BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
JUNE 27, 1956

IN THE MATTER OF:

CASE NO. 1092

TRANSCRIPT OF PROCEEDINGS

NEW MEXICO OIL CONSERVATION COMMISSION
MABRY HALL - STATE CAPITOL
SANTA FE, NEW MEXICO

Examiner Hg.
before WARREN MANKIN
at Santa Fe

REGISTER

HEARING DATE June 27, 1956 TIME: 9:00 AM

NAME:	REPRESENTING:	LOCATION
J W Snider	Amerada Pet Corp.	Tulsa, Okla.
R.S. Christie	"	"
A.J. Spiegel	Consultant	Santa Fe, N. Mex.
Ed. Kelly	OCC	Santa Fe

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CASE 1092: Application of Amerada Petroleum Corporation for an order approving a dual completion in an undesignated La Ventana Gas Pool and the South Blanco Pictured Cliffs Gas Pool in Compliance with Rule 112 (a) of the New Mexico Oil Conservation Commission Statewide Rules and Regulations.

BEFORE:

Mr. Warren W. Mankin, Examiner.

P R O C E E D I N G S

MR. MANKIN: First case on the docket today will be 1092.

MR. GURLEY: Case 1092, the application of Amerada Petroleum Corporation for an order approving a dual completion in an undesignated La Ventana Gas Pool and the South Blanco Pictured Cliffs Gas Pool in compliance with Rule 112-A of the New Mexico Oil Conservation Commission Statewide Rules and Regulations.

R. S. CHRISTIE and J. W. SNIDER

called as witnesses, having been first duly sworn, testified as follows:

DIRECT EXAMINATION

MR. CHRISTIE : My name is R. S. Christie,Petroleum Engineer for Amerada Petroleum Corporation in Tulsa, Oklahoma. I have testified before this Commission a number of times. Are my qualifications satisfactory?

A. Yes. (by Mr. Mankin)

MR. CHRISTIE: The subject well that we propose to dually complete is the Amerada Petroleum Corporation's Jicarilla Apache "A" #4 located 990 feet from the South Line and 990 feet from the East Line, of Section 26, Township 25 North, Range 5 West, Rio Arriba County, New Mexico. I hand you Exhibit No. 1, a plat showing the location of the well and also the offset wells in the area.

MR. MANKIN: Mark this Exhibit 1 in Case 1092.

MR. GURLEY: Right.

MR. CHRISTIE: The subject well has 5 1/2 casing set at 3989 feet and cemented with 350 sacks. The well has been dually perforated as follows: 5 1/2 casing perforated in intervals from 3,057 feet to 3,070 feet, and from 3104 feet to 3113 feet in the Pictured Cliffs Formation. The casing is also perforated from 3926 to 3946 feet in what we call La Ventana Zone. There is a production packer set between the two zones at 3900 feet. We propose to produce the La Ventana Gas through the tubing and the Pictured Cliffs Gas through the casing-tubing annulus - I hand you now Exhibit 2 which is a diagrammatic sketch of the dual completion. Both zones have been tested and the potentials have been reported to the Commission, on Form C-104. We have an open flow test from the La Ventana which indicates an open flow potential of 1,122,000 which was taken by the El Paso Natural Gas Company. Do you - does the Commission receive copies of these tests?

MR. MANKIN: Supposedly we do, I don't -

MR. UTZ: I don't know whether we have received copies of that test or not but we ordinarily receive them.

MR. CHRISTIE: This happens to be the only copy we have in our files in Tulsa and we would be glad to furnish you a copy if you do not get one from the gas company or A merada, may be that they are mailed from the Hobbs office, I'm not sure.

MR. UTZ: I feel sure that the pipeline company would not send us a copy of this, if it was sent, well you people would send it to us.

MANKIN: Would that be possible that on your return to Tulsa, that you could furnish us a copy?

MR. CHRISTIE: Yes, we will furnish you a copy.

MR. UTZ: Did you run an open flow on the Pictured Cliffs also?

MR. CHRISTIE: I'm not sure whether there has been one run or not, I'll have to check on that and if we have we will send you a copy of that also.

MR. UTZ: All right.

MR. CHRISTIE: That is all the testimony I have in reference to this case.

MR. GURLEY: You wish to introduce these as Exhibits?

A. Yes, I desire to. Introduce Exhibits 1 through 3 for the record.

MR. MANKIN: Any objections to introducing Exhibits 1 through 3 in Case 1092? I correct that, introducing Exhibit 1 and 2, rather than Exhibit 3? Any objection to introducing Exhibit 1 and 2? If not they will be so entered. The mention of Exhibit 3 is not one that is entered,it will be furnished to us at a later date, which is the absolute open flow taken by El Paso Natural for the La Ventana Zone, which will not be entered as an exhibit but will be furnished to us however for our records, and if possible of the Pictured Cliffs open flow as well.

MR. CHRISTIE: I understand that their might be some question as to the proper formation that we have called La Ventana, and we have with us Mr. Jim Snider, J. W. Snider, who will testify of the geology of La Ventana.

MR. UTZ: I have a question I would like to ask Mr. Christie. Has this well been connected to a pipeline yet?

A. I can't answer that specifically, I'm not sure whether it has been or not.

MR. UTZ: Each of these zones will be metered separately, is that correct?

A. Yes sir.

MR. UTZ: That is all I have.

MR. MANKIN: We have a Form C-110 on the Pictured Cliffs Zone, I mean the C-104, and that particular form did not indicate connection at that time, however that may be.

A. I will check on that also.

MR. MANKIN: However we do have a C-110 for La Ventana, showing that El Paso is the transporter whether they have hooked on other than testing is not known to us just now.

A. I will furnish that information, also.

MR. MANKIN: Any further questions of Mr. Christie in this case? If not, Mr. Christie may be excused.

J. W. SNIDER

MR. MANKIN: State your name please.

A. J. W. Snider.

Q. Have you previously testified before this Commission as an expert or as a geologist?

A. Yes I have.

Q. That was before the full Commission, was it not?

A. Yes.

Q. Proceed.

A. First of all I would like to enter this electric log as an exhibit showing perforations in the interval of the La Ventana and the Pictured Cliffs Zone.

Q. Shall we designate that as Exhibit #3?

MR. GURLEY: Mr. Christie, did you bring any extra copies of the exhibits?

A. I have extra copies of 1 and 2, but not of 3.

MR. GURLEY: Well, its not too important here, but ordinarily before a Commission or an Examiner Hearing, we require 5 copies. The reason I bring that up is because some of them are becoming rather lax about it and we would like to do that because its putting us on a spot when we examine the Exhibits.

MR. MANKIN: At lease we need to have two or three at an Examiner Hearing.

A. We can furnish you as many copies of the exhibits as you want.

Q. Well, one will be sufficient this time. Do you know whether this log has been supplied to the Commission or not?

A. No, I don't know whether it has or not.

Q. You are aware that a dual completion order has been granted for this well, which requires copies of the electric log be furnished - two copies to the Commission.

A. Right.

Q. So I'm sure that will be done in the very immediate future then?

A. Well, my assumption that the copies were probably filed with the dual completion report but I have no record of that.

Q. Proceed.

A. This is a reference map of southwestern part of San Juan Basin, enter that as exhibit 4, if you will, please.

Q. Do you have another copy?

A. Yes, I do.

MR. CHRISTIE: Yes, - I have copies of it - here are four others.

A. Only one of these maps has been colored to show the surface geology as described in U. S. Geological Survey Bulletin 860-C in Oil and Gas Investigation Map No. 57. The other townships - from 21 north through 25 north, there is no geology shown. A cross section will be entered as the next exhibit and the line of that section is shown on this map. It starts up here at the North-end at Amerada's #3 Jicarilla Apache "A" Well and continues on south down into 19 North, 2 West, Section 36, that is the El Paso Natural Gas Company #1 Elliott State. I would like to enter now Exhibit No. 5, which is a cross section referred to on Exhibit No. 4 - the one on map. On that - I just have one copy of this map thats colored - I have several of them -

Q. Mark that Exhibit No. 5.

A. How many more of these will you want, two?

Q. This is enough.

A. The cross section Exhibit 5 shows the correlation of the cretaceous section from the previously mentioned El Paso Well northward to the Amerada No. 3, Jicarilla Apache. You will notice that in the center of the Cross Section, names of the various members of the Mesaverde formation, the Lewis Shale and Pictured Cliffs Sand-stone. This is a stratagraphic section, the datum is on an electric log marker in the Mancos Shale. The dashed line - first dashed line from the bottom - is an attempt to correlate essentially the base of the sandy part of the Mesaverde, designated from the outcrop as the Allison Gibson member. The next member in ascending order is the La Ventana member, the Chacra member of the Mesaverde, then the Lewis Shale, and then the Pictured Cliffs Sandstone interval. The well in the

Section at the extreme left is the Amerada #3 Jicarilla, the actual sandstone interval producing in the Jicarilla #4 interval isfound right at 3800 feet, approximately. Now that interval has been correlated through the south into the surface section as described by C. H. Dane in U. S. Geological Survey Bulletin 860-C, into the surface section where he describes and names the La Ventana Sandstone near the community of La Ventana in Sandoval County. The little section that is attached to the first cross section I gave you - the one that is colored there, - to repeat- that little cross section attached there, its name in various localities as described in those sections you can see that La Ventana was measured in that section from the Allison-Gibson member, and the Lewis and the Chacra, the Allison and Lewis in another section to the west. Now, if you will place this little cross section - this little section - down between the second and third wells you will notice that the intervals there match pretty well, the interval on the cross-section showing the division of the Pictured Cliffs, the Lewis shale immediately below, and what we correlate to be the Chacra member and then the La Ventana member, and then on down to the Mesaverde, and then on to the top of the Mancos Shale. Now, the section of measured La Ventana, is between the first and second wells reading from the right on the cross section if you shift that section between the first and second well, (that is right), You will notice that the second well in the cross section probably spudded somewhere near the top of the La Ventana section, and then drilled on down into the Allison-Gibson member and then on down into the Mancos Shale, and then of course the remainder is correlated that section there on across to our Amerada #3 Jicarilla Apache "A" Well. And the electric log correlations, I think are pretty good - of course there I don't think you have any reason to deny any of those correlations.

Q. You have not taken this correlation on north, have you?

A. North from the Amerada well? No, I have not.

Q. What I am particularly concerned about is taking on to say, 28 North, 9 West, where there has been a well designated as a Chacra gas well, of El Paso as the Lackey #4 B in Section 29, I wondered if you had - if your correlation had gone on North?

A. No, I'm not aware of that well being completed as a Chacra gas well.

Q. That is, El Paso Lackey No. 4 B a dual completion in the Chacra and the Mesaverde -

A. Would you give me that township and range again - of that well?

Q. It is Township 29 North, I mean Section 29, 28 North, 9 West, in San Juan County, and the well is located in the NE/4 NE/4 of that section, and it is the El Paso's Lackey #4 B, and it is a dual competion granted as DC No. 282 administratively on March 2, 1956. I just wondered if your studies had indicated that this particular area which you correlated to the South likewise correlated to the North which could - should have been north, and of course your Exhibit No. 4 is just concerned primarily with McKinley County.

A. Also Sandoval and Rio Arriba.

Q. I see, and then down into McKinley County - also across it, but the area has of course - of the San Juan County on Northwest of the well in question of the hearing here today?

A. No, what I have done is tied the cross section as well as I could to the actual designated surface sections as described in U. S. Geolgical Survey Bulletin No. 860-C which Dane had set out the type section for the Chacra and type section for the La Ventana Sandstone, and I have merely carried these surface sections into the sub-surface up to this producing interval, here in the area which we are dually completing our well.

Q. Your Exhibit #5 - the cross section, related to the well No. 3 which was subject of a prior dual completion, thats not the one in this particular case?

A. Right.

Q. This is well No. 4 in question here?

A. Right, Well No. 4 of course-

Q. About No. 3 Well --

A. Right, we did not penetrate below the producing interval in the sand and by putting it on the cross section you would not gain the correlation of the section lower on down to the remainder of the Mesaverde and Mancos shale. Well "A" 3 was a deep test that was drilled to the Morrison formation, that is the reason that I put it on here but "A" 3 and "A" 4 wells are readily correlatable and although #4 is not on the cross section, #3 I think can be correlated with #4 showing that the intervals producing is this interval described as La Ventana.

Q. The #4 well is about a mile south of the well #3 and therefore would logically fall between the last two wells on the left of your Exhibit #5?

A. That is right.

Q. It would correlate as you indicate?

A. Yes.

Q. For the La Ventana and Chacra development as well?

A. Well, if you will notice - the third well on the right of the cross section you will notice that the interval designated as Chacra has the same electric log characteristic and is probably or mostly shale, silty shale - as you move on the North to the next well on the cross section the interval becomes more sandy. Now that fourth well on the cross section, if you will refer to the map J. D. Hancock #1 Brown Well, and that well is about 8 miles north of the surface section, that drawn by Dane where he points out the Chacra sandstone as being approximately 311 feet thick and then he has an interval of about 170 feet of Lewis Shale between the Pictured Cliffs and the top of the Chacra. This area I'm speaking of is in 18 and 19 North, 4 West and is known as the Torreones Arroyo area, in this particular area described as La Ventana, I mean the Chacra member resting directly upon the Allison-Gibson member directly to the East of the same township. However,

the Chacra comes out to the east where we have Lewis shale both above and below the Chacra member. I made a reference to this fourth well, thinking of this discussion it should have been the third well - in the cross section. This surface section of the La Ventana which would fall between the first and second well that I have crossed-sectioned, can be described as approximately 45 feet of Pictured Cliffs and 550 to 600 feet of the Lewis shale, 900 feet plus or minus of the La Ventana and then some 667 feet of Allison-Gibson and to the Hospah and the Mancos shale.

Q. What is the member that is shown between the Chacra and the La Ventana, you don't name that - is that a shaley group, similar to the Lewis Shale.

A. Yes, it can be Lewis. For instance, west, further west, say in Township 18 and 19 North to 4, 5 and 6 - the Chacra rests on the Allison- now this strip log represents this section right here. You notice that the - you notice that the Chacra rests immediately on the Allison to the west, but as you go east the Chacra rests on the Lewis. It is a difficult problem this correlation to get exactly which is which into the subsurface from the actual surface calls when the - perhaps - sometime you may be fooling yourself to try to trace these things clear across the Basin because they don't do it. You can trace comparable intervals across the basin, but whether or not one is one or one is the other by the time you reach the other side, is sometimes the question.

Q. In regard to the development, you have the La Ventana in the area in question here today. Of course you have found it in two wells no. 3 and 4. No. 4 is the well in question here today. You feel that the development, or that any particular development that might be found other places, or rather spotty, or what would be your thoughts in that respect as to La Ventana development?

A. Well, as far as the sand interval occurs in the section which we are producing gas from at the present time, that interval as you can see appears on the 5th,

6th, 7th and 8th wells, but however it varies in developments - but of course on the fourth well we have correlated it with quite a section of sand and of course if you want the out-crop for it, the interval is described, the majority of the section is sandstone.

Q. The out-crop that you are speaking of is east as shown on Exhibit 4?

A. Well, it would fall - the out-crop would fall between the first and second wells on the out-crop reading from the right.

Q. On Exhibit 5?

A. Yes.

Q. The out-crop would be on the map?

A. It is shaded blue on that one copy - the map that is colored there, and you can see that the well to the extreme right of the cross section is to the east of the section described as La Ventana sandstone. The yellow one there is Pictured Cliffs, the purple is the Chacra member, the blue is the La Ventana.

Q. Are those out-crops or are those just members, - in other words, the coloring you have on Exhibit 4, are they out-crops?

A. Yes, the geology as shown on Exhibit 4 is taken from this Bulletin 860-C, it is a direct reproduction reduced of the map that Dane made of the area, in his report.

Q. This report was made about 1936?

A. 36- yes.

Q. So as to the development of La Ventana surrounding the two wells which you have already found, - for Amerada Wells, Apache "A" 3 and "A" 4, would you venture a guess as to the development trends - should there be more La Ventana that might be found in the area or to the North or South or is that -

A. Well, in correlating electric logs on further to the North of this - on the end of the cross section here, I think you can find this same sandy interval,

in additional wells. The Continental Jicarilla Well that is just east of Ameradas "A" 3 in 25 North, 4 West and development of this sand as shown by electric log and there are several wells to the North, here which have this sand stone development, this sandy interval. Now, in most of the wells, I do not think that there were any kind of drill stem tests or production tests of the interval. Now whether or not it is gas bearing in those particular wells, I do not know, but any future wells in the area that are drilled that test this interval will of course help us get some of the answers for it. But I think you can correlate this interval pretty wide spread over the basin, at least further noth of here it is not shown of course on the cross section.

Q. Do you have a feeling that there is a good sandstone development in the La Ventana that possibly appears in many wells to the North, that have not previously been properly tested that might be in the future possibly produce a source of gas.

A. That is right.

Q. As to whether this - how closely this correlates the Chacra it would be a little hard to tell at this time - two of the same zones will be separate and distinctive zones as shown on your Exhibit #5?

A. Well, yes, agewise I do not think that the La Ventana is described by Dane - is of the same age as the Chacra and if you designate the particular interval that we are producing from this Chacra, than you have to do something with this interval up here that I have designated, with the equivalent of the Chacra on the surface. Now, do you know whether or not, this well that you described to me as El Paso's that was dually completed in the Chacra - do - did they attempt to correlate it with the surface section of the Chacra?

Q. I do not know.

MR. UTZ: I believe that they have made some correlation between this area which is your Apache 4 and their well - their feeling and also the feeling of the Commission geologist is that they can correlate the Chacra from that area into this area here.

A. Well, what I was trying to get at is, have they - what have they anchored their Chacra on to begin with, you see? What I have attempted to do, is anchor this cross-section to the surface section where the Chacra is named, and then carry it to the subsurface - and - what I was trying to find out was to see if they had done the same thing.

MR. MANKIN: Well, they were of course going to have to continue their work as you have done from the south up to the North because where the outcrop - is to the effect where as it would not outcrop in the area in question further up the basin.

A. Right.

Q. Deeper in the basin.

MR. UTZ: I gather that you believe that the Chacra and the La Ventana are distinct sand members - separate from or even further North, I believe you said that, didn't you. Further North of this 20-4 or 5 area?

A. You mean that the Chacra and the interval that I have designated as Chacra and the interval that I have designated as La Ventana could be correlated to the North?

MR. UTZ: Yes -

A. Well I have done it - a couple of townships to the North but that is far as I have carried this thing in this particular discussion or - this hearing.

MR. UTZ: You have made no particular study of the area in 28-9 in the vicinity of this Lacky well?

A. No, I have not.

Q. Do you have any thing else that you wish to add at this time?

A. Well, base datum line on this cross section was established by using electric logs and might be of some value to count the figures here that will help establish that datum line. - the first one on the right, the interval between the bottom of the section and the base of the Greenhorn is 2,052 feet -

Q. What is the base of the datum plane?

A. It's actually the datum plane here, from the datum plane to the base of the Greenhorn 2052 feet, and on the second well that interval is 1900 feet and on the

3rd well the interval is 1880 and on the 4th well, the interval is 1880 feet, on the 5th well the interval is 1850 feet, and the 6th, it is 1871 feet, on the seventh well it is 1908 feet, on the last, on the left, it is 1762 feet.

Q. Do you have anything more?

A. That is all I have unless you have some questions.

Q. Mr. Utz, do you have any questions?

MR. UTZ: Yes, Mr. Snider, have you discussed this correlation of the Chacra and the La Ventana with any of the Four Corners Geological Society?

A. No sir, I have not.

MR. UTZ: Would you be willing to give them your opinion and interpretation of this thing whenever they get around to it?

A. I surely would, yes, I'd like to get together with them.

MR. UTZ: Well, we are trying to get them to settle this thing one way or another so that we will know what to do, and we will certainly appreciate it if you would work with them on it when they finally get down to doing something about it and it should be this summer.

Q. I say that we will furnish our geologist in Aztec, Emery Arnold, with a copy of your exhibits so that he may further study the problem, and of course he is working with the Four Corners Society - trying to determine - of course this Mancos group, they are trying to properly determine this question of La Ventana and Chacra - whether the two correlate, or are separate or distinct and so that we may properly designate the pools and list them properly as formations that may be dulled by administrative approval. Which was listed in a memorandum that was just recently published..

A. I agree, I don't think that specific names to these producing horizons can necessarily be settled at something like this, I think it takes a lot of the fellows to get together and discuss their ideas and then have a majority come up with an agreement. On something like what the names ought to be, then I think -

I agree with you on that, that at least ought to be the final basis for the judgement of it.

MR. UTZ: At least we might have an agreement on it.

A. Yes.

Q. Is there any other question of Mr. Snider?

MR. CHRISTIE: We would like to introduce Exhibits 3, 4 and 5 -

Q. Any objections to entering exhibits 3, 4 and 5 in this case? If not they will be so entered.

MR. CHRISTIE: I would just like to request that the Commission approve our application for a dual completion on our Jicarilla Apache 4.

Q. Any other questions of Mr. Snider? If not Mr. Snider will be excused. I might say right here that while we are in the process of this hearing that we are quite concerned that dual completions are preceding or have preceded in the past without prior Commission approval. This Memorandum 18-56 is a result of a hearing held in May. I might point out that this can be done without any hardship to the operator by getting tentative approval providing they meet these specifications of the formations in the pools and certain equipment in those wells so the operator may proceed with his dual completion without tying up the rig, so we would like to again point out that we would like compliance in the future, which we have not had in the past, for making the Commission aware of what the plans are to make every effort give it tentative approval and be backed up by administrative order. A hearing is not necessary, so that there is no additional cost to the operator. We would like to be aware of what is going on so that we know ahead of time. We would like to be advised before the work is actually done so that it will have tentative approval at least. This particular memorandum which I am speaking of 18-56 dated June 19, which I furnished you with a copy, indicates that the Aztec Office has been given authority to tentatively approve gas-gas dual completions verbally and confirm same in writing when certain specifications are met and then the Commission will later, back up the supervisors authority that

has been given him and the approval that has been given to - well - the operator can go ahead with the dual completion. Certain formations have been specified such as Farmington, Fruitland, Pictured Cliffs, Mesaverde, Graneros and Dakota. You will note that the La Ventana is not one that has been decided upon as settled and when it is settled - of course will be added to this memorandum and approved administratively in the future. If there is nothing further in this case - does any one have any further statements to make in this Case 1092? If not we take the case under advisement, and proceed to Case 1093.

STATE OF NEW MEXICO)

COUNTY OF SANTA FE)

I, Gloria Alvarado, do hereby certify that the foregoing and attached transcript of proceedings before the Oil Conservation Commission Examiner at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

Dated this 13th day of July, 1956.

Gloria Alvarado