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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 7, 1964

EXAMINER HEARING

IN THE MATTER OF:

Application of Gulf Oil Corporation for
a unit agreement, Lea County, New
Mexico. Applicant, in the above-styled
cause, seeks approval of the Northwest
Tatum State Unit Area comprising 1600
acres of State land in Township 12
South, Range 35 East, Lea County, New
Mexico.

Case No. 3042

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING



MR. NUTTER: We will call Case 3042.

MR. DURRETT: Application of Gulf Oil Corporation for a unit agreement, Lea County, New Mexico.

MR. KASTLER: Bill Kastler, appearing on behalf of the Applicant, Gulf Oil Corporation. Our two witnesses will be Mr. J. P. Cavanaugh and Mr. R. H. Cress.

(Witnesses sworn.)

J. P. CAVANAUGH

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

DIRECT EXAMINATION

BY MR. KASTLER:

Q Will you please state for the record your name, where you are from and what your position is?

A My name is J. P. Cavanaugh. I am with Gulf Oil Corporation, Roswell, New Mexico, and I am a land man with that firm.

Q Have you previously appeared before an Examiner of the New Mexico Oil Conservation Commission and given testimony--

A I have.

Q -- as a petroleum land man? Are you familiar with the area which we have proposed as our Northwest Tatum State Unit?

A I am.

MR. KASTLER: Are the witness's qualifications satis-



factory?

MR. NUTTER: Yes, sir, they are.

(Whereupon, Applicant's Exhibit No. 1 was marked for identification.)

Q I call your attention to a plat which you've marked Exhibit No. 1, Mr. Cavanaugh, will you please explain what is shown on this plat?

A On Exhibit No. 1 is shown in a hatched, colored outline area 1600 acres to be known as the Northwest Tatum State Unit. At a location 1980 from the South and East line of Section 10 is shown the proposed location for the initial unit test well.

Q What is the characteristic of the land and the leases?

A The land is state land, under state leases, one hundred percent of the unit area.

Q One hundred percent state oil and gas leases?

A That's correct.

Q What is the ownership of those leases, if you please?

A The ownership of these leases are Gulf, 42½% of the unit area; Amerada Petroleum, 42½% of the unit area; Skelly Oil Company, 10% of the unit area; Tidewater Oil Company, 5% of the unit area.

(Whereupon, Applicant's Exhibit No. 2 was marked for identification.)

Q I now call your attention to a proposed unit agreement

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which has been marked Exhibit No. 2. Will you give the geographic description of the land covered by this proposed unit?

A In Township 12 South, Range 35 East, Section 10, all of Section 10; Section 11, the West Half; Section 14, the Northwest Quarter; Section 15, the North Half of the Southwest Quarter, containing 1600 acres more or less.

Q What are the unitized formations or formation in this unit to be unitized?

A The unitized formations are from the surface to all depths.

Q Is this an exploratory unit?

A This is an exploratory unit.

Q Who is the unit operator?

A Gulf Oil Corporation.

Q What are the provisions pertaining to a successor operator, the selection of a successor?

A A 75% vote of the working interest ownership on an acreage basis.

Q Subject further to the approval of the Commissioner of Public Lands?

A That's correct.

Q You have stated this is an exploratory unit. What is the depth of the proposed initial test well?



A The proposed initial test well is to be drilled to 11,500 feet, or to a depth sufficient to penetrate the top 50 feet of the Pennsylvanian Strawn formation. The top of the Strawn is here-in agreed to be the point encountered at 11,575 feet by electrical logs in the Skelly No. 1 West Tatum Unit test in Section 26, Township 12 South, Range 35 East.

Q Does the unit agreement call for continuous drilling until development or until production is obtained?

A Yes, for a period of six months between wells.

Q And what is the allocation of royalty that's set up and the allocation of working interest?

A On an acreage basis.

Q So that if there were one tract of 80 acres, that party would have 80-.16ths of the production, is that correct?

A That is correct.

Q What are the provisions as to the effective date, the term and the termination of the unit agreement?

A The effective date is on approval by the Commissioner. That is the effective date.

Q Have you gotten any indication of approval by the Commissioner of Public Lands as yet?

A Yes, we have heard that the state has verbally approved this agreement as to form and content.



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Q What is the term of the unit agreement, did you state?

A I did not state it, but it is for a two-year period unless oil and gas and other utilized substances are produced.

Q What is the provision as to termination, voluntary termination of the unit agreement?

A Voluntary termination would be again the 75% vote of the total working interest on an acreage basis.

Q The form of this unit agreement is strictly literally word for word the form of a state-approved unit, is it not?

A That is correct.

Q What percentage of operators or working interest owners do you have that have indicated they would commit their acreage within the unit to this unit area?

A One hundred percent.

Q Has the instrument as yet been formally executed?

A No, it's in the process of being executed, but we have not yet heard of any execution as yet, other than the execution of Gulf Oil Corporation.

(Whereupon, Applicant's Exhibit No. 3 was marked for identification.)

Q I now call your attention to the unit operating agreement which I will mark or cause to be marked as Exhibit No. 3, and ask you briefly if this is not a pure form of operating



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agreement, Ross Martin form, that is in common custom and useage throughout the oil industry for joint operations?

A That is correct.

Q Are there any deviations from the strict form that you would particularly care to call to the Commission's attention?

A None.

Q Are there any of any substance other than simply operating provisions?

A No, sir, there are not.

Q Does it have the ordinary provision for non consent drilling in the event less than all parties elect to continue drilling after the first well, for instance?

A It does, yes, sir.

Q Was Exhibit No. 1 prepared by you or at your direction and under your supervision?

A That's correct, it was.

Q And Exhibit No. 2 is a true copy of the unit agreement which has been executed by Gulf, although it was our application copy that we transmitted as executed, and which we trust will be executed by the other working interest owners?

A That is correct.

Q And which we trust will be approved by the Commissioner of Public Lands formally after its execution?



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A Yes, sir.

Q And Exhibit No. 3 is the form of operating agreement which is to be used for this unit, executed by all parties?

A Yes, sir.

Q In your opinion would the granting and approving of this unit area prevent waste and protect correlative rights?

A Yes, sir.

MR. KASTLER: This concludes the questions I want to ask this witness on direct.

MR. NUTTER: Are there any questions of Mr. Cavanaugh?

(Witness excused.)

R. H. CRESS

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

DIRECT EXAMINATION

BY MR. KASTLER:

Q Would you please state your name, your position, by whom and where you are employed?

A My name is R. H. Cress. I am the District Exploration Geologist for the Gulf Oil Corporation in Roswell, New Mexico.

MR. NUTTER: Is that K-r-e-s-s?

A C-r-e-s-s.

Q How long have you been the District Geologist in Roswell



for the Roswell District?

A Since 1956.

Q Have you previously appeared before the New Mexico Oil Conservation Commission or an Examiner Hearing and been qualified as an expert petroleum geologist?

A Yes, I have.

Q Are you familiar with the area that's involved in this hearing--

A Yes, I am.

Q --as the Northwest Tatum State Unit Area?

A Yes.

Q I would like to call your attention to a plat you have marked Exhibit No. 4, the legend on which states it is a contour map, Yates Horizon. What does this show that is pertinent to the granting of this application for unitization?

(Whereupon, Applicant's Exhibit No. 4 was marked for identification.)

A This is a geologic subsurface map on the Yates Permian horizon, and it shows the outline of the proposed unit, the proposed location, and located on the proposed unit is a closed structure which represents our interpretation of this particular structural horizon. You will note that the contours interval is at 50 feet.

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Q What points of control did you use in drafting this map?

A Well, in this Township 12 South, 35 East, there were four control points, two of which are not shown on the plat, being the Austral No. 1 State E in Section 6 and the Machoetal No. 1 State in Section 13.

Q This Section 6, that would be at approximately eleven o'clock from the center of the map, would it not?

A Yes. You see Section 5, the next section, of course, is 6.

Q Would you indicate where the location of the other well is, please?

A Well, there are two other wells, one in Section 22, the T. F. Morrow No. 1 State.

Q Which is shown on the plat?

A Which is shown on the plat, and the Skelly No. 1 West Tatum in Section 26.

Q Which is shown on the exhibit?

A Yes.

Q There is still one other that is not shown on the exhibit, would you indicate generally where it bears from your proposed test well?

A One other well, Bill?

Q Yes. You said you had four wells as control --



MR. DURRETT: The Machoetal well.

MR. NUTTER: What's the location of the Machoetal well?

A Section 18, 12 South, 35 East. Here you see Section 17, it would be the next section to the west.

Q Would you discuss how you've drafted and used these control points in drafting this map?

A Well, we feel, of course, this is fair control. It is an interpretation of this data; I think the significant thing is that this Morrow well was a high well structurally, that is high to the regional structure.

Q Then you would conclude this is a reasonable interpretation of the control data that you had available to you?

A Yes, sir.

(Whereupon, Applicant's Exhibit No. 5 was marked for identification.)

Q I now call your attention to Exhibit No. 5, which is a structure contour map on the Devonian, and the seismic picture. What is shown on this, if you please?

A This particular map is contoured on the Devonian horizon, and you will notice that the map is contoured in time. Now, for convenience the ten millisecond interval, contour interval that we used you can use 75 feet, which is roughly the footage equivalent of that time interval. This particular map, as you see, shows



mill control through the unit area, and it shows the structural anomaly centering in Section 10. This particular anomaly we feel has approximately 100 feet of closure at this level.

Q Does Exhibit 5 and the findings there generally confirm what is shown on Exhibit No. 4?

A Yes.

Q What formation is to be tested by the proposed test well?

A Well, our main objective is the Upper Pennsylvanian, the Cisco pays in the Ranger Lake Pool to the west, approximately four miles. We are going down to the Strawn, and if we find any porosity developments in the Strawn which is underlying the canyon, why we will, of course, test those.

Q But the nearest production is the Pennsylvanian production?

A In the Ranger?

Q In the Ranger.

A Yes, sir.

Q What is the proposed cost of the well?

A The proposed cost, well, our estimated cost of the well is \$155,500 on a dry hole basis.

Q \$155,500?

A Yes.



Q Do you know I neglected to cover this spudding date with Mr. Cavanaugh. Do you know the date that is proposed as the spud date for this well?

A No. I know that it is to be as soon as possible.

MR. KASTLER: May I stipulate that the record in Exhibit 3 here would show that on or before July 1 the test well provision here, this well is to be commenced if the unit is approved.

Q Mr. Cress, can you make a statement in conclusion?

A Yes. I might mention that besides the seismic interpretation that shows a structural anomaly, and the subsurface interpretation that shows a high area, a structural anomaly, that we had sample shows in the nearby wells in the San Andres, the Wolfcamp, Abo and Tubb formations. On drill stem test we had slight shows of oil, and in a test of the Abo in the Austral well located in Section 6 they actually had gas to the surface in six minutes and recovered five feet of mud plus a rainbow show of oil.

We have porosity indicated in the reservoirs that we are going to penetrate; this along with the shows and the structure maps makes us feel that it's an excellent possibility for commercial production.

Q Is it a prospect that a reasonable, prudent operator would drill under in forming a unit of this size?

A In my opinion, yes.



Q Were Exhibits 4 and 5 prepared by you or under your direction and supervision?

A Yes.

MR. KASTLER: This concludes the questions, and at this time I would like to move that Exhibits 1, 2, 3, 4 and 5 be admitted into evidence.

MR. NUTTER: Gulf's Exhibits 1 through 5 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 5 were admitted in evidence.)

MR. NUTTER: Are there any questions of Mr. Cress?

CROSS EXAMINATION

BY MR. NUTTER:

Q On your Exhibits 4 and 5, all these little numbered circles along the section lines, are those seismic points?

A No, actually those are shot points.

Q That's what I meant, seismic shot points.

A Yes, they're shot points. I thought you meant of all.

Q What's the wavy line on the west side of the Devonian?

A That's a postulated fault.

Q I realize that the unit agreement calls for testing the Pennsylvania and that it was mentioned that the Strawn tested, yet you have a structure in the Devonian. Is there a possibility that



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this well will be taken to the Devonian if the Pennsylvania looks favorable?

A Yes.

Q On how high you are running when you are in the Pennsylvania?

A Yes.

MR. NUTTER: Are there other questions of Mr. Cress?
He may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. Kastler?

MR. KASTLER: No.

MR. NUTTER: If there's nothing further in this case we will take Case 3042 -- but you have a telegram?

MR. DURRETT: I do have a telegram from Amerada supporting the application.

MR. NUTTER: We will take the Case 3042 under advisement, and the hearing is adjourned.



STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Witness my Hand and Seal this 8th day of June, 1964.

Ada Dearnley
 NOTARY PUBLIC

My Commission Expires:

June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3042, heard by me on May 7, 1964.

[Signature], Examiner
 New Mexico Oil Conservation Commission

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A The land is state land, under state leases, one hundred percent of the unit area.

Q One hundred percent state oil and gas leases?

A That's correct.

Q What is the ownership of those leases, if you please?

A The ownership of these leases are Gulf, $42\frac{1}{2}\%$ of the unit area; Amerada Petroleum, $42\frac{1}{2}\%$ of the unit area; Skelly Oil Company, 10% of the unit area; Tidewater Oil Company, 5% of the unit area.

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A The unitized formations are from the surface to all depths.

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A Gulf Oil Corporation.

Q What are the provisions pertaining to a successor operator, the selection of a successor?

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A The proposed initial test well is to be drilled to 11,500 feet, or to a depth sufficient to penetrate the top 50 feet of the Pennsylvanian Strawn formation. The top of the Strawn is herein agreed to be the point encountered at 11,575 feet by electrical logs in the Skelly No. 1 West Tatum Unit test in Section 26, Township 12 South, Range 35 East.

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Q Have you gotten any indication of approval by the Commissioner of Public Lands as yet?

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Q What is the term of the unit agreement, did you state?

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A Voluntary termination would be again the 75% vote of the total working interest on an acreage basis.

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A That is correct.

Q What percentage of operators or working interest owners do you have that have indicated they would commit their acreage within the unit to this unit area?

A One hundred percent.

Q Has the instrument as yet been formally executed?

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agreement, Ross Martin form, that is in common custom and useage throughout the oil industry for joint operations?

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Q And which we trust will be approved by the Commissioner of Public Lands formally after its execution?



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A Yes, sir.

Q In your opinion would the granting and approving of this unit area prevent waste and protect correlative rights?

A Yes, sir.

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Q Would you please state your name, your position, by whom and where you are employed?

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MR. NUTTER: Is that K-r-e-s-s?

A C-r-e-s-s.

Q How long have you been the District Geologist in Roswell



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for the Roswell District?

A Since 1956.

Q Have you previously appeared before the New Mexico Oil Conservation Commission or an Examiner Hearing and been qualified as an expert petroleum geologist?

A Yes, I have.

Q Are you familiar with the area that's involved in this hearing--

A Yes, I am.

Q --as the Northwest Tatum State Unit Area?

A Yes.

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Q What points of control did you use in drafting this map?

A Well, in this Township 12 South, 35 East, there were four control points, two of which are not shown on the plat, being the Austral No. 1 State E in Section 6 and the Machoetal No. 1 State in Section 13.

Q This Section 6, that would be at approximately eleven o'clock from the center of the map, would it not?

A Yes. You see Section 5, the next section, of course, is 6.

Q Would you indicate where the location of the other well is, please?

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MR. DURRETT: The Machoetal well.

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mill control through the unit area, and it shows the structural anomaly centering in Section 10. This particular anomaly we feel has approximately 100 feet of closure at this level.

Q Does Exhibit 5 and the findings there generally confirm what's shown on Exhibit No. 4?

A Yes.

Q What formation is to be tested by the proposed test well?

A Well, our main objective is the Upper Pennsylvanian, the Cisco pays in the Ranger Lake Pool to the west, approximately four miles. We are going down to the Strawn, and if we find any porosity developments in the Strawn which is underlying the canyon, why we will, of course, test those.

Q But the nearest production is the Pennsylvanian production?

A In the Ranger?

Q In the Ranger.

A Yes, sir.

Q What is the proposed cost of the well?

A The proposed cost, well, our estimated cost of the well is \$155,500 on a dry hole basis.

Q \$155,500?

A Yes.



Q Do you know I neglected to cover this spudding date with Mr. Cavanaugh. Do you know the date that is proposed as the spud date for this well?

A No. I know that it is to be as soon as possible.

MR. KASTLER: May I stipulate that the record in Exhibit 3 here would show that on or before July 1 the test well provision here, this well is to be commenced if the unit is approved.

Q Mr. Cress, can you make a statement in conclusion?

A Yes. I might mention that besides the seismic interpretation that shows a structural anomaly, and the subsurface interpretation that shows a high area, a structural anomaly, that we had sample shows in the nearby wells in the San Andres, the Wolfcamp, Abo and Tubb formations. On drill stem test we had slight shows of oil, and in a test of the Abo in the Austral well located in Section 6 they actually had gas to the surface in six minutes and recovered five feet of mud plus a rainbow show of oil.

We have porosity indicated in the reservoirs that we are going to penetrate; this along with the shows and the structure maps makes us feel that it's an excellent possibility for commercial production.

Q Is it a prospect that a reasonable, prudent operator would drill under in forming a unit of this size?

A In my opinion, yes.



Q Were Exhibits 4 and 5 prepared by you or under your direction and supervision?

A Yes.

MR. KASTLER: This concludes the questions, and at this time I would like to move that Exhibits 1, 2, 3, 4 and 5 be admitted into evidence.

MR. NUTTER: Gulf's Exhibits 1 through 5 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 5 were admitted in evidence.)

MR. NUTTER: Are there any questions of Mr. Cress?

CROSS EXAMINATION

BY MR. NUTTER:

Q On your Exhibits 4 and 5, all these little numbered circles along the section lines, are those seismic points?

A No, actually those are shot points.

Q That's what I meant, seismic shot points.

A Yes, they're shot points. I thought you meant of all.

Q What's the wavy line on the west side of the Devonian?

A That's a postulated fault.

Q I realize that the unit agreement calls for testing the Pennsylvania and that it was mentioned that the Strawn tested, yet you have a structure in the Devonian. Is there a possibility that



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this well will be taken to the Devonian if the Pennsylvania looks favorable?

A Yes.

Q On how high you are running when you are in the Pennsylvania?

A Yes.

MR. NUTTER: Are there other questions of Mr. Cress?
He may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. Kastler?

MR. KASTLER: No.

MR. NUTTER: If there's nothing further in this case we will take Case 3042 -- but you have a telegram?

MR. DURRETT: I do have a telegram from Amerada supporting the application.

MR. NUTTER: We will take the Case 3042 under advisement, and the hearing is adjourned.



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STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Witness my Hand and Seal this 8th day of June, 1964.


NOTARY PUBLIC

My Commission Expires:
June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3042, heard by me on 5/7, 1964.

, Examiner
New Mexico Oil Conservation Commission

