CASE 6798: ESTORIL PRODUCING CORPORATION FOR AN UNORTHODOX GAS WELL LOCATION LEA COUNTY, NEW MEXICO

CASE NO.

6798

APPLICATION,

TRANSCRIPTS,

SMALL EXHIBITS,

ETC.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

February 20, 1980

Re: CASE NO. 6798
ORDER NO. R-6269

Mr. George Hunker
Hunker-Fedric
Attorneys at Law
P. O. Box 1837
Roswell, New Mexico 88201

Applicant:

Estoril Producing Corporation

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 6798
Order No. R-6269

APPLICATION OF ESTORIL PRODUCING CORPORATION FOR AN UNORTHODOX GAS WELL LOCATION, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on January 30, 1980, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 13th day of February, 1980, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Estoril Producing Corporation, seeks approval of an unorthodox gas well location for its Curry Federal Well No. 1 to be drilled 1980 feet from the South line and 660 feet from the East line of Section 22, Township 23 South, Range 34 East, NMPM, to test the Pennsylvanian formation, Antelope Ridge-Morrow Gas Pool, Lea County, New Mexico.

(3) That the S/2 of said Section 22 is to be dedicated to the well.

(4) That a well at said unorthodox location will better enable applicant to produce the gas underlying the proration unit and will be more distant from existing roads and high pressure pipelines.

(5) That no offset operator objected to the proposed unorthodox location.

(6) That approval of the subject application will afford the applicant the opportunity to produce its just and equitable share of the gas in the subject pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That an unorthodox gas well location for the Pennsylvanian formation is hereby approved for the Estoril Producing Corporation Curry Federal Well No. 1 to be drilled at a point 1980 feet from the South line and 660 feet from the East line of Section 22, Township 23 South, Range 34 East, NMPM, Antelope Ridge-Morrow Gas Pool, Lea County, New Mexico.

(2) That the S/2 of said Section 22 shall be dedicated to the above-described well.

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY
Director

S E A L

fd/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
30 January 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Estoril Producing Corporation for an unorthox gas well location, Lea County, New Mexico.

CASE 6793

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the OIl Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: George H. Hunker, Jr., Esq.
HUNKER, FEDRIC, P. A.
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I N D E X

E X H I B I T S

MR. STAMETS: We'll call at this time Case 6798.

MR. PADILLA: Application of Estoril Producing Corporation for an unorthodox Gas well location, Lea County, New Mexico.

MR. STAMETS: Call for appearances in the case.

MR. HUNKER: George H. Hunker, Junior, Hunker, Fedric, P. A., attorneys in Roswell, New Mexico, representing Estoril Producing Corporation, and I have two witnesses that I'd like to have sworn.

MR. STAMETS: Any other appearances in this case?

I'd like to have them both stand and be sworn, please.

(Witnesses sworn.)

MAX E. CURRY

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. HUNKER:

Q Mr. Curry, will you identify yourself

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for the Examiner, please?

A. Max E. Curry. I'm a partner in Curry Engineering and Consulting, a petroleum engineering firm, located in Midland, Texas.

Q. Are you a petroleum engineer?

A. Yes.

Q. Have you qualified as a petroleum engineer to testify before the Oil Conservation Division?

A. I have.

MR. HUNKER: Mr. Stamets, are the qualifications of Mr. Curry as a petroleum engineer satisfactory?

MR. STAMETS: They are.

Q. Mr. Curry, are you familiar with the application that's been filed in this matter by Estoril Producing Corporation?

A. Yes, I am.

Q. What does Estoril propose to do?

A. Estoril proposes to -- a new location for a well to be drilled to approximately 13,500 feet to test the Morrow, or the Pennsylvanian age, and it would be located in Section 22, Township 23 South, Range 34 East, in Lea County, New Mexico.

The location is in the Antelope Ridge-Morrow Pool area and would be offset to production from that field. The location would be 1980 feet from the south line,

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660 feet from the east line.

Q. Is this a non-standard gas well location?

A. It is a non-standard location on 320-acres spacing with the horizontal sides as being the long sides.

This location would not be an unorthodox location were the proration units in the vertical position.

Q. Have you prepared an exhibit showing the location that Estoril proposes to drill?

A. Yes.

Q. Is it Exhibit One that you're speaking of?

A. Yes. This location, the heavy lines are -- represent section lines; the dashed lines represent the interior divisions of the section into quarters. The yellow outline shows the proposed unit for this well, proration unit for this well. And the heavy -- the thinner solid lines represent the outlines of the areas that are within -- that enclose the orthodox locations for a gas well at this depth with 320-acre spacing. The red represents -- the red cross hatched area represents the area in which a legal location would fall on a horizontal, long side proration unit.

The yellow represents those areas in

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which orthodox locations would fall on a vertically placed long side of a proration unit.

You will notice the orange line represents lease roads that exist in the field and the green line represents high pressure gas lines that cross the red or orthodox locations.

Q. How much room is it going to take for your pad in connection with this proposed well?

A. It would be -- the pad -- the area in which we would build the pad and our pits would require approximately 400 feet on each side for the drilling of this well. These are -- are deep but extraordinarily high pressures, unusually high pressure wells, and require a lot of special equipment, large pits, for safety in drilling this.

Q. Did you prepare this -- this depiction of these gas pressure lines?

A. Yes, I did.

Q. High pressure gas lines? Why -- why are you concerned about these high pressure gas lines, Mr. Curry?

A. The pits will have to be dug and there will be a lot of heavy equipment that will be moved in and out and across these high pressure gas lines. They are buried lines but there are numerous holes that need to be drilled and pits that need to be dug in this area, and although it would be possible in one or a very small portion

of this red area that we could drill by turning our -- our location around and an unusual configuration. We think it would be much better to stay away from the high pressure gas lines that exist in that field.

Q. I notice that you show two dry holes located in this area, one that Shell Oil Company NARU, and the Patrick Petroleum Superior Federal. Have you made a study of these two wells, Mr. Curry?

A. Yes. I've made a detailed study of their drilling operations and attempts at completion, and I am quite familiar with both wells.

Q. In connection with the Shell Well, that is also referred to as the North Antelope Ridge Unit well, is that correct?

A. That's correct.

Q. Were shows of gas and oil encountered in the Pennsylvanian formation in the drilling of this well?

A. Yes, they were -- there were substantial shows. There were drill stem tests taken in at least two of the Pennsylvanian sections.

Q. How long ago was that well drilled?

A. That well was drilled, I believe, in 1966, was it not? I'm not really familiar with the date on that.

Q. Has it been more than ten years, though?

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A. Yes, it has.

Q. Have operating procedures changed over the last ten or twelve years with regard to the drilling of test wells that are drilled to test the Morrow formation?

A. Yes, sir, they have. The technology of drilling Pennsylvanian wells has progressed a great deal since that time.

Q. Differences in the types of mud that are used and that sort of thing?

A. Principally in the type of mud that is used to control these pressures. Both of these wells, for instance, were drilled with a fresh water mud which was normal at that time to drill. The Shell well was -- they were not particularly interested in the Morrow. They were -- this well was projected to and was drilled to the Devonian formation. The fresh water muds that were in use at the time they penetrated the Morrow, or the Pennsylvanian section, was a fresh water mud. The Pennsylvanian sections are extraordinarily sensitive to any type of fresh water and the normal muds that were used then were very detrimental to the physical characteristics, the producing characteristics of that formation.

In fact, the Shell well tested the Morrow and I believe the Atoka formations and recovered substantial shows of gas.

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When they drilled to the Devonian they found the water table right at the top of the Devonian, so they plugged back to the Morrow and attempted completions in those zones that they had already tested and determined were productive. However, this takes a long period of time to drill from, say, approximately 12,000 feet, the top of the Pennsylvanian, to the Devonian; over half the length of the time to drill the entire well passed during that period of time.

So these muds that were damaging the Pennsylvanian sands were in contact with the sands during this period of time.

The wells were not capable of commercial production after attempts were made to complete and the zones had already been tested, and the well was subsequently plugged back and was used as a water disposal well for the Shell Antelope Ridge gasoline plant, located two or three miles south of this location.

It's my opinion that any drill stem test in the Pennsylvanian is mechanically dangerous to the formation because the very heavy weight of the mud, it requires a high hydrostatic pressure at that depth, and the release of the packers, in my opinion, normally fractures or puts a great deal of hydrostatic shock on the formation itself, and generally a lot of mud is lost, or some mud is lost, into

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the formation itself, the sands. And being as in this particular case the type of mud that was used was -- had damaged the formation, it merely extended the area in which this damage occurred.

Q. Have you recommended to Estoril, the operator of this particular property, that they drill a non-standard location so as to avoid any possible contamination that may have occurred by reason of the drilling of the Shell well?

A. Yes, and also the Patrick well.

The history of the Patrick well, they tried, I believe, five times to drill stem test the Morrow formation, or some of the sands in the Morrow, and were unable to get a successful test until they eventually put their packer several hundred feet up the hole and took a drill stem test which they considered to be uneconomic projection of production there, so they plugged that well.

But both wells were probably damaged substantially be the presence of the type of mud that was used.

Estoril, in drilling their well, will use a polymer mud which has been found to be the least damaging to the formation.

Q. Will you supervise the engineering of the Estoril well?

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A. Yes, we will supervise the drilling operation and completion.

Q. And the mud program?

A. Yes.

Q. Do you have anything else to add, Mr. Curry?

A. No, I believe not. I believe that is all.

MR. HUNKER: We'll offer Exhibit Number One into evidence.

MR. STAMETS: Exhibit One will be admitted.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Curry, this location that has been selected would be a standard location if the east half of Section 22 were dedicated. Why did Estoril choose not to dedicate the east half?

A. Well, for one reason, the south half is all Federal acreage and the north half is all State acreage and will more or less simplify the operation.

We do plan to drill the well in the State lease to the north. They have acquired all of the north half and they own all of the south half.

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Q. Where do they -- has a location been selected in the north half yet?

A. Not exactly. There is, to my knowledge, there is another line that goes across -- a high pressure gas line that goes across up there somewhere north of the -- in an east/west direction, north of the old Shell NARU Well. And we've not made a ground surveillance of that immediate area at this point.

But both of these locations should result in better wells due to their structural position than they would in the west half.

Q. Now you mentioned unusually high pressures on these wells. What type of pressure are you talking about?

A. Bottom hole pressure of -- of all of the Pennsylvanian sands and dolomites in this immediate area, in this field, are very close to 9300 pounds. They have been in excess of 9300 pounds, which results in surface pressures of in excess of 7000 pounds. Now, this is some 3000 pounds greater than the normal Pennsylvanian wells in this part of the basin.

MR. STAMETS: Any other questions of this witness?

Yes, sir, would you identify yourself for the record, please?

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MR. STEINER: Yes, sir. My name is Don Steiner with the United States Geological Survey in Albuquerque.

I believe, correct me if I'm wrong, you said you needed this 400 feet for your room around the well and yet you're -- I'm not sure of the distance -- considerably farther than that, from looking at your plat, from the nearest standard location.

Could you still move closer and keep sufficient room?

A. Closer to what?

MR. STEINER: What would be a standard location.

A. Yes, it could be moved some to the west. The presence of this high pressure gas line would actually affect both of the standard locations, or areas of standard location, but somewhere in the eastern -- it could be moved some distance.

MR. STEINER: No more questions.

MR. STAMETS: Any other questions? This witness may be excused.

MR. HUNKER: I'd like to call Mr. J. C. Williamson at this time.

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J. C. WILLIAMSON

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. HUNKER:

Q. Mr. Williamson, will you state your name, occupation, and place of residence?

A. J. C. Williamson, geologist, Midland, Texas.

Q. What is your college background and training, Mr. Williamson?

A. Well, I have a Master of Science in Geology and considerable work on a doctor's. I got the Master of Science in Texas Tech and considerable work on a doctor's out at the University of California.

Q. What has your work experience been?

A. I came to Midland in Juneteen, 1937, and been there ever since, more or less doing geology every day except when my wife would drag me away on some kind of a vacation.

And I was out on the Vacuum Pool in this area, I think probably before -- when there wasn't much out there except antelopes. It just had been discovered when I came in there and Magnolia had a little well in there,

I was with Phillips Petroleum Company and came down as a geologist for Phillips Petroleum Company.

Q. And how long were you with Phillips?

A. Six and a half years.

Q. And since that time have you been an independent operator and independent geologist?

A. Yes. I was a district geologist down there when I quit, and I am not quite sure whether I quit or was fired. We -- and Phillips came to a conclusion there.

Q. Have you been involved in the drilling of quite a number of Morrow test wells in the State of New Mexico?

A. Yes. Yes, I have, and a number of almost any kind of wells in New Mexico. I've promoted, and some of them are in my name and most of them would be like this. I have a -- I'm paying for part of this thing, too, and as a geologist I'm going to handle the geology and I've got a self interest in it, too, so it is both ways here.

Q. Did you draw Estoril into the picture by getting them to operate and take an interest in the well?

A. Yes.

Q. Have you acquired leases in this -- in this area that are going to be developed over the next several years?

A. Yes, we have. We have acquired and are in the process of acquiring considerable leases in here; probably be as much as maybe two sections, and we have this one section. As you folks know, that northwest section, if you remember that sale there on the 15th, we really acquired that when we paid $3000 an acre for it, and left a spot on the table there; somewhere around $360,000, but that -- we needed it to get everything -- we needed that to have a full State location there in the north half of Section 22.

Q. In other words, this is not just a one shot deal.

A. No, sir, it sure isn't. These people are prepared initially, along with me and Mr. Curry went in on it, to spend approximately -- well, there's about three wells that needs to be drilled here, and they -- they'll cost about $2-million apiece, at least, maybe more when they're equiped and put on line, and it's -- it's not just one operation that we're starting. We need to get in a well very badly at first, of course, to lay out that kind of expenditure, but -- and we have picked a location where we think the best one at this minute.

Q. And you have recommended the location that is 1980 feet from the south line and 660 from the east line of Section 22, is that correct?

A. Yes.

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Q. In this connection have you prepared an exhibit to demonstrate why you selected this particular location?

A. Yes.

Q. Is this Exhibit Two?

A. Yes, this is the exhibit right here.

Q. Will you explain to the Examiner and for the record what this exhibit shows?

A. Well, this -- I would like to use also both exhibits.

Q. All right, you're referring to Exhibit Three, a cross section --

A. Yes.

Q. -- that we have on the board over here?

A. Uh-huh, yes.

Q. All right, if you would, please explain both exhibits, Mr. Williamson, to the Examiner.

A. Well, in the process of getting this thing going we have made maps on nearly all horizons. Actually, the Morrow is the most immediate but we regard the acreage as possible eight or nine producing horizons that are real potent.

About the only thing that's against the whole thing is that it is a very expensive area.

Now this exhibit here drawn on -- on

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the Morrow, and the Morrow, of course, is, as you go to the Devonian, it will thin, probably, a great deal.

Now, we -- these structures have all been rotated. They were sitting here normal when the Rocky Mountain, present Rocky Mountain building movement took place, that turned up this edge, therefore throwing both the Shell Well and the Patrick Well -- this Patrick, it elevated it some and gave it a better place on the structure, really, than it would have had had there not been any mountain building movement to the west that pulled it up.

Therefore, this location we have selected is much closer to the top of the old, original structure, and we think we'll gain considerable structure on the deep test and on the -- and if nothing comes here, we want to take it to the Devonian, of course, or make a location from somewhere.

I don't think that there's going to be any dry hole, and we feel like that, one more reason for the expenditure that we've planned in the area, we need very bad to get in a well, of course.

This cross section here shows a number of things, this being the top of the Morrow here, but there are a great deal of places besides the Morrow. There's about four sands, one, two, three, four, here, and it depends on -- they're consistent across here, but it depends largely on

whether these sands are handled carefully, for one, Mr. Curry brought that out, and the porosity factor.

This sand right here is well developed on this well, which is the one -- this is the Natomas Well -- which is off in Section 23.

Q. Is that shown as the new well in the south half of Section 23?

A. Yes, that is -- it's not exactly new. It's been on production about three months. But the No. 2 Well is up to the north, which when these people attempted to produce the most promising Morrow -- now remember there is four of these Morrow Sands -- this is the one that the No. 2, they failed here because of lack of cement.

It's a very hard thing to get cement on these things because it's always puffing and blowing, just keeps mud and the cement in kind of a turmoil all the time and just makes little marbles out of the cement if you are not careful. They just practically did that on this one.

But there is a sand present there that is the main sand we're going to.

Q. Indicating -- which well are you talking about?

A. This is a Natomas Well, which actually failed on this because of the lack of cement. But the No. 2

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Well made up to -- it was completed for above 9-million cubic feet per day from this sand right here. Its perforations are about 20 feet higher but the structural position was a little bit higher. That's the No. 2 Right there, sir, and it is new but just now gone on production.

You will readily see, of course, and this appears to be that the sands are a little bit better developed -- in this case considerably better developed -- on the east side of the structure.

We feel like that we will at least be right on the top of the structure and just a little on the other side. And here these sands, as you can see, it's not quite as good as over here, and we are endeavoring to move this from a geological standpoint just as far east in our -- and be on our stuff, as we can, because we want to catch these sands.

Now I have no doubt that the Shell here, if it had been handled correctly, tested correctly, perforated correctly, -- now this is hindsight so there's no faulting anybody, but back there ten or twelve years ago we didn't know how sensitive these sands were to water or to -- or to being ruined like they can be.

We expect by going over there to get into this structure, the old structure, and also to get into better development of these sands. I think if we don't get

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one we can get another. Some of them may carry water but I doubt if they do, but we're looking for to go to the bottom of that one and then if we don't get it, we can come back. We think that Bone Springs production here.

And with our expenditure on this thing, gentlemen, we would like to drill where we think is the best place to get some production, and that's just perfectly frank. It will depend on porosity in these sands, and we think going a little east would be the best.

Now also we do want to get away from that contamination, and I don't know how far it reaches out. Contamination, as I imagine, and I think the petroleum industry has come to realize, this especially applies to Eddy County. that if you have a pure sand -- if you have a pure sand in any of these areas, you don't have any trouble, but there is apparently a lot of the sand brought down, and I don't know for sure where the source is, but it seems to come from the west, brought down that you have not enough erosion and carriage from there to knock out the feldspar. They're in a halfway state; they break up into clays and things like that, and the presence of this area where there's not much water they don't -- haven't deteriorated, but when you put fresh water on them, they take on water, and not only do that, they swell considerably, but they -- little pieces that are not broken down enough to take on

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water, when the movement takes place, out they go with this, and you just get complete blockage and you're liable to lose a well if you don't know.

We do want to get away from the damages done here and move up to where we can feel like that we will catch the ends of these sands. We will be higher, a good deal higher, then, on the structure than all maps of all horizons in here, so that our position will be more favorable structurally there than it will anywhere else.

Well, that's about all I have to say about the thing.

Q. Well, will you bring our exhibit back? I have some other questions I want to ask you.

A. All right.

Q. In connection with the wells that you have marked "new Well", or "new Wells", in Section 23, that you've referred to as the Natomas Wells, will you tell the Examiner how far those wells are located from the west line of Section 23 and what the spacing units are for those particular wells?

A. Well, the spacing unit for the No. 1 Natomas Well is the south half is 1980 from the west and 660 from the south, and the spacing unit for the No. 2 is the north half of Section 22 and it is also 1980 from the west and 1980 from the north.

Now, gentlemen, we do not think that these sands do not go over the whole area, or over the whole location. We feel like that they -- they do, because you've got them over here, and we feel like they're not quite as well developed as they are on that side, but that if we've got it coming over here at this location, then it will drain all of this more or less, and now I'm speaking of this sand here. These other sands are a different thing, and we may want to dual this location, planning along to do that, if we have the opportunity, but we feel like that it will be the best place for -- to get in the reservoir to make maximum recoveries.

Q. Mr. Williamson, will the approval of Estoril's application, in your opinion, afford the applicant the opportunity to produce its just and equitable share of the gas and oil in the Pennsylvanian Pool underlying the south half of Section 22?

A. Well, yes, I think it will.

Q. Will the drilling of the test well prevent economic waste caused by the drilling of unnecessary wells?

A. This location -- well, yes.

Q. Will the test well at this location avoid the augmentation of risk arising from the drilling of an excessive number of wells?

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A. Yes, it will. Now, this -- in other words, if we for some reason or another, due to geology or engineering, we fail here, well, it will be -- I don't think we'll fail, there's too many pays -- but if we even fail in the deep, it will both prevent and cause, if we make it, it will cause a lot of drilling, and if we fail, it will shut down on a lot of drilling.

Q. Will the approval of the application otherwise prevent waste and protect correlative rights?

A. Yes.

Q. Did you prepare Exhibits Two and Three, or were they prepared under your supervision?

A. No, I prepared them.

Q. You prepared them.

A. Yes.

MR. HUNKER: We offer in evidence at this time Exhibits Two and Three, and do you have anything else to add to your testimony?

A. No. I think I may have made plain our position in the matter, don't you reckon, sir?

I don't think I have anything else to add.

Thank you very much.

MR. STAMETS: One or two questions, Mr. Williamson.

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CROSS EXAMINATION

BY MR. STAMETS:

Q. I presume that since Estoril paid $3000 an acre for that State lease, that they do have some plans to drill up there in the north half of the section.

A. Yes, sir, we were. You will notice that the northeast quarter is running out in August, and in order to have another drilling unit up there it was necessary to get the northwest, and besides, actually, if you examine these wells close enough, you will come to the conclusion that there's a lot of mistakes been made in the area and that it needs development, and very promising that those mistakes can be corrected, so we needed that north half.

MR. STAMETS: Any other questions of this witness? He may be excused.

Do you have anything further you wish to offer, Mr. Hunker?

MR. HUNKER: No, thank you.

MR. STAMETS: Exhibits Two and Three will be admitted and the case will be taken under advisement.

(Hearing concluded.)

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REPORTER'S CERTIFICATE

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the attached Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6798, heard by me on 1-30 19 80.

Richard L. Stamets, Examiner
Oil Conservation Division

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date JANUARY 30, 1980 Time: 9:00 A.M.

NAME	REPRESENTING	LOCATION
R.R. Kendrick	El Paso Natural Gas Co.	Farmington
G. E. Seagraves	Caulkins Oil Co	
George H. Hunker Jr.	Pistol River Co	Roswell, N.M.
Mary E. Curry	Curry Engineering	Midland, Texas
J. Hill		
W. T. Mahan		
D. Murchie Benn	Conservation	Santa Fe
Frank S. Chavez	OCD	
Bill Carr	New Mex. Public Serv. Co.	Santa Fe
Lynda C. Lyon		
Don Stamets	NMOCC	Hobbs.

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date JANUARY 30, 1980 Time: 9:00 A.M.

NAME	REPRESENTING	LOCATION

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
30 January 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Estoril Producing Corporation for an unorthox gas well location, Lea County, New Mexico.

CASE 6793

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: George H. Hunker, Jr., Esq.
HUNKER, FEDRIC, P. A.
P. O. Box 1837
Roswell, New Mexico 88201

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I N D E X

E X H I B I T S

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... at this time Case 7205.

MR. [illegible]: Application of Estoril Producing Corporation for an unorthodox [illegible] well location, Lea County, New Mexico.

MR. STAMETS: Call for appearances in the case.

MR. HUNKER: George F. Hunker, Junior, Hunker, Pedric, P. A., attorneys in Roswell, New Mexico, representing Estoril Producing Corporation, and I have two witnesses that I'd like to have sworn.

MR. STAMETS: Any other appearances in this case?

I'd like to have them both stand and be sworn, please.

(Witnesses sworn.)

MAX E. CURRY

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. HUNKER:

Q Mr. Curry, will you identify yourself

for the Examiner, please.

A [illegible] partner in Curry Engineering and Consulting, [illegible] engineering firm, located in Midland, Texas.

Q Are you a petroleum engineer?

A Yes.

Q Were you qualified as a petroleum engineer to testify before the Oil Conservation Division?

A I have.

MR. WERKER: Mr. Stamets, are the qualifications of Mr. Curry as a petroleum engineer satisfactory?

MR. STAMETS: They are.

Q Mr. Curry, are you familiar with the application that's been filed in this matter by Estoril Producing Corporation?

A Yes, I am.

Q What does Estoril propose to do?

A Estoril proposes to -- a new location for a well to be drilled to approximately 13,500 feet to test the Morrow, or the Pennsylvanian age, and it would be located in Section 22, Township 23 South, Range 34 East, in Lea County, New Mexico.

The location is in the Antelope Ridge-Morrow Pool area and would be offset to production from that field. The location would be 1980 feet from the south line,

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660 feet from the [illegible]

Q. Is this a non-standard location or well location?

A. It is a non-standard location on 320-acre spacing with the horizontal sides as being the long sides.

This location would not be an unorthodox location were the proration units in the vertical position.

Q. Have you prepared an exhibit showing the location that Petroleum proposes to drill?

A. Yes.

Q. Is it Exhibit One that you're speaking of?

A. Yes. This location, the heavy lines are -- represent section lines; the dashed lines represent the interior divisions of the section into quarters. The yellow outline shows the proposed unit for this well, proration unit for this well. And the heavy -- the thinner solid lines represent the outlines of the areas that are within -- that enclose the orthodox locations for a gas well at this depth with 320-acre spacing. The red represents -- the red cross hatched area represents the area in which a legal location would fall on a horizontal, long side proration unit.

The yellow represents those areas in

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which orthodox locations would fall on a vertically placed long side of a proration unit.

You will notice the orange line represents lease roads that exist in the field and the green line represents high pressure gas lines that cross the red or orthodox locations.

Q. How much room is it going to take for your pad in connection with this proposed well?

A. It would be -- the pad -- the area in which we would build the pad and our pits would require approximately 400 feet on each side for the drilling of this well. These are -- are deep but extraordinarily high pressures, unusually high pressure wells, and require a lot of special equipment, large pits, for safety in drilling this.

Q. Did you prepare this -- this depiction of these gas pressure lines?

A. Yes, I did.

Q. High pressure gas lines? Why -- why are you concerned about these high pressure gas lines, Mr. Curry?

A. The pits will have to be dug and there will be a lot of heavy equipment that will be moved in and out and across these high pressure gas lines. They are buried lines but there are numerous holes that need to be drilled and pits that need to be dug in this area, and although it would be possible in one or a very small portion

[illegible] ning our -- our location [illegible]. We think it [illegible] high pressure [illegible].

Q. [illegible] that you show two dry holes located in this area, one that Shell Oil Company NAPU, and the Patrick Petroleum Superior Federal. Have you made a study of these two wells, Mr. [illegible]?

A. Yes. I've made a detailed study of their drilling operations and logs at completion, and I am quite familiar with both wells.

Q. In connection with the Shell Well, that is also referred to as the North Antelope Ridge Unit well, is that correct?

A. That's correct.

Q. Were shows of gas and oil encountered in the Pennsylvanian formation in the drilling of this well?

A. Yes, they were -- there were substantial shows. There were drill stem tests taken in at least two of the Pennsylvanian sections.

Q. How long ago was that well drilled?

A. That well was drilled, I believe, in 1966, was it not? I'm not really familiar with the date on that.

Q. Has it been more than ten years, though?

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A. Yes, it has.

Q. Have operating procedures changed over the last ten or twelve years with regard to the drilling of test wells that are drilled to test the Morrow formation?

A. Yes, sir, they have. The technology of drilling Pennsylvanian wells has progressed a great deal since that time.

Q. Differences in the types of mud that are used and that sort of thing?

A. Principally in the type of mud that is used to control these pressures. Both of these wells, for instance, were drilled with a fresh water mud which was normal at that time to drill. The Shell well was -- they were not particularly interested in the Morrow. They were -- this well was projected to and was drilled to the Devonian formation. The fresh water muds that were in use at the time they penetrated the Morrow, or the Pennsylvanian section, was a fresh water mud. The Pennsylvanian sections are extraordinarily sensitive to any type of fresh water and the normal muds that were used then were very detrimental to the physical characteristics, the producing characteristics of that formation.

In fact, the Shell well tested the Morrow and I believe the Atoka formations and recovered substantial shows of gas.

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When they drilled to the Devonian they found the water table right at the top of the Devonian, so they plugged back to the Morrow and attempted completions in those zones that they had already tested and determined were productive. However, this takes a long period of time to drill from, say, approximately 12,000 feet, the top of the Pennsylvanian, to the Devonian; over half the length of the time to drill the entire well passed during that period of time.

So these muds that were damaging the Pennsylvanian sands were in contact with the sands during this period of time.

The wells were not capable of commercial production after attempts were made to complete and the zones had already been tested, and the well was subsequently plugged back and was used as a water disposal well for the Shell Antelope Ridge gasoline plant, located two or three miles south of this location.

It's my opinion that any drill stem test in the Pennsylvanian is mechanically dangerous to the formation because the very heavy weight of the mud, it requires a high hydrostatic pressure at that depth, and the release of the packers, in my opinion, normally fractures or puts a great deal of hydrostatic shock on the formation itself, and generally a lot of mud is lost, or some mud is lost, into

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the formation itself, the sands. And being as in this particular case the type of mud that was used was -- had damaged the formation, it merely extended the area in which this damage occurred.

Q Have you recommended to Estoril, the operator of this particular property, that they drill a non-standard location so as to avoid any possible contamination that may have occurred by reason of the drilling of the Shell well?

A Yes, and also the Patrick well.

The history of the Patrick well, they tried, I believe, five times to drill stem test the Morrow formation, or some of the sands in the Morrow, and were unable to get a successful test until they eventually put their packer several hundred feet up the hole and took a drill stem test which they considered to be uneconomic projection of production there, so they plugged that well.

But both wells were probably damaged substantially be the presence of the type of mud that was used.

Estoril, in drilling their well, will use a polymer mud which has been found to be the least damaging to the formation.

Q Will you supervise the engineering of the Estoril well?

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A Yes, we will supervise the drilling operation and completion.

Q And the mud program?

A Yes.

Q Do you have anything else to add, Mr. Curry?

A No, I believe not. I believe that is all.

MR. HUNKER: We'll offer Exhibit Number One into evidence.

MR. STAMETS: Exhibit One will be admitted.

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Curry, this location that has been selected would be a standard location if the east half of Section 22 were dedicated. Why did Estoril choose not to dedicate the east half?

A Well, for one reason, the south half is all Federal acreage and the north half is all State acreage and will more or less simplify the operation.

We do plan to drill the well in the State lease to the north. They have acquired all of the north half and they own all of the south half.

Q. Where do they -- has a location been selected in the north half yet?

A. Not exactly. There is, to my knowledge, there is another line that goes across -- a high pressure gas line that goes across up there somewhere north of the -- in an east/west direction, north of the old Shell NARU Well. And we've not made a ground surveillance of that immediate area at this point.

But both of these locations should result in better wells due to their structural position than they would in the west half.

Q. Now you mentioned unusually high pressures on these wells. What type of pressure are you talking about?

A. Bottom hole pressure of -- of all of the Pennsylvanian sands and dolomites in this immediate area, in this field, are very close to 9300 pounds. They have been in excess of 9300 pounds, which results in surface pressures of in excess of 7000 pounds. Now, this is some 3000 pounds greater than the normal Pennsylvanian wells in this part of the basin.

MR. STAMETS: Any other questions of this witness?

Yes, sir, would you identify yourself for the record, please?

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MR. STEINER: Yes, sir. My name is Don Steiner with the United States Geological Survey in Albuquerque.

I believe, correct me if I'm wrong, you said you needed this 400 feet for your room around the well and yet you're -- I'm not sure of the distance -- considerably farther than that, from looking at your plat, from the nearest standard location.

Could you still move closer and keep sufficient room?

A. Closer to what?

MR. STEINER: What would be a standard location.

A. Yes, it could be moved some to the west. The presence of this high pressure gas line would actually affect both of the standard locations, or areas of standard location, but somewhere in the eastern -- it could be moved some distance.

MR. STEINER: No more questions.

MR. STAMETS: Any other questions? This witness may be excused.

MR. HUNKER: I'd like to call Mr. J. C. Williamson at this time.

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J. C. WILLIAMSON

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. HUNKER:

Q. Mr. Williamson, will you state your name, occupation, and place of residence?

A. J. C. Williamson, geologist, Midland, Texas.

Q. What is your college background and training, Mr. Williamson?

A. Well, I have a Master of Science in Geology and considerable work on a doctor's. I got the Master of Science in Texas Tech and considerable work on a doctor's out at the University of California.

Q. What has your work experience been?

A. I came to Midland in Juneteen, 1937, and been there ever since, more or less doing geology every day except when my wife would drag me away on some kind of a vacation.

And I was out on the Vacuum Pool in this area, I think probably before -- when there wasn't much out there except antelopes. It just had been discovered when I came in there and Magnolia had a little well in there,

I was with Phillips Petroleum Company and came down as a geologist for Phillips Petroleum Company.

Q. And how long were you with Phillips?

A. Six and a half years.

Q And since that time have you been an independent operator and independent geologist?

A. Yes. I was a district geologist down there when I quit, and I am not quite sure whether I quit or was fired. We -- and Phillips came to a conclusion there.

Q Have you been involved in the drilling of quite a number of Morrow test wells in the State of New Mexico?

A. Yes. Yes, I have, and a number of almost any kind of wells in New Mexico. I've promoted, and some of them are in my name and most of them would be like this. I have a -- I'm paying for part of this thing, too, and as a geologist I'm going to handle the geology and I've got a self interest in it, too, so it is both ways here.

Q Did you draw Estoril into the picture by getting them to operate and take an interest in the well?

A Yes.

Q Have you acquired leases in this -- in this area that are going to be developed over the next several years?

A. Yes, we have. We have acquired and are in the process of acquiring considerable leases in here; probably be as much as maybe two sections, and we have this one section. As you folks know, that northwest section, if you remember that sale there on the 15th, we really acquired that when we paid $3000 an acre for it, and left a spot on the table there; somewhere around $360,000, but that -- we needed it to get everything -- we needed that to have a full State location there in the north half of Section 22.

Q. In other words, this is not just a one shot deal.

A. No, sir, it sure isn't. These people are prepared initially, along with me and Mr. Curry went in on it, to spend approximately -- well, there's about three wells that needs to be drilled here, and they -- they'll cost about $2-million apiece, at least, maybe more when they're equiped and put on line, and it's -- it's not just one operation that we're starting. We need to get in a well very badly at first, of course, to lay out that kind of expenditure, but -- and we have picked a location where we think the best one at this minute.

Q. And you have recommended the location that is 1980 feet from the south line and 660 from the east line of Section 22, is that correct?

A. Yes.

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Q In this connection have you prepared an exhibit to demonstrate why you selected this particular location?

A Yes.

Q Is this Exhibit Two?

A Yes, this is the exhibit right here.

Q Will you explain to the Examiner and for the record what this exhibit shows?

A Well, this -- I would like to use also both exhibits.

Q All right, you're referring to Exhibit Three, a cross section --

A Yes.

Q -- that we have on the board over here?

A Uh-huh, yes.

Q All right, if you would, please explain both exhibits, Mr. Williamson, to the Examiner.

A Well, in the process of getting this thing going we have made maps on nearly all horizons. Actually, the Morrow is the most immediate but we regard the acreage as possible eight or nine producing horizons that are real potent.

About the only thing that's against the whole thing is that it is a very expensive area.

Now this exhibit here drawn on -- on

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the Morrow, and the Morrow, of course, is, as you go to the Devonian, it will thin, probably, a great deal.

Now, we -- these structures have all been rotated. They were sitting here normal when the Rocky Mountain, present Rocky Mountain building movement took place, that turned up this edge, therefore throwing both the Shell Well and the Patrick Well -- this Patrick, it elevated it some and gave it a better place on the structure, really, than it would have had had there not been any mountain building movement to the west that pulled it up.

Therefore, this location we have selected is much closer to the top of the old, original structure, and we think we'll gain considerable structure on the deep test and on the -- and if nothing comes here, we want to take it to the Devonian, of course, or make a location from somewhere.

I don't think that there's going to be any dry hole, and we feel like that, one more reason for the expenditure that we've planned in the area, we need very bad to get in a well, of course.

This cross section here shows a number of things, this being the top of the Morrow here, but there are a great deal of places besides the Morrow. There's about four sands, one, two, three, four, here, and it depends on -- they're consistent across here, but it depends largely on

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whether these sands are handled carefully, for one, Mr. Curry brought that out, and the porosity factor.

This sand right here is well developed on this well, which is the one -- this is the Natomas Well -- which is off in Section 23.

Q. Is that shown as the new well in the south half of Section 23?

A. Yes, that is -- it's not exactly new. It's been on production about three months. But the No. 2 Well is up to the north, which when these people attempted to produce the most promising Morrow -- now remember there is four of these Morrow Sands -- this is the one that the No. 2, they failed here because of lack of cement.

It's a very hard thing to get cement on these things because it's always puffing and blowing, just keeps mud and the cement in kind of a turmoil all the time and just makes little marbles out of the cement if you are not careful. They just practically did that on this one.

But there is a sand present there that is the main sand we're going to.

Q. Indicating -- which well are you talking about?

A. This is a Natomas Well, which actually failed on this because of the lack of cement. But the No. 2

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Well made up to -- it was completed for above 9-million cubic feet per day from this sand right here. Its perforations are about 20 feet higher but the structural position was a little bit higher. That's the No. 2 Right there, sir, and it is new but just now gone on production.

You will readily see, of course, and this appears to be that the sands are a little bit better developed -- in this case considerably better developed -- on the east side of the structure.

We feel like that we will at least be right on the top of the structure and just a little on the other side. And here these sands, as you can see, it's not quite as good as over here, and we are endeavoring to move this from a geological standpoint just as far east in our -- and be on our stuff, as we can, because we want to catch these sands.

Now I have no doubt that the Shell here, if it had been handled correctly, tested correctly, perforated correctly, -- now this is hindsight so there's no faulting anybody, but back there ten or twelve years ago we didn't know how sensitive these sands were to water or to -- or to being ruined like they can be.

We expect by going over there to get into this structure, the old structure, and also to get into better development of these sands. I think if we don't get

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one we can get another. Some of them may carry water but I doubt if they do, but we're looking for to go to the bottom of that one and then if we don't get it, we can come back. We think that Bone Springs production here.

And with our expenditure on this thing, gentlemen, we would like to drill where we think is the best place to get some production, and that's just perfectly frank. It will depend on porosity in these sands, and we think going a little east would be the best.

Now also we do want to get away from that contamination, and I don't know how far it reaches out. Contamination, as I imagine, and I think the petroleum industry has come to realize, this especially applies to Eddy County, that if you have a pure sand -- if you have a pure sand in any of these areas, you don't have any trouble, but there is apparently a lot of the sand brought down, and I don't know for sure where the source is, but it seems to come from the west, brought down that you have not enough erosion and carriage from there to knock out the feldspar. They're in a halfway state; they break up into clays and things like that, and the presence of this area where there's not much water they don't -- haven't deteriorated, but when you put fresh water on them, they take on water, and not only do that, they swell considerably, but they -- little pieces that are not broken down enough to take on

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water, when the movement takes place, out they go with this, and you just get complete blockage and you're liable to lose a well if you don't know.

We do want to get away from the damages done here and move up to where we can feel like that we will catch the ends of these sands. We will be higher, a good deal higher, then, on the structure than all maps of all horizons in here, so that our position will be more favorable structurally there than it will anywhere else.

Well, that's about all I have to say about the thing.

Q. Well, will you bring our exhibit back? I have some other questions I want to ask you.

A. All right.

Q. In connection with the wells that you have marked "new Well", or "new Wells", in Section 23, that you've referred to as the Natomas Wells, will you tell the Examiner how far those wells are located from the west line of Section 23 and what the spacing units are for those particular wells?

A. Well, the spacing unit for the No. 1 Natomas Well is the south half is 1980 from the west and 660 from the south, and the spacing unit for the No. 2 is the north half of Section 22 and it is also 1980 from the west and 1980 from the north.

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Now, gentlemen, we do not think that these sands do not go over the whole area, or over the whole location. We feel like that they -- they do, because you've got them over here, and we feel like they're not quite as well developed as they are on that side, but that if we've got it coming over here at this location, then it will drain all of this more or less, and now I'm speaking of this sand here. These other sands are a different thing, and we may want to dual this location, planning along to do that, if we have the opportunity, but we feel like that it will be the best place for -- to get in the reservoir to make maximum recoveries.

Q. Mr. Williamson, will the approval of Estoril's application, in your opinion, afford the applicant the opportunity to produce its just and equitable share of the gas and oil in the Pennsylvanian Pool underlying the south half of Section 22?

A. Well, yes, I think it will.

Q. Will the drilling of the test well prevent economic waste caused by the drilling of unnecessary wells?

A. This location -- well, yes.

Q. Will the test well at this location avoid the augmentation of risk arising from the drilling of an excessive number of wells?

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A. Yes, it will. Now, this -- in other words, if we for some reason or another, due to geology or engineering, we fail here, well, it will be -- I don't think we'll fail, there's too many pays -- but if we even fail in the deep, it will both prevent and cause, if we make it, it will cause a lot of drilling, and if we fail, it will shut down on a lot of drilling.

Q. Will the approval of the application otherwise prevent waste and protect correlative rights?

A. Yes.

Q. Did you prepare Exhibits Two and Three, or were they prepared under your supervision?

A. No, I prepared them.

Q. You prepared them.

A. Yes.

MR. HUNKER: We offer in evidence at this time Exhibits Two and Three, and do you have anything else to add to your testimony?

A. No. I think I may have made plain our position in the matter, don't you reckon, sir?

I don't think I have anything else to add.

Thank you very much.

MR. STAMETS: One or two questions, Mr. Williamson.

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CROSS EXAMINATION

BY MR. STAMETS:

Q I presume that since Estoril paid $3000 an acre for that State lease, that they do have some plans to drill up there in the north half of the section.

A Yes, sir, we were. You will notice that the northeast quarter is running out in August, and in order to have another drilling unit up there it was necessary to get the northwest, and besides, actually, if you examine these wells close enough, you will come to the conclusion that there's a lot of mistakes been made in the area and that it needs development, and very promising that those mistakes can be corrected, so we needed that north half.

MR. STAMETS: Any other questions of this witness? He may be excused.

Do you have anything further you wish to offer, Mr. Hunker?

MR. HUNKER: No, thank you.

MR. STAMETS: Exhibits Two and Three will be admitted and the case will be taken under advisement.

(Hearing concluded.)

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REPORTER'S CERTIFICATE

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the attached Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. _____ heard by me on _____ 19____.

_____, Examiner
Oil Conservation Division

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Phone (505) 455-7409

Dockets Nos. 4-80 and 5-80 are tentatively set for February 13 and 27, 1980. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - JANUARY 30, 1980

9 A.M. - OIL CONSERVATION DIVISION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

CASE 6787: (Continued from January 16, 1980, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Division on its own motion to consider the approval of 12 non-standard proration units ranging in size from 261.51 acres to 334.24 acres for 320-acre spaced pools, and 19 non-standard proration units ranging in size from 162.65 acres to 207.57 acres for 160-acre spaced pools, all of the aforesaid units being in and resulting from the irregular size and shape of Sections 1 thru 7 and 18, 19, 30, and 31, along the North and West sides of Township 28 North, Range 3 West, Rio Arriba County.

CASE 6796: Application of Union Oil Company of California for compulsory pooling, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the San Andres formation underlying the SW/4 SW/4 of Section 1, Township 8 South, Range 28 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 6797: Application of Yates Petroleum Corporation for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp-Penn formations underlying the N/2 of Section 28, Township 18 South, Range 29 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 6798: Application of Estoril Producing Corporation for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Curry Federal Well No. 1, to be drilled 1980 feet from the South line and 660 feet from the East line of Section 22, Township 23 South, Range 34 East, Antelope Ridge-Morrow Gas Pool, the S/2 of said Section 22 to be dedicated to the well.

CASE 6799: Application of Caulkins Oil Company for a non-standard gas proration unit, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 320-acre non-standard gas proration unit comprising the SE/4, S/2 NE/4 and S/2 SW/4 of Section 16, Township 26 North, Range 6 West, Blanco Mesaverde Pool, to be dedicated to a well to be drilled at a standard location thereon.

CASE 6794: (Continued from January 16, 1980, Examiner Hearing)

Application of Caulkins Oil Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Tocito Gallup and Dakota production in the wellbore of its Breech "D" Well No. 140 located in Unit A of Section 11, Township 26 North, Range 6 West.

CASE 6800: Application of Caulkins Oil Company for dual completion and downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Breech "E" Wells Nos. 83-E located in Unit L of Section 5 and 54-E and 68-E located in Units P and L of Section 4; Breech "A" No. 268-E located in Unit P of Section 16; and Breech "D" No. 346 located in Unit D of Section 22, all in Township 26 North, Range 6 West, in such a manner as to produce gas from the Dakota formation and commingled Chacra and Mesaverde production through parallel strings of tubing.

CASE 6801: Application of Caulkins Oil Company for a dual completion and downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Breech "C" Well No. 248-E located in Unit D of Section 13, Township 26 North, Range 6 West, in such a manner as to produce commingled Tapacito-Gallup and Dakota production and commingled Chacra and Mesaverde production through parallel strings of tubing.

CASE 6790: (Continued from January 16, 1980, Examiner Hearing)

Application of Merrion & Bayless for gas well commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks permission to temporarily commingle certain of its Pictured Cliffs gas wells in Sections 1, 2, 3, 9, 10, and 11, Township 26 North, Range 13 West, in a common gathering system and meter the entire lease output through the purchaser's sales meter located in Unit M of said Section 7.

LAW OFFICES OF
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POST OFFICE BOX 1837
ROSWELL, NEW MEXICO 88201

GEORGE H. HUNKER, JR.
DON M. FEDRIC

TELEPHONE 622-2700
AREA CODE 505

January 7, 1980

Mr. Joe D. Ramey,
Secretary-Director
New Mexico Oil Conservation Division
New Mexico Department of Energy
P.O. Box 2088
Santa Fe, New Mexico 87501

Re: Estoril Producing Corporation
Unorthodox Gas Well
T-23-S, R-34-E
Sec. 22: S½
Lea County, New Mexico

Dear Mr. Ramey:

We hand you herewith the original and two copies of Estoril Producing Corporation's Application for an Unorthodox Gas Well Location, Lea County, New Mexico, which said Application is self-explanatory. We would like very much for you to put this case on the docket of the Examiners' cases to be heard on January 30, 1980.

Your assistance in this regard will be appreciated.

Sincerely yours,

HUNKER-FEDRIC, P.A.

George H. Hunker, Jr.

GHH:dd
Enc.

xc: Estoril Producing Corporation
Suite 1120 Vaughn Building
Midland, Texas 79701, w/enc.

xc: Mr. Max E. Curry
P.O. Box 5596
Midland, Texas 79701, w/enc.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO.
Order No.

APPLICATION OF ESTORIL PRODUCING
CORPORATION FOR AN UNORTHODOX
GAS WELL LOCATION, LEA COUNTY,
NEW MEXICO.

Case 6798

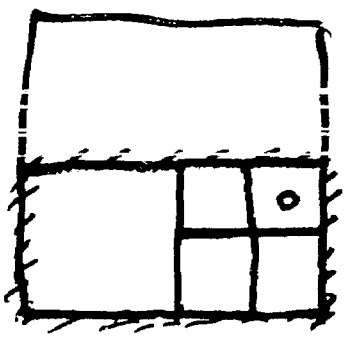
Estoril Producing Corporation, Suite 1120 Vaughn Building, Midland, Texas 79701, hereby makes application for Division approval of an unorthodox gas well location and in support thereof, shows:

(1) That Applicant, Estoril Producing Corporation, seeks approval of an unorthodox gas well location for its Curry Federal #1 to be drilled 1980 feet from the South line and 660 feet from the East line of Section 22, Township 23 South, Range 34 East, NMPM, to test the Morrow formation at 13,500 feet, Antelope Ridge Morrow Gas Pool, Lea County, New Mexico.

(2) That Applicant proposes to dedicate the S½ of said Section 22, Township 23 South, Range 34 East, to the said well.

(3) That a well at said unorthodox location will better enable Applicant to produce the gas and associated hydrocarbons underlying the proration unit.

(4) That the approval of the subject application will afford the Applicant the opportunity to produce its just and equitable share of the gas and oil in the Antelope Ridge Morrow Gas Pool, will prevent the economic loss caused by drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.



Applicant requests a hearing before an examiner at an early date, and prays that its application for an unorthodox gas well spacing unit above described be approved.

Respectfully submitted,

HUNKER-FEDRIC, P.A.

By _____
George H. Hunker, Jr.
Attorneys for Applicant,
Estoril Producing Corporation
P.O. Box 1837
Roswell, New Mexico 88201
(505) 622-2700

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 6798
Order No.

APPLICATION OF ESTORIL PRODUCING
CORPORATION FOR AN UNORTHODOX
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NEW MEXICO.

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(2) That Applicant proposes to dedicate the S½ of said Section 22, Township 23 South, Range 34 East, to the said well.

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(4) That the approval of the subject application will afford the Applicant the opportunity to produce its just and equitable share of the gas and oil in the Antelope Ridge Morrow Gas Pool, will prevent the economic loss caused by drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

Applicant requests a hearing before an examiner at an early date, and prays that its application for an unorthodox gas well spacing unit above described be approved.

Respectfully submitted,

HUNKER-FEDRIC, P.A.

By _____
George H. Hunker, Jr.
Attorneys for Applicant,
Estoril Producing Corporation
P.O. Box 1837
Roswell, New Mexico 88201
(505) 622-2700

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 6798
Order No.

APPLICATION OF ESTORIL PRODUCING
CORPORATION FOR AN UNORTHODOX
GAS WELL LOCATION, LEA COUNTY,
NEW MEXICO.

Estoril Producing Corporation, Suite 1120 Vaughn Building, Midland, Texas 79701, hereby makes application for Division approval of an unorthodox gas well location and in support thereof, shows:

(1) That Applicant, Estoril Producing Corporation, seeks approval of an unorthodox gas well location for its Curry Federal #1 to be drilled 1980 feet from the South line and 660 feet from the East line of Section 22, Township 23 South, Range 34 East, NMPM, to test the Morrow formation at 13,500 feet, Antelope Ridge Morrow Gas Pool, Lea County, New Mexico.

(2) That Applicant proposes to dedicate the S½ of said Section 22, Township 23 South, Range 34 East, to the said well.

(3) That a well at said unorthodox location will better enable Applicant to produce the gas and associated hydrocarbons underlying the proration unit.

(4) That the approval of the subject application will afford the Applicant the opportunity to produce its just and equitable share of the gas and oil in the Antelope Ridge Morrow Gas Pool, will prevent the economic loss caused by drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

Applicant requests a hearing before an examiner at an early date, and prays that its application for an unorthodox gas well spacing unit above described be approved.

Respectfully submitted,

HUNKER-FEDRIC, P.A.

By George H. Hunker

George H. Hunker, Jr.
Attorneys for Applicant,
Estoril Producing Corporation
P.O. Box 1837
Roswell, New Mexico 88201
(505) 622-2700

Appl for hearing on 1/30

Estoril Producing Corp.

unorthodox gas well loc.

Curry Fed No. 1
1480 FSL
660 FEL

22-23S-34E Lea Co.

S/2 to be ded.

Au Relapse Ridge - Morrow

Geo Hunker @ 4:15 pm 1-3-80
written appl to follow

622-700 Roswell ~~tt~~
622-2700

DRAFT

dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 6798

ORDER NO. R- 6269

APPLICATION OF ESTORIL PRODUCING CORPORATION

FOR AN UNORTHODOX GAS WELL LOCATION,

LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on January 30, 1980, at Santa Fe, New Mexico, before Examiner Richard L. Stamets

NOW, on this _____ day of February, 1980, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Estoril Producing Corporation, for its Curry Federal Well No. 1 to be drilled seeks approval of an unorthodox gas well location/ 1980 feet from the South line and 660 feet from the East line of Section 22, Township 23 South, Range 34 East, NMPM, to test the ~~Morrow~~ Pennsylvanian formation, Antelope Ridge-Morrow Gas Pool, Lea County, New Mexico.

(3) That the S/2 of said Section 22 is to be dedicated to the well.

(4) That a well at said unorthodox location will better enable applicant to produce the gas underlying the proration unit and will be more distant from existing roads and high pressure pipelines.

(5) That no offset operator objected to the proposed unorthodox location.

(6) That approval of the subject application will afford the applicant the opportunity to produce its just and equitable share of the gas in the subject pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That an unorthodox gas well location for the ~~Morrow~~ Pennsylvanian formation is hereby approved for the Estoril Producing Corporation Curry Federal Well No. 1 to be ~~located~~ drilled at a point 1980 feet from the South line and 660 feet from the East line of Section 22, Township 23 South, Range 34 East NMPM, Antelope Ridge-Morrow Gas Pool, Lea County, New Mexico.

(2) That the S/2 of said Section 22 shall be dedicated to the above-described well.

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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