGE 33 EAST
NW/4, W/2 SW/4 Sec. 2
N/2, SE/4, N/2 SW/4, SE/4 SW/4 Sec. 3
N/2 NW/4, SE/4 NW/4, NE/4, N/2 SE/4 Sec. 4

EXHIBIT "B"

Horizontal limits of the Upper Pennsylvanian Gas Pool

TOWNSHIP 11 SOUTH, RANGE 33 EAST
SW/4 SW/4, E/2 SW/4, SE/4, SE/4 NE/4 Sec. 33
S/2 N/2, S/2 Sec. 34

TOWNSHIP 12 SOUTH, RANGE 33 EAST
W/2 SW/4 Sec. 2
SE/4, N/2 SW/4, N/2 Sec. 3
N/2, N/2 SE/4 Sec. 4
NE/4 Sec. 10
W/2 NW/4 Sec. 11

DONE at Santa Fe, New Mexico on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Chairman
Member
Member and Secretary.

LAW OFFICES OF
CAMPBELL & RUSSELL
J. P. WHITE BUILDING
ROSWELL, NEW MEXICO

JACK M. CAMPBELL
JOHN F. RUSSELL

TELEPHONES
MAIN 2-4641
MAIN 2-4642

12 April 1957

Re: Case No.1220 in the matter of the application of Amerada Petroleum Corporation for rules and regulations relating to gas pool delineation and gas proration in the Bagley Field, Lea County, New Mexico

New Mexico Oil Conservation Commission
Capitol Building
Santa Fe, New Mexico

Gentlemen:

This letter is written on behalf of the Texas Pacific Coal and Oil Company. We have received a copy of a proposed Order in this case submitted to the Commission by Amerada Petroleum Company.

It is my recollection that, at the hearing, the attorney for the Commission requested Amerada to submit a proposed formula for prorating gas if the Commission decided to take such action, and I presume this completed Order is their attempt to comply with the request.

Texas Pacific Coal and Oil Company has no objection to the defining of the separate gas pools or to the establishing of drilling units of 160 acres, but we strenuously object to a 640-acre proration unit and to any allocation of production by Order of the Commission at this time. It is our belief that the purchasing companies can prorate the gas at this stage of development, based upon their contracts, and that any extensive Order such as that submitted to the Commission is premature.

Very truly yours,

CAMPBELL & RUSSELL

Jack M. Campbell

JMC:mb

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1105
Order No. R-853

THE APPLICATION OF THE OIL
CONSERVATION COMMISSION UPON
ITS OWN MOTION FOR AN ORDER
CALLING FOR THE CREATION,
EXTENSION AND DELETION OF
CERTAIN POOLS IN LEA AND EDDY
COUNTIES, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m., on July 18, 1956, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission".

NOW, on this 10th day of August, 1956, the Commission, a quorum being present, having considered the testimony presented, and the exhibits received at said hearing and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That there is need for the creation of a new pool in Lea County, New Mexico, for the production of oil from the Wolfcamp formation, said pool to bear the designation Chambers-Wolfcamp Pool. Said Chambers-Wolfcamp Pool was discovered by the Atlantic Refining Company Daisy Chambers No. 1, located in the SW/4 SW/4 of Section 26, Township 15 South, Range 35 East, NMPM. It was completed November 27, 1955. The top of the perforations is at 10,581 feet.

(3) That there is need for the creation of a new pool in Lea County, New Mexico, for the production of oil from the Wolfcamp formation, said pool

to bear the designation Field Ranch-Wolfcamp Pool. Said Field Ranch-Wolfcamp Pool was discovered by Union Oil Company of California Elliott Federal No 1, located in the S W/4 SE/4 of Section 27, Township 11 South, Range 38 East, NMPM. It was completed April 27, 1956. The top of the perforations is at 9,466 feet.

(4) That there is need for the creation of a new pool in Lea County, New Mexico, for the production of oil from the Devonian formation, said pool to bear the designation King-Devonian Pool. Said King-Devonian Pool was discovered by Cabot Carbon Company Howard Fleet et al No. 1, located in the NE/4 SE/4 of Section 35, Township 13 South, Range 37 East, NMPM. It was completed March 11, 1956. The top of the perforations is at 12,451 feet.

(5) That there is need for certain extensions to the Bagley-Pennsylvanian Gas Pool, the Eumont Gas Pool, and the Terry Blinebry Oil Pool, all in Lea County, New Mexico, and to the North Mason-Delaware Pool in Lea and Eddy Counties, New Mexico. Further, that there is need for the deletion of certain areas from the Bagley-Pennsylvanian Oil Pool, the Blinebry Gas Pool, and the Blinebry Oil Pool, all in Lea County, New Mexico.

IT IS THEREFORE ORDERED:

(a) That a new pool in Lea County, New Mexico, classified as an oil pool for Wolfcamp production, be and the same is hereby created and designated as the Chambers-Wolfcamp Pool, consisting of the following described area:

Township 15 South, Range 35 East, NMPM
SW/4 of Section 26

(b) That a new pool in Lea County, New Mexico, classified as an oil pool for Wolfcamp production, be and the same is hereby created and designated as the Field Ranch-Wolfcamp Pool, consisting of the following described area:

Township 11 South, Range 38 East, NMPM
SE/4 of Section 27

(c) That a new pool in Lea County, New Mexico, classified as an oil pool for Devonian production, be and the same is hereby created and designated as the King-Devonian Pool, consisting of the following described area:

Township 13 South, Range 37 East, NMPM
SE/4 of Section 35

(d) That the Bagley-Pennsylvanian Gas Pool in Lea County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

Township 12 South, Range 33 East, NMPM
NE/4 of Section 4

(e) That the Bagley-Pennsylvanian Oil Pool in Lea County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby contracted by the deletion of the following described area:

Township 12 South, Range 33 East, NMPM
E/2 of Section 4

(f) That the Eumont Gas Pool in Lea County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

Township 18 South, Range 37 East, NMPM
S/2 of Section 33

Township 19 South, Range 36 East, NMPM
SW/4 of Section 11

Township 19 South, Range 37 East, NMPM
W/2 of Section 10
N/2 and SE/4 of Section 35

Township 20 South, Range 35 East, NMPM
SE/4 of Section 24

Township 20 South, Range 36 East, NMPM
S/2 of Section 19

(g) That the Terry-Blinebry Oil Pool, in Lea County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

Township 21 South, Range 37 East, NMPM
Lots 14 and 15 of Section 4

(h) That the Blinebry Gas Pool in Lea County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby contracted by the deletion of the following described area:

Township 21 South, Range 37 East, NMPM
Lots 14 and 15 of Section 4

(i) That the Blinebry Oil Pool in Lea County, New Mexico as heretofore classified, defined, and described, be and the same is hereby contracted by the deletion of the following described area:

Township 21 South, Range 37 East, NMPM
Lot 15 of Section 4

(j) That the North Mason-Delaware Pool, in Lea and Eddy Counties, New Mexico , as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

Township 26 South, Range 32 East, NMPM
NW/4 of Section 19
SW/4 of Section 30

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

S/John F. Simms, Chairman

S/[illegible] S. Walker, Member

S/A. L. Porter, Jr., Member & Secretary

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