CASE 5594: GENERAL AMER. OIL CO. OF TEX. FOR AN UNORTHODOX GAS WELL LOCATION, EDDY COUNTY, NEW MEXICO

CASE NO.

5594

APPlication,
Transcripts,
Small Exhibits,

ETC.



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO P. O. BOX 2088 - SANTA FE 87501

DIRECTOR
JOE D. RAMEY

Paul Eaton

Aztec OCC_

Other

Guy Buell

Hinkle, Bondurant, Cox & Eaton

PHIL R. LUCERO December 30, 1975



STATE GEOLOGIST EMERY C. ARNOLD

Post Office Box 10 Roswell, New Mexico 88201	Applicant:					
	General American Oil Co. of Texas					
Dear Sir:						
	copies of the above-referenced entered in the subject case.					
Yours very truly, JOE D. RAMEY Director						
JDR/fd	en e					
Copy of order also sent to						
Artesia OCC x	- -					

CASE NO. 2 5594 ORDER NO. R-5132

BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

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

> CASE NO. 5594 Order No. R-5132

APPLICATION OF GENERAL AMERICAN OIL COMPANY OF TEXAS FOR AN UNORTHODOX GAS WELL LOCATION, EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 3, 1975, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 23rd day of December, 1975, the Commission, a quorum being present, 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 Commission has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, General American Oil Company of Texas, seeks approval of an unorthodox gas well location 330 feet from the South line and 1150 feet from the West line of Section 29, Township 17 South, Range 29 East, NMPM, to test the Wolfcamp and Pennsylvanian formations, Grayburg Gas Field, Eddy County, New Mexico.
- (3) That the W/2 of said Section 29 is to be dedicated to the well.
- (4) That a well at said unorthodox location will cause drainage across lease lines not offset by counter drainage thereby violating the correlative rights of the offset operator.
- (5) That the offset operator objected to the proposed unorthodox location.
- (6) That to protect correlative rights, the subject application should be denied.

Case No. 5594 Order No. R-5132

IT IS THEREFORE ORDERED:

- (1) That the application for an unorthodox gas well location for the General American Company of Texas well proposed to be located at a point 330 feet from the South line and 1150 feet from the West line of Section 29, Township 17 South, Range 29 East, the West line of Section 29, Township 17 South, Range 29 East, NMPM, Grayburg Gas Field, Eddy County, New Mexico is hereby denied.
- (2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO OIL CONSERVATION COMMISSION

PHIL R. LUCERO, Chairman

JOE D. RAMEY, Member & Secretary

SEAL

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
December 3, 1975
EXAMINER HEARING

IN THE MATTER OF:

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Application of General American Oil Company of Texas for an unorthodox gas well location, Eddy County, New Mexico.

BEFORE: Richard L. Stamets, Examiner

TRANSCRIPT OF HEARING

APPEARANCES

For the New Mexico Oil Willia Conservation Commission: Legal

William F. Carr, Esq.

Legal Counsel for the Commission State Land Office Building Santa Fe, New Mexico

CASE

5594

For the Applicant:

Paul Eaton, Esq.

HINKLE, BONDURANT, COX & EATON

Attorneys at Law Hinkle Building Roswell, New Mexico

For Amoco Production Co.:

Guy Buell, Esq.
Attorney at Law
Amoco Production Company

F. O. Box 3092 Houston, Texas.

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MR. STAMETS: We will call the next Case, 5594.

MR. CARR: Case 5594, application of General American Oil Company of Texas for an unorthodox gas well location, Eddy County, New Mexico.

MR. STAMETS: Call for appearances in this Case.

MR. EATON: Paul Eaton of the firm of Hinkle, Bondurant, Cox and Eaton representing the applicant.

MR. BUELL: For Amoco Production Company, Guy Buell,

MR. STAMETS: I would like to have all of the witnesses that will appear in this Case stand and be sworn at this time.

(THEREUPON, the witnesses were duly sworn.)

LARRY DARNALL

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

DIRECT EXAMINATION

BY MR. EATON:

- Would you please state your name, by whom you are employed and in what capacity?
- My name is Larry Darnall, I'm employed by General American Oil Company as a petroleum geologist.
- Mr. arrall, have you previously testified before this Commission in that capacity?

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- A. Yes, sir.
- Q Are you familiar with the application in this Case?
 - A. Yes, I am.
- Q What does General American Oil Company seek by this application?
- A. Well, sir, we seek Commission approval for an unorthodox location for what we refer to as our Green B Number 9 Well which is located three hundred and thirty feet from the south line and eleven hundred and fifty feet from the west line of Section 29, 17 South, 29 East. We plan to drill the well to eleven thousand feet or depth sufficient to test the Pennsylvanian and the west half of Section 29 will be dedicated to the well as we propose it.
- Q. Mr. Darnall, will you refer to what has been marked for identification as Exhibit Number Nine and please state what this exhibit is intended to show?
- A. Yes, sir. Exhibit Number Nine is a land plat and it shows General American's acreage position in the area in the stipples. It shows our proposed location colored red and it shows the acreage which we propose to dedicate to the well outlined in yellow.

General American actually has two leases in the west half of Section 29. Our B lease covers the southern eighty acres, whereas our A lease covers the northern two

the exception of in Sections 19 and 20.

Was notice of your application mailed to all of these offset operators?

hundred and forty acres of the west half of the section.

The offset operators are shown on this plat, with

This was simply a

Yes, it was.

and Exxon as owners.

What do the boundary markings reflect or what is the purpose of them?

Well, the arrow indicating the South Empire Deep unit is a Morrow unit, a Pennsylvanian unit in which a number of operators are participants. It is a working interest unit. General American is a participant in that unit.

The arrow indicating an Atoka unit is a General American operated Atoka gas unit comprising three hundred and twenty acres.

All right, would you move on and refer to what has been marked as Exhibit One and state what this exhibit is intended to show?

Yes, Exhibit One is a structural contour map on the base of the Morrow or the top of the Chester Mississippian

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in the South Empire Deep Grayburg area of Eddy County.

The location again, which we propose, is shown circled in red and the acreage to be dedicated to the well is shown outlined in yellow.

As you can see by looking at the map the structural configuration in the area is really a gently southeastward nosing and no closure is indicated.

Q All right, now, refer to Exhibit Number Two, please, sir, and state what that exhibit reflects?

A. Yes, sir, Exhibit Number Two is a map pay isopach on what we here are referring to as the El Paso Number 1

Leonard Morrow pay sand. The well circled in orange on this exhibit in Section 22 is the El Paso Number 1 Leonard Well and it was the first well in the immediate area to establish Morrow production.

Other wells which we feel, as you can see by this isopach, that are producing from this same Morrow sand are shown circled in yellow. The last of these wells was the Tenneco Fed Com Number 33 which is in Section 33 and this well found excellent Morrow sand development at much less than virgin pressure which indicated to us that it was tied into the wells to the north.

Now the red line which you see on this exhibit is simply the strike on the base of the Morrow superimposed through the El Paso Number 1 Leonard Well.

Now, as you can see by looking at this exhibit, the reservoir that we have isopached is roughly paralleling the regional strike. This to us was the first indication that we might be dealing with a bar-type deposit here rather than a channel sand.

- Mr. Darnall, I notice on this exhibit over in Section 30 you have colored the Amoco Number 7 well in red?
- Pink, I believe, and I'm going to refer back to that at a later time.
- I also note that you have a green line to and in Section 31 and an Amoco Number 5 Well circled in green.
- Yes, sir, I would like to come back to this exhibit and talk about both of those.
 - All right, then let's move on to Exhibit Number Three
 - All right.
 - Now, what does this exhibit show?
- Exhibit Three is a structure map on top of the Morrow pay found in the El Paso Number 1 Leonard Well. This well is again circled in orange. I think the exhibit is self-explanatory, it is simply a structure map. But now keeping this picture in mind I would like to go on to Exhibit Four.
 - All right, please do, sir.
 - Exhibit Number Four is also a structure map on top of the MOLLOW pay in the El Paso Number 1 Leonard Well and

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which again is circled in orange, but on this picture we have removed the regional dip on the base of the Morrow and we come up with a configuration that is rounded on the top, dipping off on the flanks just as you would expect in the case of a bar sand as opposed to the flattening as we would think you would see in the case of a channel sand.

Now, at this point we have pretty well concluded that we were dealing with a bar-type deposit.

Now, I would like to refer you back to Exhibit Number

- Q Back to Exhibit Number Two. That was the isopach?
- A. It is the net-pay isopach on the Leonard pay. Now, the well shown circled in green on this exhibit is Amoco's Number 5 South Empire Deep unit and it encountered in excess of sixty-feet of Mcrrow pay sand between the depths of ten, seven, ninety-four and ten, eight, sixty-eight.

MR. STAMETS: You are talking about the Amoco well in Section 31?

A. In Section 31, circled in green.

Now, the Exhibit Five, if you would look at it for a minute, is the compensated formation density neutron log on this pay sand and we have simply shown the base and the top of the sand.

- Q. This is on the Amoco Number 5?
- A On the Amoco Number 5 well which is circled in green

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All right.

Now, referring back to Exhibit Two. We projected the axis of what we have mapped as the El Paso Number 1 Leonard Bar through the center of the Amoco Number 5 well and this is shown in green. We feel that there is a good chance that the sand in the Amoco well may also be a bar rather than a channel and if it is, the strike of this bar or the configuration of the bar may roughly, roughly, I say, parallel that of the bar in the Leonard well and Amoco felt that the sand in their well was a channel sand striking roughly northsouth and they drilled their Number 7 well shown circled in pink to test this theory. We participated in the well, we own an interest in the unit. The idea did not prove out, they did not find Morrow production or any decent Morrow porosity development. So this increased our feeling that perhaps we 15 were dealing with a bar and not a channel. 16

- Q All right, is that all you have with respect to this Exhibit Number Two?
- Yes, sir, that's all on Exhibit Two, but keep the green line in mind as we turn to the next exhibit.
 - Which is Exhibit Number Six? Q.
 - Yes, sir. A.
 - All right, proceed. Q.
- Now, the green line on this Exhibit Number Six is simply a portion of the green line up-dip projection of the

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axis of the El Paso Leonard bar that was shown on Exhibit Two through the Amoco Well, this Number 5 Well. This well is again circled in green.

Now, if you would look for a minute at Exhibit Number 7, which is a portion of the dip meter on the Amoco Number 5 Well.

We've noted here, this has been looked at by Schlumberger and as you can see, the upper part of the sand make very well be a blanket-type sand, whereas it appears from ten, eight, twenty-eight to ten, eight, seventy, we are dealing in all liklihood with a bar or channel-type deposit.

Dips in this lower portion, as you can note on the dip meter, are predominantly to the south-southeast and I'll go slow here, but this being the case, if the sand is a bar with dips to the south-southeast, the axis of the bar should lie somewhat to the northwest of the Number 5 Well. In the event that the sand is a channel, with dips to the southsoutheast, the axis of the channel should lie slightly to the southeast of the well.

And keeping this in mind please refer back to Exhibit Number Six. As I said before, the green line on this exhibit depicts the axis of the Leonard bar projected up dip through the Amoco Number 5 well. First of all, assuming that we are dealing with a bar, the axis would lie to the south.

The Amoco well would lie slightly to the southeast of the axis

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If a bar parallels the trend of the El Pass Leonard bar and is of approximately the same width, it would trend as shown by the red lines on this exhibit. If, however, we project the stike of the bar perpendicular to the dip in the Morrow sand shown on the dip meter in Amoco's Number 5 Well, we come up with, and I might say this is the closest control we've got, we come up with a trend for the bar shown by the brown lines on this exhibit. This being the case, we have only the area colored solid red that should safely fit both pictures. Now we feel that at some point this bar is going to swing to the north since none of these wells that we have shown on this exhibit circled in yellow produce from this Morrow sand, this Morrow bar sand, but we don't know at what point it is going to turn on northward. In view of the risk involved, the many dry holes in the area, the fact that we estimate dry-hole costs at three hundred and thirty thousand dollars and completed-well costs at four hundred and sixty thousand dollars, we feel that we want to drill a location that is the safest on all of our information that we can drill, and that's the one we have proposed.

Now, turn please to Exhibit Number Eight.

Exhibit Eight simply shows that if the sand in Amoco's well is a channel, rather than a bar, the chances are real good that we are going to get a dry hole in the Morrow and this is why we feel that we must be allowed to drill the

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best location available.

Q Which going back to Exhibit Number Six is the location within the solid-red area?

A. Right.

Q Now, would a well at that location, in your opinion, drain the three hundred and twenty acres dedicated to that well?

A. Yes, sir.

Q. Will the approval of the application, in your opinion, result in the elimination of the drilling of unnecessary wells?

A Yes, sir.

Q Would approval be in the interest of conservation and the prevention of waste?

A Yes, sir.

Q Would you think that it would protect correlative rights?

A. I think it would.

 Were all of these exhibits prepared by you or under your supervision?

A. Under my supervision.

MR. EATON: Mr. Examiner, we offer Exhibits One through Nine into evidence.

MR. STAMETS: Is there any objection to the exhibits
They will be admitted into evidence.

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(THEREUPON, Applicant's Exhibits One through Nine were admitted into evidence.)

MR. STAMETS: Are there any questions of the witness?

MP. BUELL: Yes, thank you, Mr. Examiner.

CROSS EXAMINATION

BY MR. BUELL:

Mr. Buell.

- Q Mr. Darnall, this three, thirty location is crowding the line of the Empire South Deep unit, is that correct?
 - A. Yes, sir.
- Q You mentioned that General American owned an interest in that unit?
 - A. Yes, sir.
 - Q Do you recall the approximate interest?
 - A. Six percent.
- Q What interest do you have in the well that you propose to drill three hundred and thirty feet from the line?
 - A. We would have a hundred percent of that.
- Q All right, sir, I tried to follow your testimony as close as I could and in view of your hoarseness and I know your throat is hurting, I'm going to be as brief as I can.

Really your key exhibit in this Case is Number Six, is it not, Mr. Darnall?

A Well, yes, sir, it is the key exhibit. It's the

exhibit that is compiled from the other exhibits.

Q Yes, and as I understand your testimony, the orientation of the area outlined in red is your interpretation of what would happen if this is a bar sand deposit?

A. No, it's an interpretation of what would happen if it's a bar-sand deposit and were exactly parallel to the bar sand deposit in the El Paso Number 1 Leonard Well. However, the brown lines indicate what would happen if it is a bar deposit and the strike of the bar is projected from the closest control point we have which is your Number 5 Well.

- Q You have had extensive experience in mapping the Morrow, have you not?
 - A. Yes, sir.
- Q It has not been your general experience that in an area where we have Morrow bar-type-sand deposits that they are generally oriented in the same direction?
- A. Well, this is what we are basing this on. Yes, in answer to your question, we feel that there is a good chance it will be generally oriented in the same direction. Again, however, as I said, we feel that the thing is going to swing north. However, the closest control we've got pushes it down to the south somewhat and we are trying to drill a location that would satisfy both pictures.
- Q All right, sir, what is your geological opinion, if you have one, with respect to the number of acres in your

three hundred and twenty acre drilling unit that are productive?

A. Well, it would depend upon which interpretation you take and I don't know what the outcome is going to be and that's why we want to drill the second location. I can say that looking at one picture here it looks like, say, two hundred acres are productive, looking at another it looks like much less. Again what we are attempting to do is drill what we feel is the safest location, we are not trying to produce somebody else's gas, we simply want to be allowed to drill a location that we feel is the safest available.

Q. You realize that this Commission quite often when you are asking for an unorthodox well location, that they will apply a penalty in order to make an attempt to protect the correlative rights of those interest owners that you are crowding. Are you aware of that policy?

A. Well, no, I'm really not. I think Mr. Patterson probably would be, I'm not familiar with that policy.

Q All right, sir, now, I realize you are a geologist, but in answer to a question from Mr. Eaton, you said that you felt that a well at this location would drain the Morrow hydrocarbons under your drilling unit?

A. Whatever hydrocarbons are under the unit I feel it will drain.

Q What impression do you have, if you have one, of

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square, round?

the drainage pattern of a gas well in a bar reservoir, is it

A I think it would depend entirely on the configuration of the reservoir, I would say.

- Q How does the drainage pattern extend out from the wellbore?
 - A. In what situation?
 - Q. In the situation you have here?
- A. Well, it would extend around the well, assuming that the reservoir circles the well, it would drain a certain distance out all around the well.
- Q So by the time the drainage pattern of your well here extended three hundred and thirty feet from the well you would be draining from the Empire South Deep unit, wouldn't you?
 - A. It's possible.
 - Q Do you think that's fair?
- MR. EATON: I think I would object to the form of the question as being argumentative.

MR. STAMETS: Sustained.

MR. BUELI: I think that's all I have of Mr. Darnall Mr. Examiner.

MR. EATON: I have no questions.

CROSS EXAMINATION

BY MR. STAMETS:

Q.	Mr. Darnall, referring to E	xhibit Number Six, if
you dri	illed the well and completed it	and determined that the
brown-1	line situation was what existed	, where would the majorit
of the	productive acres for the well h	be located?

A. If that were the case, the majority of the productive acres would be on our Green A lease and the Amoco South Empire Deep unit.

Q Between those two where would the most productive acres lie?

A. Well, I suppose looking at this map, most of them would lie in the South Empire Deep unit, although, of course, we are already receiving drainage from the Number 5 well, so I couldn't tell you how far out, or how much area that is draining.

Q If the red-line situation prevailed, would it be possible, according to the exhibits you presented here, to drill a standard location?

- A. Yes, sir.
- Q And still be well within the limits?

A. If the red lines, if you ended up with that case it would be possible to drill a standard location.

A. You responded to Mr. Buell that there was a good chance that this is what would prevail in the area?

A. Well, again, I hope it's what prevails, but using the closest control that we have which is the Number 5 Well, we are not sure. I think that it is highly doubtful that this
is a situation of exact parallel, I mean exact parallel and
I doubt that we are going to have an exact parallel situation.
I don't know what it is going to be, but I would doubt that it
would be exactly this.

MR. STAMETS: Any other questions of the witness?

7 Mr. Eaton.

REDIRECT EXAMINATION

BY MR. EATON:

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0. Mr. Darnall, is it fair to summarize your testimony in the way that you just don't know at this point in time exactly where the trend will go?

A. That's fair. Again we are just trying to drill where we think is the safest location in view of the risk involved.

MR. EATON: That's all.

MR. STAMETS: The witness may be excused.

(THEREUPON, the witness was excused.)

MR. EATON: Mr. Patterson.

BILL PATTERSON

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

DIRECT EXAMINATION

BY MR. EATON:

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	Q.	Would	you	state	your	name,	by	whom	you	are	employed
and	in	what capa	acity	/?							63

- A. My name is Bill Patterson, I'm employed by General American Oil Company in our Dallas, Texas office and I'm currently Assistant Vice President of Production.
- Q Mr. Patterson, have you previously testified before this Commission?
 - A Nò, I have not.
- Q Would you please give us your educational background and your work experience?
- A. I graduated from Southern Methodist University with a B.S. degree in geology. However, for the past sixteen years I have been employed in our production department, three years in the Loco Hills area and the remaining time in our Dallas office.
- Q I assume you are familiar with the application in this Case?
 - A. Yes, I am.
 - Q What will be the purpose of your testimony, sir?
- A. The purpose of the tertimony would be to simply show that while the surface location is three hundred and thirty feet from our south boundary, the bottom-hole location of the well will very likely be further on our acreage.
 - Q. Do you have an exhibit which would support thet?
 - A. Yes, I have three exhibits, numbered Exhibits Ten,

Eleven and Twelve.

- Q. Would you please relate what these exhibits show?
- A. Exhibit Number Ten is a plot of the tract of the wellbore in our Green A Number 8 Well.
 - Q Now, where is that well located?
- A. The Green A Number 8 Well is in the forty-acre unit directly north of the proposed unit location of the Green B 9 Well. It is three hundred and thirty feet from the west line and twenty-three hundred and ten feet from the south line of Section 29.

The exhibit shows that in drilling the Green A

Number 8 Well from surface to sixty-two hundred and eighty

feet, the well deviated two hundred and sixty-seven point eight

feet north fourteen degrees, thirty-one minutes east. This

well was not purposely deviated, but was simply drilled and

the deviation was allowed to go where it wanted to.

- Q All right, proceed.
- A. Exhibit Number Eleven is General American Green A Number 9 Well. This well is located twenty-three hundred and ten feet from the south line and sixteen hundred and fifteen feet from the west line of Section 29 and is in the forty-acre unit northeast of the unit in which the Green B well will be located.
 - Q All right, now, what does this exhibit show?
 - A. This Exhibit shows that in drilling this well from

the surface to sixty-two hundred and eighty feet that the well deviated some two hundred and seventeen point eight feet north one degree, thirty one minutes east.

- Q All right, will you please proceed to Exhibit Twelve?
- A. Exhibit Number Twelve is simply a summary of the information we were able to obtain from our dip meter survey run in our Green A Number 3 Well. While we did not have information --
 - Q Where is your Green A Number 3 Well?
- A. The Green A Number 3 well is, if you would look at Exhibit Number 6, the well colored in yellow in the east half of Section 29. It is located nineteen hundred and eighty feet from the south line and six hundred and sixty feet from the east line in Section 29.
 - Q All right.
- A. In the drilling of this well from eight thousand feet to the TD of ten thousand, nine hundred and twenty-eight feet this well drifted fifty-four point one, eight feet north and sixteen point one, four feet west which in terms of direction is fifty-six point five, three feet north, sixteen degrees, thirty-five minutes west of the location of the wellbore at eight thousand feet.

Now, since we do not have information on any well from any of the deep holes from surface to TD, so that we cannot calculate the total drift of the wellbore in any one

particular well, but by taking the deviations in the Green A Number 8 and Number 9 and the deviation that we experienced from eight thousand feet to TD in the Green A Number 3 we conclude that the bottom-hole location of the Green's Number 9 Well would very likely be some two hundred and fifty to three hundred feet north of the surface location, therefore being further on General American's acreage.

- Q Why do these wells drift to the north as they are drilled?
- A. They tend to on a rotary hole, your well tends to drift up dip and the regional dip in this area is to the south or southeast.

I would like to point out that while Mr. Darnall's geology shows an area on the map that is the best area for us to drill in, these data are strictly surface location. Therefore, if you took the geology and moved it, based on the bottom-hole location of all of these wells, very likely all of the geology would be shifted somewhat north.

- Q Were Exhibits Ten through Twelve prepared by you or under your supervision?
 - A. Under my supervision.

MR. EATON: We offer Exhibits Ten, Eleven and Twelve into evidence.

MR. STAMETS: Any objection? They will be admitted.

(THEREUPON, Applicant's Exhibits Ten, Eleven and Twelve were admitted into evidence.)

MR. EATON: I have no further questions.

MR. STAMETS: Any questions of the witness?

MR. BUELL: Yes, Mr. Examiner, just a few.

CROSS EXAMINATION

BY MR. BUELL:

Q. Mr. Patterson, do you adopt the theory or is it your belief that the drainage pattern of a gas well in the Morrow formation would be radial in nature?

A I think it would be difficult to say. In a bar or channel-type deposit I think you may have some directional permeability. I really don't know. I would say generally it would be radial though.

Q Do you see how there is any way in the world if this permit is granted and this well is drilled, that it could be prevented from draining gas from under the Empire South Deep unit?

A. I think that if you plot the bottom-hole location of our well and the bottom-hole location of the Amoco Number 5 Well, you will find that they are not too far distant from the -- equidistant from the line of the southwest corner of Section 29. I would think, therefore, that we would have a chance of both protecting our equity.

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	Q.	Mr.	Patte	rson,	ycu	are	goi	ng to	have	to e	explai	n 1	that
a li	ttle	more	clear	ly fo	r me.	Fi	rst	you s	said :	if th	nis we	11	
foll	ows t	he ra	ndom	devia	tion	of t	he '	wells	that	you	used	as	
an e	xampl	e, tì	nat is	goin	g to	the	nor	th?	,	· ·			

- A. Right.
- Q Now, you said about that you would predict that eleven thousand feet, what did you predict, about three hundred feet?
 - A. Two hundred and fifty to three hundred feet.
- Q All right, sir, that would then put the bottom-hole location of the well six hundred and thirty feet from the line
 - A. Right.
- Q Now, would you expect the Amoco Number 5 to randomly deviate it in excess of your three hundred feet?
 - A. I would think it would deviate about that much.
- Q Then it certainly, even its bottom-hole location is still going to be further from your lease line than the bottom-hole location of your well will be to the Empire South Deep unit lease line, is that not correct?
 - A. That is correct.
- Q Then how do you think the Number 5 will protect the Empire South Deep unit?
- A. Well, as far as we very likely could be closer to the line and, therefore, we may drain some of the gas from under Empire South Deep unit. I can't say that we won't but

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it certainly would depend on the capacity of the two wells involved.

- Q In your engineering opinion do you feel that the Empire South Deep unit would be entitled to a direct and equidistant offset from your Green 9 B Well?
 - A. I would say so.
 - You would say what?
 - A. I would say, yes.
- All right, sir, let me ask you this: In view of the fact that this well is surfaced, your well is surfaced only three hundred and thirty feet from the Empire South Deep unit line and you would predict random deviation to the objective depth of this well in the vicinity of three hundred feet, do you think there is a chance that well could cross your lease line into the Empire South Deep unit line at its bottom-hole location?
- A. I would think that it would not, simply because there are no deviation in the area.
- Q You base that belief on the pattern of deviation that you see in the wells to the north?
 - A Yes, sir.
- Q. In the event, though, this was an anomaly and it deviated due south, there would be a distinct possibility that it could cross the lease line?
 - A It would be difficult if you get close to it, but

I wouldn't think it would go that far but it might.

Q All right, sir, now, in Mr. Darnall's testimony,

I'm looking at his Exhibit Six, he mentioned that the area that
he had colored in red was his only chance to make a well,
regardless of the orientation of the Morrow structure, is
that your understanding of his testimony?

A. I think he is saying that on two cases, he has two cases in this particular area, will cover both cases and we still don't know that either one of them is correct.

Q He also testified in answer to a question of the Examiner that if the orientation of the Morrow in the area of your proposed location conformed to the orientation of the Morrow that we see to the east of your location that he could make an orthodox location on the west half of 29, do you agree with that?

A. That is correct.

Q. All right, sir, let's assume for the purpose of this question that instead of the orientation of the Morrow being as you generally would expect it, the same as the Morrow to the east, that it actually more nearly conforms to his brown lines, the almost due east-west orientation, so then if that is the case, the only place you could make a well on your lease would be this little area colored in red?

A. Yes, sir.

Q And if I understand his testimory, that is the only

portion of the west half of 29 that would be productive in this east-west Morrow formation?

A. Yes, sir.

Q All right, sir, let me ask you this: In view of the fact that historically wells in this area have deviated to the north at six thousand feet, one of them is over two hundred and sixty-seven feet, almost due north. If this well does that that's going to take him out of his bottom hole, out of his red area, isn't it, Mr. Patterson?

A. I think you have to realize that the geology is based on surface location and where if all of the wells had deviated to the north two hundred and fifty to three hundred feet, that area would be shifted to the north two hundred and fifty to three hundred feet.

Q Would you be willing to recommend to your company that they drill a well six, sixty feet from the south line and directionally control it and bottom it, say, within fifty feet of the surface location; do you still think you could make a well if you do that?

A. We do not propose to directionally drill a well in this location due to the cost.

Q Do you think you could make a well regardless of the orientation of the Morrow formation, if that well was bottomed six hundred and sixty feet from the south line of your lease?

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egardless	3 _{, C}	of the	orie	ntatio	n?	?		<

- Q Yes, whether it is generally northeast-southwest as we see on your Exhibit Two or whether it is almost due east and west as we see by the brown lines or your Exhibit Six, regardless of that?
 - A. If it is either one or the other?
- Q. Yes, it doesn't matter, would you recommend to your company that they locate the bottom hole of the well six hundred and sixty feet from the south line?
 - A. Six hundred and sixty feet from the south line?
 - Q. Yes, sir.
- A. Yes, sir, that looks like that would be the location we are going to end up with at our particular well.
- Q Under your testimony and observation of the historical drift?
 - A. Yes, sir.
- Q. Is the Wolfcamp also productive in this area, Mr. Patterson?
 - A. Yes, sir.
 - Q. Are you familiar with the rules for the Wolfcamp?
- A. No, sir, not completely. I understand there is a hundred-and-sixty-acre spacing, I believe. No, eighty-acre spacing, I'm sorry, for Wolfcamp production in this area. I believe your Number 4 Well is a Wolfcamp completion

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and I'm not certain if it is eighty-acre spacing or --

- Q. Would you accept my word that your proposed location is also off-patterned and unorthodox under the Wolfcamp rules?
 - A. Yes, sir, I would.
- Q. Your company has no intention of attempting to complete this well in the Wolfcamp?
- A. If the Wolfcamp formation is there and is productive, yes, sir, we would.
- Q Then you realize right now that it is off-patterned and unorthodox as to the Wolfcamp?
 - A. Yes, sir, I do, based on what you have told me.
- Q. Is your basic objective the Morrow or is your basic objective really the Wolfcamp?
 - A. The basic objective is the Morrow.

 MR. BUELL: That's all I have, Mr. Examiner.

CROSS EXAMINATION

BY MR. STAMETS:

- Q Mr. Patterson, would it be the intention of General American to run a directional survey on this well to determine the bottom-hole location?
- A. We had not anticipated doing one unless required to do so.
- That would be the only way of determining where the hole would bottom?

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The data that I have presented is from directional surveys, as you are aware, it employs a directional type tool. It may not be as accurate as a commercial directional survey but it certainly is fairly accurate and we might be able to do something like that rather than -- or we would rather do something like that rather than a directional 6 (THEREUPON, a discussion was held off survey. 7

FURTHER CROSS EXAMINATION

Mr. Patterson, I failed to ask you this, I intended BY MR. BUELL: to, looking again at your Exhibit Six and particularly the area shaded in red which is the only area in which you could make a Morrow well if the orientation of this Morrow reservoir is in almost an east-west direction, are you with me up to there? 18

Yes, sir.

the record.)

In the event that the orientation of the Morrow is in an east-west direction, in your opinion, would there even be enough reserves under the west half of 29 to even pay for the well?

I haven't calculated it, but I doubt if there would

be.

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Q.	Do	you thin	k that	there	could	be?

- A. It would depend on the thickness of it.
- Q Approximately how many productive acres would there be in the west half of 29, in the event that the orientation of the reservoir is east and west?
 - A. Fifteen to twenty acres, just glancing at it.
- Q And you say the possibility exists that a Morrow well might be profitable if it could only drain fifteen acres?
- A. It certainly would depend on the gas price, the gas prices are changing so fast that it is rather difficult to say MR. BUELL: That's all I have, Mr. Examiner.

FURTHER CROSS EXAMINATION

BY MR. STAMETS:

- Q. Mr. Patterson, I would like to ask you some questions, just general on rights and on drainage. On a three-hundred-and-twenty-acre unit such as you have here for gas, is the standard spacing no closer than nineteen hundred and eighty-eight to the end boundary and no closer than six hundred and sixty feet from the side boundary of the tract?
 - A. That is my understanding.
- Q And at a location like that, would there be any question whatsoever as to your rights to drill and produce?
 - A. No, sir.
 - Q So you at that point would have a hundred percent

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right, so to speak?

A. Yes, sir.

Q. Okay. Now, looking at any of your map exhibits, just assume now for the moment that you had a standard location say, six, sixty from the west line and nineteen hundred and eighty from the south line, that would be a standard, legal location. If you moved to the south from that standard, legal location, to the point where you entered Section 32, would you have any right whatsoever to drill and/or produce at this point.

- A On the lease line?
- Q Just over the lease line.
- A. Just over the lease line?
- Q. Yes.
- A. No, sir.
- Q. So at that point you would have zero rights?
- A. Yes, sir.
- Q. So if you were to draw a line or curve from the standard location to the location just off the lease, you would go from zero to one hundred percent or one hundred percent down to zero, as far as operating rights are concerned?
- A. Well, I know you are zero at the lease line and you are and you certainly have every right at the location specified. I don't know if there is a curve I would care to

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construct, but go ahead, I'm sorry.

Q But you could do the same sort of a thing then as far as an east-west line would be concerned. If you get off your lease you don't have any operating rights, if you are at a standard location you have a hundred percent?

- A All right.
- Now, in setting up spacing patterns, do you feel that one of the reasons for this is to put wells in there for points of good drainage to allow drainage and counterdrainage between leases to protect the correlative rights?
 - A. Would you please repeat the question, I'm sorry?
- Q The Commission establishes spacing patterns for pools?
 - A. Right.
- Q Do you feel that one of the reasons for this is that the wells are so spaced that there will be drainage and counter-drainage between leases to protect correlative rights?
 - A. Yes, sir.
- Q You don't have rectangular drainage so that you only drain your own lease but any well would almost always drain something from the other lease?
 - A. Yes, sir.
- O Okay. If we would go back here to any of your map exhibits, say Exhibit Nine, and we would put a well at the closest possible standard loction to Section 32, it would

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...

be a point roughly nineteen hundred and eighty feet from the south line and if we were to draw a circle on there such that you would have three hundred and twenty acres of drainage, would that circle, in your opinion, cross over into Section 32?

- A. Which would be to the south?
- Q. Yes.
- A. Yes, it would.
- Q So even at a standard location, assuming radial drainage, you would be draining some from Section 32? Now, if you move down to the location that you have proposed here and draw that same circle, would you have increased your radius of drainage in Section 32?
 - A. Yes, I would on a circle.
- Q Okay. If the Commission were to consider a penalty to be imposed upon this well for its unorthodox location, do you think that these are things that the Commission should consider, drainage patterns and deviation from standard spacing?
- A. I think you would have a difficult time with the past history of what's gone on in the State. I think your spacing units are not necessarily based on geology. I think if they were based on geology you might be able to better protect your correlative rights. To be able to do it on a straight, rectangular basis I think it's very difficult. In order for us to protect ourselves, if for instance, we have the ten or fifteen acres productive on our land where we have

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a difficult time doing it under the current regulations, let's put it that way.

Q As a practical matter, would it be possible for the Commission to do as you proposed, allow the wells to be drilled first and then establish this basic pattern?

- A. As a practical matter?
- Q Yes, is that a viable possibility?
- A. I think it's done in some states, is it not?
- Q. You are the one testifying.
- A. I believe it is in Louisiana. I understand that the wells are drilled and the spacing unit set up subsequent to that.
- Q. Spacing units to designate exactly what acreage, in other words, let's go back to your Exhibit Number Six. If this were Louisiana and you drilled that well on the brown line and it turned out to be the prevailing factor, would we establish a spacing unit consisting of fifteen acres from your tract and maybe a hundred and sixty acres from Amoco's tract?
- A. I believe that is my understanding of it. I'm not an expert on south Louisiana unitization. Mr. Darnall is if you would like to pose that question to him.
- Q. I would certainly like to have that point clarified before the hearing is adjourned.

Has General American considered pooling their

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interests in, say, the southwest of Section 29 with Amoco's interest or the unit interest in the northwest of 32 to form a three-hundred-and-twenty-acre spacing unit?

No, sir, we have not.

MR. STAMETS: That's all the questions I have of this witness, but I would like Mr. Darnall to clarify the point on Louisiana.

LARRY DARNALL

recalled as a witness, having been previously sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. EATON:

- Mr. Darnall, did you hear the Examiner's questions of Mr. Patterson concerning Louisiana practices?
 - Yes, sir. A.
- Have you testified before the regulatory body in Louisiana?
 - Many, many times, yes. A.
- Would you relate what the practices are then in Louisiana to your knowledge?
- Yes, units in Louisiana are based entirely on geology. There are some old units in north Louisiana which are proration units as we have these, but in south Louisiana and new units in north Louisiana are based on geology in a

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 - A. Many, many times, yes.
- Q Would you relate what the practices are then in Louisiana to your knowledge?
- A. Yes, units in Louisiana are based entirely on geology. There are some old units in north Louisiana which are proration units as we have these, but in south Louisiana and new units in north Louisiana are based on geology in a

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Phone (505) 982-9212

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case like this. I think that was your question. well is drilled General American and Amoco would present their geological interpretation of the productive area with geological exhibits to the Commission. The Commission then could either form a unit, which they believed encompassed the geological productive area that was similar to what General American presented or what Amoco presented or if they didn't believe either one of them or felt that neither one was right they could come up with a State Exhibit A, which is their own exhibit, showing the productive area. Naturally units for oil are much smaller than the units for gas and it depends on depth just like it does here. If you have one reservoir that may have ten gas wells in it, you may have ten units within that reservoir but the exterior boundaries will be based on geology. You might have ten units of roughly a hundred and sixty or three hundred and twenty acres within the reservoir but they would have interior boundaries that were simply based on keeping the units approximately the same size but the exterior boundaries would be based on geology, say a fault or whatever is the trapping mechanism there. In this case that's what would happen.

MR. STAMETS: I don't know that the Louisiana regulations would have any bearing on what's done in New Mexico but --

A. I don't either.

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CROSS EXAMINATION

BY MR. STAMETS:

Q In Louisiana would you be allowed to drill a location like this without specific approval of the Commission?

A. No, in Louisiana to get a location that would be closer than four, sixty-seven to the lease line you would have to, they call it rather than an unorthodox location, an exceptional location, you would have to go before the Commission just as you do here and apply for an exceptional location.

Q And suppose you drilled your well four hundred and sixty-seven feet away which would be legal in Louisiana, not in New Mexico, would Amoco there be allowed to come in and drill a well four hundred and sixty-seven feet from the north line of Section 32?

A In all liklihood, but probably they wouldn't want to, probably if it was a good well they would try to take three-quarters of the well away from us, which by presenting a picture showing that three-quarters of the reservoir is on them, they could do it, if the Commission bought it. They would have to pay their share of the well costs.

Q Again, my question is: Does this seem like a very practical operation to you, as opposed to the way it is done in New Mexico?

Mell, I consider it the most equitable way you can

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- Q That wasn't the question, the question was, practical?
- A. Practical? It seems to work. Yes, I would have to say, yes, I think it is practical, I do.
- Q Now, assuming, for the moment, that you have fifteen productive acres in Section 29 and that was all that you had under lease.
 - A. Yes
- Q Would you drill this well for fifteen productive acres in the Morrow?
- A. If I knew the sand underneath it was going to be sixty feet thick I might. I guess if I knew that we had the fifteen acres productive, what the pay was -- no, I wouldn't drill it with only fifteen acres unless I knew what was down there.
- Q In the example that you gave us of Louisiana where Amoco might come in and take seventy-five percent of the well, again, would that be a real economical situation for General American?
- A. Well, Amoco would have to pay for seventy-five percent of the well.
- Q You would only receive then twenty-five percent of the proceeds?
 - A. That's right.
 - MR. STAMETS: Any other questions? The witness may

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be excused.

(THEREUPON, the witness was excused.)

MR. STAMETS: Anything further in this Case?

MR. BUELL: I have a very brief closing statement, and I'll make it brief, Mr. Examiner, because I have already taken up more time than I intended to.

I think the key to this entire Case is Exhibit Signary.

One, it shows that if the Morrow reservoir under this proposed location is oriented in a northeast-southwest direction like the adjacent Morrow reservoir is as shown on Exhibit Two, that an orthodox location could be made and an unorthodox location is not even necessary.

And, two, if that is not the case, but in truth and fact the reservoir is oriented in an almost due east-west direction, the Applicant does not have sufficient productive acreage, by his own testimony, to even pay out a well or would they recommend drilling a well into that small amount of productive acreage if that is all that well could drain?

So for this reason, Mr. Examiner, it is our recommendation that this application be denied. I don't see how from a practical standpoint a penalty could be assessed that would effectively protect the correlative rights of the offset operators.

MR. STAMETS: Mr. Eaton, do you have a closing

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MR. EATON: Yes, sir, Mr. Examiner. I believe the evidence has shown that this is a high-risk well, that the control data leaves something to be desired. No one knows exactly where the channel is located. I think General American has demonstrated that in its prudence it is seeking the best possible location, where it has the best chance of obtaining production. Now, as it was pointed out, we are really not talking about a bottom-hole location of three hundred and thirt feet, we are talking about a bottom-hole location of some six hundred to six hundred and thirty feet from the south line. At such a location we are not talking about ten, fifteen or twenty acres, we are talking about forty acres, I believe, under the worst circumstance of formation.

I think the Commission ought to respect the fact that General American is going to be paying the entire cost of this well and in doing so it feels that this is the only location at this time that it could justify. Thank you.

MR. STAMETS: We will take the Case under advisement and take a short recess.

(THEREUPON, the Hearing was in recess.)

Page_____43

REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a court reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the state is a true and correct record of the said proceedings to the best of my knowledge, skill and ability.

Sidney F. Morrish, Court Reporte

i do hereby certify that the foregoing ie a complete record of the proceedings in the Examiner hearing of Case No. 5574, heard by ge on 12-3. 1925

Examiner Examiner Examiner Examiner Commission

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ATWOOD, MALONE, MANN & COOTER LAWYERS

JEFF D. ATWOOD [1883-1960] ROSS L. MALONE [1910-1974]

CHARLES F. MALONE
RUSSELL D. MANN
PAUL X. COOTER
ROBERT A. JOHNSON
JOHN W. BASSETT
ROBERT E. SABIN
RUFUS E. THOMPSON

RALPH D. SHAMAS

P. O. DRAWER 700 SECURITY NATIONAL BANK BUILDING ROSWELL, NEW MEXICO 88201 [505] 622-6221

December 1, 1975

Mr. Joe Ramey, Director Oil Conservation Commission P. O. Box 871 Santa Fe, New Mexico 87501

RE: Examiner Hearing on December 3, 1975

Dear Mr. Ramey:

Please file the enclosed Entry of Appearance in Case No. 5594, for Amoco Production Company.

Thank you and with best regards, I am,

CFM:sgs Enclosure

cc: Guy T. Buell, Esquire

DEC 3 - 1975

L CONSERVATION COMM.
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BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION)
OF GENERAL AMERICAN OIL COMPANY)
OF TEXAS FOR AN UNORTHODOX WELL)
LOCATION, GRAYBURG GAS FIELD,
EDDY COUNTY, NEW MEXICO.

Case No. 5594

ENTRY OF APPEARANCE

The undersigned Atwood, Malone, Mann & Cooter of Roswell, New Mexico, hereby enter their appearance herein for Amoco Production Company, with Guy Buell, Esquire, of Houston, Texas.

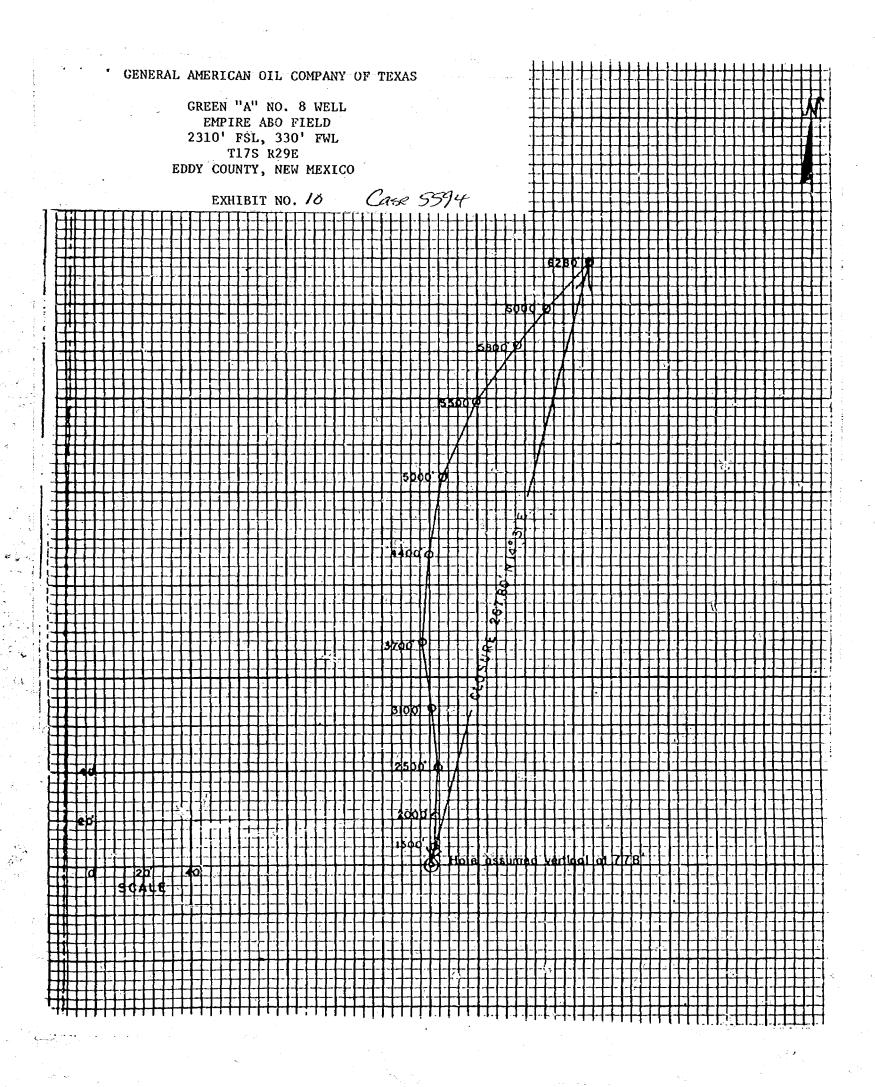
ATWOOD, MALONE, MANN & COOTER

Attorneys for Amoco Production

Company

P. O. Drawer 700

Roswell, New Mexico 88201



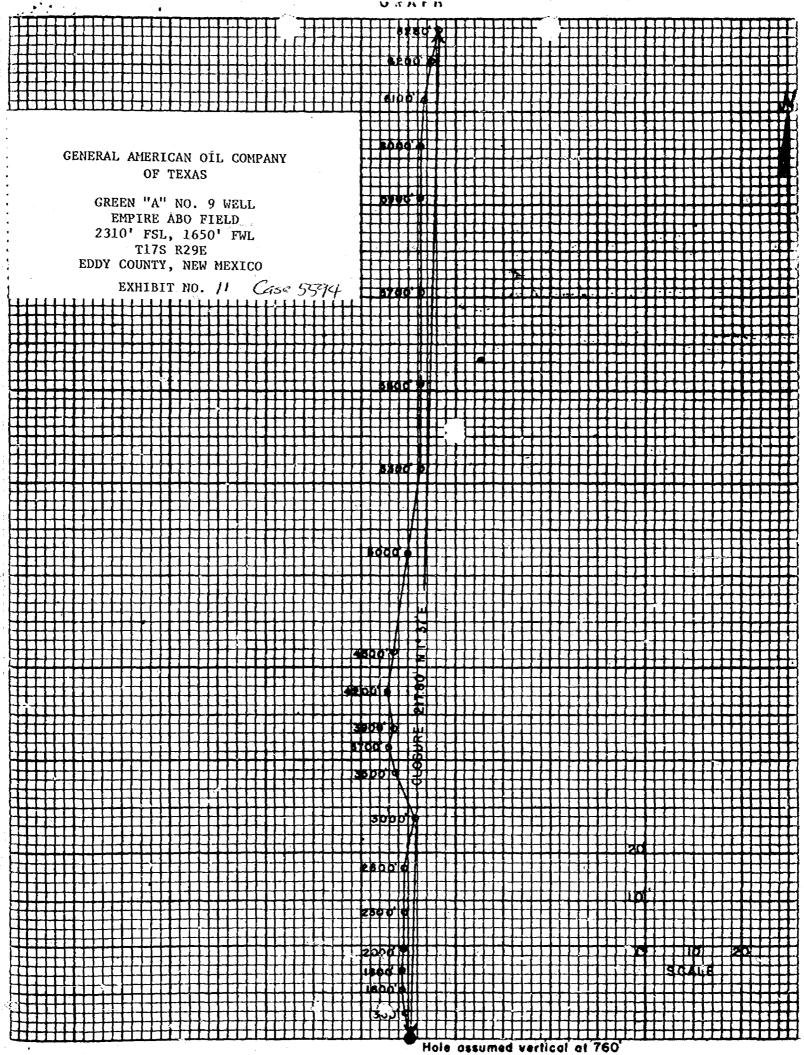


Exhibit No. 17 Case 5594

Green "A" #3 Well

Grayburg Atoka Field
Eddy County, New Mexico - Directional Data From Dipmeter

WTP (12/1/75)

	Dist. Since Last		Relative	Bearing From	True	•	Horizontal Displacement	Horizontal Displacement	Horizontal Displacement
Depth	Survey	Azimuth	Bearing	Mag. North	Bearing	Deviation	Ft.	North-Ft.	East-Ft.
8000 o		100	105	355	7°	2°10'	• •		
8140	140	95	95	0	12°	2°	4.89	4.78	0.21
8350	210	360	360	0	12°	1°30'	5.50	5.38	0.23
8700	350	218	228	350	2°	1°	6.13	6.13	J. 21
8950	250	58	110	308	320	10	4.38	3.36	(2.82)
9150	200	50	90	320	3,32	1°	3.50	3.09	(1.64)
9650	500	187	230	317	329	1°10'	10.20	8.74	(5.25)
9900	250	-50	94	316	328	1°10'	5.10	4.32	(2.70)
10200	300	122	179	303	31 5	1°10'	6.12	4.32	(4.32)
10700	500	68	85	343	355	1°10'	10.2	10.16	(0.89)
10928	228	20	20	0	12	1°	3.99	3.90	0.83
•		•					.4 -	54.18	(16.14)
							4.		

In drilling from 8000' to 10928', the well bore deviated 54.18' north and 16.14! west from the location of the well bore at a depth of 8000'.

GENERAL AMERICAN OIL COMPANY OF TEXAS

DALLAS, TEXAS, 752

November 13, 1975

CERTIFIED MAIL/RETURN RECEIPT REQUESTED

Offset Operators, Green "B" Well Spacing Unit W/2 of Section 29, T-17-S, R-29-E Eddy County, New Mexico (Address List Attached)

> RE: Application to the New Mexico Oil Conservation Commission for Approval of an Unorthodox Cas Well Location Eddy County, New Mexico

Gentlemen:

Attached for your information is a copy of General American's application to the New Mexico Oil Conservation Commission to drill a well, which we understand offsets acreage owned by your company.

Should you have any questions regarding this matter, please contact the undersigned, or Mr. L. J. Darnall, Assistant Vice President, Geology, in our Dallas office.

Yours very truly,

GENERAL AMERICAN OIL COMPANY

W. T. Patterson

Asst. Vice President, Production

Attachments

cc: New Mexico Oil Conservation Commission

P. O. Box 2088

Santa Fe, NM 87501

] W/Copy of Application

N. W. Krouskop] R. L. Crow

W/Copy of Application

L. J. Darnall

File (3) C-1, PLW-1, 3-1

ADDRESS LIST

OFFSET OPERATORS, GREEN "B" WELL SPACING UNIT

EDDY COUNTY, NEW MEXICO

Amoco Petroleum Company
Attention Mr. Alex Clarke District Superintendent
Box 367
Andrews, TX 79714

Continental Oil Company
Attention Mr. L. P. Thompson, District Manager
Box 460
Hobbs, NM 88240

Depco, Inc.
Attention Mr. C. O. Bizell
District Production Superintendent
800 Central
Odessa, TX 79761

Kersey & Company 808 West Grand Avenue Artesia, NM 88210

Kincaid & Watson Drilling Co. Box 498, 300 Booker Building Artesia, NM 88210

Shenandoah Oil Corporation Attention Mr. C. W. Downey, District Superintendent Box 2189 Hobbs, NM 88240

Tenneco Oil Company 1200 Lincoln Tower Denver, CO 80203

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

	GENERAL AMERICAN
OIL COMPANY OF	TEXAS FOR AN
OIL COMPANY OF UNORTHODOX GAS	WELL LOCATION,
EDDY COUNTY, NI	EW MEXICO.

APPLICATION

- 1. General American Oil Company of Texas, acting by and through its undersigned attorneys, hereby makes application for an unorthodox gas well location. Applicant seeks approval of an unorthodox gas well location for its Green "B" No. be located 330 feet from the South line and 1150 feet from the West line of Section 29, Township 17 South, Range 29 East, N.M.P.M., Eddy County, New Mexico.
- 2. Applicant desires to drill a well approximately 11,000 feet in depth to test the Pennsylvanian formation. The Wk Section 29, Township 17 South, Range 29 East, N.M.P.M. will be dedicated to the well. The unorthodox location is desired for the reason that it is the best geological location.
- 3. Approval of the unorthodox location will be in the interest of conservation, prevention of waste and protection of correlative rights.
- Applicant will furnish all offset operators with a copy of this application.
- Applicant requests that the application be set down for the examiner's hearing scheduled December 3, 1975.

Respectfully submitted,

HINKLE, BONDURANT, COX & EATON

O. Box 10

Roswell, New Mexico 88201 Attorneys for General American

Docket No. 31-75 is tentatively set for hearing on December 17, 1975. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - DECEMBER 3, 1975

9 A.M. - OIL CONSERVATION COMMISSION 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 5593: Application of Yates Petroleum Corporation for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Caffell FD Well No. 1 to be drilled at a point 660 feet from the South line and 1980 feet from the East line of Section 15, Town-ship 17 South, Range 26 East, Kennedy Farms Field, Eddy County, New Mexico, the E/2 of said Section 15 to be dedicated to the well.

CASE 5594: Application of General American Oil Company of Texas for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled 330 feet from the South line and 1150 feet from the West line of Section 29, Township 17 South, Range 29 East, Grayburg Gas Field, Eddy County, New Mexico, the W/2 of said Section 29 to be dedicated to the well.

CASE 5595: Application of Harrington Transportation Inc. for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Higgins Well No. 1 to be drilled 990 feet from the North and East lines of Section 13, Township 18 South, Range 26 East, Atoka-Pennsylvanian Gas Pool, Eddy County, New Mexico, the E/2 of said Section 13 to be dedicated to the well.

CASE 5583: (Continued from November 19, 1975 Examiner Hearing)

Application of Stevens Oil Company for a pilot waterflood project, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pilot waterflood project in the Twin Lakes-San Andres Pool by injection of produced water through its Twinlakes Oil Company Well No. 1, located in Unit D of Section 12, Township 9 South, Range 28 East, Chaves County, New Mexico.

CASE 5591: (Continued from November 19, 1975 Examiner Hearing)

Application of Amoco Production Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a well at an unorthodox location 1980 feet from the South line and 1241 feet from the West line of Section 33, Township 17 South, Range 29 East, Grayburg-Morrow Gas Pool, Eddy County, New Mexico, the S/2 of said Section 33 to be dedicated to the well.

CASE 5588: (Continued from November 19, 1975 Examiner Hearing)

Application of Amoco Production Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval to commingle Gonzales-Mesaverde and Basin-Dakota gas production in the wellbore of its Jicarilla Contract 146 Well No. 11, located in Unit K of Section 4, Township 25 North, Range 5 West, Rio Arriba County, New Mexico.

CASE 5596: Application of Burk Royalty Company for statutory unitization, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order unitizing, for the purpose of secondary recovery, all mineral interests in the Queen formation underlying the following-described lands, Double L-Queen Pool, Chaves County, New Mexico:

TOWNSHIP 14 SOUTH, RANGE 29 EAST, NMPM

Section 23: E/2 SE/4

Section 24: W/2 SW/4

Section 25: NW/4, SW/4 NE/4, N/2 SW/4, SE/4 SW/4,

W/2 SE/4, & SE/4 SE/4

Section 36: NE/4 NW/4, NE/4, N/2 SE/4, & SE/4 SE/4

TOWNSHIP 14 SOUTH, RANGE 30 EAST, NMPM Section 31: W/2, W/2 SE/4, & SE/4 SE/4

TOWNSHIP 15 SOUTH, RANGE 29 EAST, NMPM

Section 1: E/2 E/2

Section 12: NE/4 & E/2 SE/4

Section 13: NE/4 NE/4

Among the matters to be considered at the hearing will be the necessity of unit operations and the feasibility of the proposed secondary recovery program; the designation of a unit operator; the determination of the horizontal and vertical limits of the unit area; the determination of a fair, reasonable, and equitable allocation of production and costs of production, it cluding capital investment, to each of the various tracts in the unit area; the determination of credits and charges to be made among the various owners in the unit area for their investment in wells and equipment; and such other matters as may be necessary and appropriate for carrying on efficient unit operations; including, but not necessarily limited to, unit voting procedures, selection, removal, or substitution of unit operator, and time of commencement and termination of unit operations.

CASE 559/: Southeastern New Mexico nomenclature case calling for an order for the creation and extension of certain pools in Eddy County, New Mexico.

(a) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the Crow Flats-Morrow Cas Pool. The discovery well is the Samedan Oil Corporation Amoco Federal Well No. 1 located in Unit G of Section 19, Township 16 South, Range 28 East, NAPM. Said pool would comprise:

TOWNSHIP 16 SOUTH, RANGE 28 EAST, NMPM Section 19: N/2

(b) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the Sitting Bull Falls-Morrow Gas Pool. The discovery well is the American Quasar Petroleum Company of New Mexico Huber State Well No. 1 located in Unit F of Section 36, Township 23 South, Range 22 East, NMPM. Said pool would comprise:

TOWNSHIP 23 SOUTH, RANGE 22 EAST, NMPM Section 36: W/2

(c) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the Little Box Canyon-Morrow Gas Pool. The discovery well is the Cities Service Oil Company Little Box Canyon Unit Well No. 1, located in Unit J of Section 7, Township 21 South, Range 22 East, NMPM. Said pool would comprise:

TOWNSHIP 21 SOUTH, RANGE 22 EAST, NMPM Section 7: S/2

(d) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Strawn production and designated as the Cottonwood Draw-Strawn Gas Pool. The discovery well is the Robert N. Enfield Cottonwood Draw Unit Well No. 1, located in Unit L of Section 20, Township 25 South, Range 27 East, NMPM. Said pool would comprise:

TOWNSHIP 25 SOUTH, RANGE 27 EAST, NMPM Section 20: W/2

(e) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Atoka production and designated as the Twin Mills-Atoka Gas Pool. The discovery well is the Perry R. Bass Poker Lake Unit Well No. 42 located in Unit G of Section 10, Township 25 South, Range 30 East, NMPM. Said pool would comprise:

TOWNSHIP 25 SOUTH, RANGE 30 EAST, NMPM Section 10: N/2

(f) EXTEND the Atoka San Andres Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM Section 21: N/2 SE/4

(g) EXTEND the Avalon-Morrow Gas Poel in Eddy County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 27 EAST, NMPM Section 29: W/2Section 31: N/2

Section 32: W/2

Examiner Hearing - Wednesday - December 3, 1975

Docket No. 30-75

(h) EXTEND the Boyd-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 25 EAST, NMPM Section 7: £/2
Section 8: W/2

(1) EXTEND the South Empire-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 28 EAST, NMPM Section 1: S/2

(j) EXTEND the South Empire-Wolfcamp Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 29 EAST, NMPM Section 30: S/2 SE/4
Section 31: N/2 NE/4
Section 32: N/2 NW/4

(k) EXTEND the South Sand Dunes Lower Penn Gas Pool in Eddy County, New Mexico, to include therein:

Section 2: W/2
Section 3: N/2

(1) EXTEND the White City-Pennsylvanian Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 26 EAST, NMPM Section 22: All

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BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION Sonta Co

STATE OF NEW MEXICO

APPLICATION OF GENERAL AMERICAN OIL COMPANY OF TEXAS FOR AN UNORTHODOX GAS WELL LOCATION, EDDY COUNTY, NEW MEXICO.

Case No. 5594

APPLICATION

- 1. General American Oil Company of Texas, acting by and through its undersigned attrineys, hereby makes application for an unorthodox gas well location. Applicant seeks approval of an unorthodox gas well location for its Green "B" No. well to be located 330 feet from the South line and 1150 feet from the West line of Section 29, Township 17 South, Range 29 East, N.M.P.M., Eddy County, New Mexico.
- 2. Applicant desires to drill a well approximately 11,000 feet in depth to test the Pennsylvanian formation. The Wig Section 29, Township 17 South, Range 29 East, N.M.P.M. will be dedicated to the well. The unorthodox location is desired for the reason that it is the best geological location.
- 3. Approval of the unorthodox location will be in the interest of conservation, prevention of waste and protection of correlative rights.
- 4. Applicant will furnish all offset operators with a copy of this application.
- 5. Applicant requests that the application be set down for the examiner's hearing scheduled December 3, 1975.

Respectfully submitted,

HINKLE BONDURANT, COX & EATON

DOCKET MAILED

Date_11/21/25.

B O Boy 10

Roswell, New Mexico 88201

Attorneys for General American



BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

APPLICATION OF GENERAL AMERICAN OIL COMPANY OF TEXAS FOR AN UNORTHODOX GAS WELL LOCATION, EDDY COUNTY, NEW MEXICO.

Case No. 5594

AFPLICATION

- 1. General American Oil Company of Texas, acting by and through its undersigned attorneys, hereby makes application for an unorthodox gas well location. Applicant seeks approval of an unorthodox gas well location for its Green "B" No. well to be located 330 feet from the South line and 1150 feet from the West line of Section 29, Township 17 South, Range 29 East, N.M.P.M., Eddy County, New Mexico.
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- 5. Applicant requests that the application be set down for the examiner's hearing scheduled December 3, 1975.

Respectfully submitted,

HINKLE, BONDURANT, COX & EATON

P. O. Box 10

Roswell, New Mexico 88201

Attorneys for General American

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

JIL CONSERVATION COMM. Santa Fe

APPLICATION OF GENERAL AMERICAN OIL COMPANY OF TEXAS FOR AN UNORTHODOX GAS WELL LOCATION, EDDY COUNTY, NEW MEXICO.

Case No. 5591

APPLICATION

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- 2. Applicant desires to drill a well approximately 11,000 feet in depth to test the Pennsylvanian formation. The W¹/₂ Section 29, Township 17 South, Range 29 East, N.M.P.M. will be dedicated to the well. The unorthodox location is desired for the reason that it is the best geological location.
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Respectfully submitted,

HINKLE, BONDURANT, COX & EATON

Roswell, New Mexico 88201

Attorneys for General American

Case 5594

LAW OFFICES

HINKLE, BONDURANT, COX & EATON

ROSWELL, NEW MEXICO

TELEPHONE (505) 622-6510

600 HINKLE BUILDING POST OFFICE BOX 10

MR. ISBELL LICENSED IN TEXAS ONLY

W. E. BONDURANT, JR. (1914-1973) LEWIS C.COX,JR. PAUL W. EATON, JR. CONRAD E.COFFIELD HAROLD L.HENSLEY, JR. STUART D. SHANOR C. D. MARTIN

CLARENCE E. HINKLE

JAMES H. BOZARTH

JAMES H. ISBELL

PAUL J. KELLY, JR.

November 10,

21 MIDLAND TOWER

CONSERVATION COMM. Santa Fo

New Mexico Oil Conservation Commission P. O. Box 2088 Santa Fe, New Mexico 87501

Gentlemen:

We enclose in triplicate, application of General American Oil Company of Texas for an Unorthodox Gas Well Location in Eddy County, New Mexico.

We would like to have this matter set down for hearing at the examiner's hearing scheduled December 3, 1975.

Yours very truly,

HINKLE, BONDURANT, COX & EATON

faul W. Eaton, Jr.

PWE/jw Enclosure

BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

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

CASE	NO.	5594	1	•	
	-	-		~~~	
Ordán	c No	Ω	(132		

APPLICATION OF GENERAL AMERICAN OIL COMPANY OF TEXAS FOR AN UNORTHODOX GAS WELL LOCATION, EDDY COUNTY, NEW MEXICO.

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ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 3, 19 75, at Santa Fe, New Mexico, before Examiner Richard L. Stamets

NOW, on this day of December , 1975 , the Commission, a quorum being present, 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 Commission has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, General American Oil Company of Texas, seeks approval of an unorthodox gas well location 330 feet from the South line and 1150 feet from the West line of Section 29, Township 17 South, Range 29 East, NMPM, to test the Wolfcamp and formation, Grayburg Gas Field, Eddy County, New Mexico.

Pennsylvanian

- (3) That the W/2 of said Section 29 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.
- . (5) That no offset operator objected to the proposed unorthodox location.

cause drainage across lease lines 170 to offset by counter drainage there by violating the correlative rights of the offset operator.

(6) That to profect correlative rights, The subject application should be denied

-2-Case No. 5594 Order No. R-

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 Greneral / Tomorican Company of wall formation is hereby approved for a well

proposa

feet from the West line of Section 29, Township 17 South, Range 29 East, NMPM, Grayburg Gas Field, Eddy County, New Mexico.

That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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