CASE 6712: SUN GAS COMPANY FOR APPROVAL OF INFILL DRILLING AND SIMULTANEOUS DEDICATION, SAN JUAN COUNTY, NEW MEXICO

Case Number

6712

Application

Transcripts.

Small Exhibits

ETC.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
Oil Conservation Division
State Land Office Bldg.
Santa Fe, New Mexico
31 October 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Sun Oil Company for approval of infill drilling and simultaneous dedication, San Juan County, New Mexico.

CASE 6712

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel for the Division
State Land Office Bldg.
Santa Fe, New Mexico 87503

For the Applicant: W. Thomas Kellahin, Esq.
KELLAHIN & KELLAHIN
500 Don Gaspar
Santa Fe, New Mexico 87501

I N D E X

E X H I B I T S

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
3010 Plaza Blanca (505) 471-2462
Santa Fe, New Mexico 87501

MR. STAMETS: We'll call next Case 6712.

MR. PADILLA: Application of Sun Gas Company for approval of infill drilling and simultaneous dedication, San Juan County, New Mexico.

MR. STAMETS: Call for appearances.

MR. KELLAHIN: If the Examiner please, I'm Tom Kellahin of Santa Fe, New Mexico, appearing on behalf of Sun Oil Company, and I have three witnesses to be sworn.

MR. STAMETS: I'd like to have all of them stand and be sworn at this time, please.

(Witnesses sworn.)

MR. KELLAHIN: If the Examiner please, we'd like to have the order entered on behalf of Sun Oil Company. You'll note the application and the advertisement make reference to Sun Gas Company, which is a division of Sun Oil Company.

MR. STAMETS: I presume we can do that without any difficulty.

CHARLES GRAY

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Gray, would you please state your name?

A. Charles Gray.

Q. And by whom are you employed?

A. Sun Gas Company, a division of Sun Oil Company.

Q. And in what kind of capacity?

A. I am currently a Senior Conservation Representative.

Q. Mr. Gray, would you summarize for the Examiner why Sun Oil Company believes it's necessary to have specific findings made with regards to this particular well in order to comply with the Natural Gas Policy Act of 1978?

A. Yes, sir. Mr. Examiner, according to Sun's legal counsel, we have been advised that optional or infill wells must have a specific finding, regardless of field rule provisions, at this time.

According to Sun's interpretation of Order 43, which implemented Section 103 pricing of the Natural Gas Policy Act of 1978, infill wells which will not qualify for Section 103 prices unless from a specific finding of necessity, is secured from the jurisdictional agency prior to

spudding the infill well.

Q. Would you refer to what we've marked as Applicant Exhibit Number One and identify that document for us?

A. Mr. Examiner, Exhibit Number One is a copy of Sun's application packet for permit to drill. It includes an application for permit to drill, USGS Form 9331C, a sundry notice, and a well location acreage and dedication plat.

This exhibit shows that the proposed well, hereby known as the New Mexico Federal "N" Well No. 6-E, is projected for completion in the Basin Dakota Pool, and is comprised of a 320-acre proration unit, being the south half of Section 6, Township 30 North, Range 12W, San Juan County, New Mexico.

Q. What's the location of the infill well, Mr. Gray?

A. Mr. Examiner, the location of the well is 850 feet from the south line and 1135 feet from the east line of the section.

Q. How far is that from the existing well on this proration unit?

A. This is approximately 2460 feet from the existing well, which is Sun's New Mexico Federal "N" Well No. 6.

Q. All right, and the infill well will be No.

6-E, is that correct?

A. That's correct.

Q. All right. Would you describe for us again what the acreage to be dedicated to both wells is?

A. All right. Mr. Examiner, field rules for the Basin Dakota Gas Pool currently recognize the standard proration unit as being 320 acres, and we would request that the additional well on this unit also be assigned the standard 320 acres, simultaneous dedication of acreage.

Q. And that's the south half of Section 6?

A. That is the south half of Section 6.

Q. All right.

MR. KELLAHIN: If the Examiner please, that's all the questions I had of Mr. Gray. My subsequent two witnesses, one is a geologist and the other is a petroleum engineer.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Gray, specifically what section of the FERC regulations does this application apply to?

A. This application would be under Section 103 of the Natural Gas Policy Act.

Q. The section that you mentioned, though, requiring you to come in on infill wells we've already ap-

proved?

A. Order 43.

Q. Thank you.

The witness may be excused.

JAMES K. SNOOK

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Would you please state your name and by whom you are employed?

A. James K. Snook, and I'm employed by Sun Oil Company.

Q. Mr. Snook, in what capacity are you employed by Sun Oil Company?

A. I'm a professional geologist.

Q. Have you ever testified before the New Mexico Oil Conservation Division as a professional geologist?

A. No, sir.

Q. Would you describe for Mr. Stamets when and where you obtained your degree?

A. I have a Bachelor of Science degree from Wichita State University and I received it in 1958.

Q. Subsequent to graduation where have you been employed as a geologist?

A. I've been employed as a geologist by Sun Oil Company and its predecessors for the last fifteen years.

Q. And do your duties as a geologist for Sun Oil Company currently include this portion of the San Juan Basin and the Basin Dakota Pool in San Juan County?

A. Yes, sir, it does.

Q. And in accordance with those duties, have you made a study of and are you familiar with the facts surrounding this particular application?

A. Yes, sir, I am.

MR. KELLAHIN: We tender Mr. Gray as an expert geologist.

MR. STAMETS: The witness is considered qualified.

Q. Mr. Gray, would you please go to the plats we --

A. I'm Mr. Snook.

Q. I'm sorry, Mr. Snook.

Mr. Snook, would you please go to the plats we've placed upon the wall over here and identify Exhibit Number Two, which is your structural cross section?

A. Yes.

Exhibit Two is a structural cross section

in the Basin Dakota Field. It's a north-south cross section.

Q. Let's go to Exhibit Number Three, also, Mr. Snook, and if you'll located for us the proration unit and show Mr. Stamets where your wells are in relation to that plat.

A. Okay. Exhibit Three is a net pay Isopach map on a scale of 1-to-2000 feet, the proposed location being in the southeast quarter of Section 6.

On this exhibit we have generated a net pay Isopach, New Mexico Federal "N" having 70 feet of pay; New Mexico Federal "N" No. 4 having 72 feet of pay; we're projecting approximately 70 feet of pay for the proposed location.

Q. Commencing with your structure cross section, would you go from A to A' and identify the location of each of the wells in the cross section?

A. Yes, sir.

The number one well, the Aztec 1-A Holder Well, in the northwest quarter of Section 6, and is a diagonal north offset to the proposed location.

The next well is our Sun No. 6 New Mexico Federal "N", which is the well on the same proration unit. Between the No. 6 and the next well, which would be the Sun Oil Company No. 4 New Mexico Federal "N", it will be the closest -- the proposed location would fall in between those

two wells.

And then the bottom well is the New Mexico Federal "N" No. 5, Sun New Mexico Federal "N" No. 5.

And the reason for the cross section is to show where we got our net pay Isopach. The bottom stringer in the Dakota appears to be wet and the net pay Isopach is above that bottom stringer to the top of the Dakota.

The net pay Isopach was constructed to be the basis for which the drainage map was made, which Mr. Huckelbury will discuss.

Q. Mr. Snook, do you have an opinion as to whether or not the Dakota Pool being produced out of the Sun New Mexico Federal "N" Well No. 6 will be the same Basin Dakota Pool to be encountered by the infill well?

A. The Dakota formation will be the same. The porosity stringers will probably not carry from one well to the other. Some of the stringers will; some of the stringers will not. And from the low permeability, we would think that there probably would not be too much drainage on the -- on the proposed well; however, this -- this is all the Dakota and it's all one zone, but the sand stringers appear to come and go.

Q. From your study of the geology, Mr. Snook, do you have an opinion as to whether the infill well will produce gas that will not otherwise be produced in the first

well on this proration unit?

A. Yes, sir, I feel that the gas -- essentially all of the gas from the proposed location would not be produced from the existing well on the proration unit.

Q. In your opinion, then, Mr. Snook, is the infill well necessary in order to effectively and efficiently drain that portion of the reservoir underlying this proration unit that cannot be drained by the first well?

A. Yes, sir, it is.

Q. Were Exhibits Two and Three prepared by you or compiled under your supervision and direction?

A. Yes, sir, they were.

MR. KELLAHIN: That concludes my examination of Mr. Snook.

MR. STAMETS: Are you going to have a witness that speaks to the volume of additional gas?

MR. KELLAHIN: Yes, we are.

MR. STAMETS: Any questions of this witness?

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Snook, were you at the -- or have you reviewed the records in the Division case, or Commission case it was, that resulted in the Basin Dakota infill order?

A. No, sir, I haven't.

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

JESS HUCKELBURY

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Huckelbury, would you please state your name, by whom you're employed, and in what capacity?

A. My name is Jess Huckelbury. I am a reservoir engineer for Sun Oil Company, and I have worked for Sun for the past fifteen years.

I have a BS degree in mechanical engineering from the University of Tulsa, Oklahoma, in 1965.

Q. In accordance with your duties as a petroleum engineer, Mr. Huckelbury, have you made a study of and are you familiar with the facts surrounding this particular application?

A. Yes, sir, I have.

MR. KELLAHIN: We tender Mr. Huckelbury as an expert witness.

MR. STAMETS: He's considered qualified.

Q. Would you please refer to what we've marked as Exhibit Number Four, identify that, and explain what information is contained in it?

A. Yes, sir. Exhibit Number Four shows an areal schematic of the drainage areas around -- surrounding Sun's proposed Well Federal "N" No. 6-E.

The well to the west, which is Sun's Well Federal "N" No. 6, is located about 2200 feet from the proposed location. It has a radial drainage of about 600 -- I'm sorry, a radial drainage of about 564 feet, an equivalent of 23 surface acres. It has produced about 1.064 billion cubic feet of gas and is presently producing about 16 Mcf per day, which is near depletion.

The well to the south, which is located about 2000 feet from the proposed location, has a radial drainage of 772 feet, an equivalent of 43 surface acres, and has produced 2.035 billion cubic feet and is presently producing 160 Mcf per day, which is approaching depletion.

The well to the east is located about 2200 feet from the proposed location and it has a radial drainage of about 684 feet, an equivalent of 34 surface acres. It has produced about 1.140 billion cubic feet and is producing at the present time an average of 44 Mcf per day.

This exhibit was prepared to show the equivalent drainage that we expect and that is taking place,

and we expect to get from our proposed location, Federal "N" No. 6-E.

Q. Would you please refer to what we've marked as Exhibit Number Five and identify that?

A. Exhibit Number Five is a sample calculations made which were made for all three of the surrounding wells, but which refer -- which is on the Federal "N" No. 6, Sun Federal "N" No. 6, located 2200 feet from the proposed location.

These data are -- or these calculations are being taken from data from the Applied Petroleum Reservoir Engineering, Craft and Hawkins, pages 24 through 27.

The gas production data was taken from Natural Gas Well Production History, Dwight, pages 71-79, and it is the exhibit, the next exhibit, which we'll discuss briefly.

This exhibit, Number Five, in equation one shows the basic calculation for calculating the acre feet of drainage.

The equation two shows the equation for calculating the radius of drainage.

MR. STAMETS: I believe that mine is marked Exhibit Six. Should this be Exhibit Five?

MR. KELLAHIN: Five.

MR. STAMETS: Let me remark that. Okay, go

ahead.

A. If we go on to Exhibit Six, it is a copy from published Dwight's. It shows the production data from for Federal "N" No. 6, dated 7-72, or production from 7-72 through 7-79, and on that data it also shows the pressures and six-month interval production and cumulative production, and it is from these data that we took our calculation -- data for our calculations in Exhibit Number Five.

Q. Based upon your study, Mr. Huckelbury, what conclusions do you reach about the ability of the first well, No. 6, to fully deplete this particular reservoir in the south half of Section 6?

A. The well, Federal "N" No. 6, is near depletion, and as you can see from the schematic, in Exhibit Number Four, it obviously will not efficiently and effectively drain the proposed location.

Q. In your opinion, then, Mr. Huckelbury, is the infill well, 6-E, necessary in order to effectively and efficiently drain that portion of the reservoir underlying the south half of Section 6 that is not currently being drained, nor will be drained, by the No. 6 Well?

A. Yes, sir, that's correct.

Q. All right. Do you have an estimate for the Examiner of what the additional gas recovery will be from the infill well?

A. The proposed well, Federal "N" No. 6-E, should drain or should produce about 1.19 billion cubic feet.

Q. And would you summarize for us how you made that calculation?

A. That calculation is made similar to Exhibit Number Five, and the same estimates were used, based on these calculations that were shown in Exhibit Number Five.

Q. Were Exhibits Four, Five, and Six prepared by you or compiled under your direction and supervision?

A. They were prepared by me, yes, sir.

Q. And in your opinion will approval of this application be in the best interests of conservation, prevention of waste, and the protection of correlative rights?

A. Yes, sir.

MR. KELLAHIN: We move the introduction of Sun's Exhibits One through Six.

MR. STAMETS: These exhibits will be admitted.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Huckelbury, you indicated you used the same calculations. I assume you're talking about the volumetric calculations then?

A. Yes, sir. If I might point out, that if

you'll look at Six, and look at the cumulative production on Exhibit Number Six, at the bottom where it says MMCF cumulative production from Exhibit Number Six where it shows 1.0636 billion cubic feet, if you'll also refer then to that same number on Exhibit Number Five, you'll see where we calculated the volumetric acre footage, where it shows 1.0636 for that equation, and it is used -- the basic numbers for the equation, as you can see, are taken -- are taken from Dwight's and the rest of the numbers are in the exhibit, Number Five, using a basic equation.

Q. For your infill well, what you did was take the original information off the initial well and utilizing this volumetric calculation --

A. Yes, sir, that's correct.

Q. -- projected --

A. That's correct.

Q. Now, how did you calculate a drainage area of 43 acres? If I'm looking at this correctly; maybe I'm not.

A. Of 43 acres.

Q. On Exhibit Number Four, it looks to me as though you calculated a drainage radius of 772 feet and 43 acres.

A. Okay, that's for Exhibit Number Four?

Q. Yes.

A. Yes, sir, well, I don't have those calculations as an exhibit but I used the same technique, using the cumulative production, which was 2.035 billion cubic feet from that well, which has produced since November.

Q. Okay, that refers to the well to the south and not to the proposed well.

A. Yes, sir. Yes, sir.

Q. Okay. You simply, then, have calculated that the second well will be as good as the first well.

A. Yes, sir, we think it will be as good as the first well. We hope so.

Q. Maybe better.

A. We hope so, but we're not really sure. We're going to go by what we feel has happened in the past in the surrounding wells.

Q. How old are the surrounding wells?

A. The oldest well is the well to the south. It was drilled 11, 1960.

The next well -- I say the well to the south, it's Federal "N" No. 4.

The next well was drilled in December of 1960, which is Federal "N" No. 6, located 2200 feet to the west of the proposed location.

And then the Amoco L. C. Lacey, which is located 2200 feet to the west, was drilled in March, 1964.

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
3020 Plaza Blanca (505) 471-2463
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Q. Looking at those, it does not appear that the drainage radius is directly related to the date of completion, so it must be related to geologic conditions.

A. Yes. This is a very tight sand with an average permeability of .04 millidarcies.

Q. You did not show us any wells to the north, Mr. Huckelbury. Is there any reason for that?

A. Well, there's none up there that are producing that would have certainly have affected the area that we're -- it's another lease, and would certainly have no bearing on our lease.

Q. On Exhibit Number Six, the wellhead shut-in pressure has been increasing since 1973. What is the cause of that?

A. The only explanation I can give you is I feel that these sands are very tight and they just simply didn't wait long enough for them to build up pressure to get a good pressure. They probably were 48-hour tests and they just were not good tests.

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

Anything further in this case?

MR. KELLAHIN: No, sir.

MR. STAMETS: The case will be taken under advisement. (Hearing concluded.)

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, Certified Shorthand Reporter, DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability from my notes taken at the time of the hearing.

Sally W. Boyd C.S.R.
Sally W. Boyd, C.S.R.

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
1010 Plaza Blanca (505) 471-2462
Santa Fe, New Mexico 87501

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6212
heard by me on 10-31 19 79.

Richard L. Stamets, Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
Oil Conservation Division
State Land Office Bldg.
Santa Fe, New Mexico
31 October 1979

EXAMINER HEARING

IN THE MATTER OF:

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BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

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Legal Counsel for the Division
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For the Applicant: W. Thomas Kellahin, Esq.
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MR. STAMETS: Call for appearances.

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MR. STAMETS: I'd like to have all of them stand and be sworn at this time, please.

(Witnesses sworn.)

MR. KELLAHIN: If the Examiner please, we'd like to have the order entered on behalf of Sun Oil Company. You'll note the application and the advertisement make reference to Sun Gas Company, which is a division of Sun Oil Company.

MR. STAMETS: I presume we can do that without any difficulty.

CHARLES GRAY

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BY MR. KELLAHIN:

Q. Mr. Gray, would you please state your name?

A. Charles Gray.

Q. And by whom are you employed?

A. Sun Gas Company, a division of Sun Oil Company.

Q. And in what kind of capacity?

A. I am currently a Senior Conservation Representative.

Q. Mr. Gray, would you summarize for the Examiner why Sun Oil Company believes it's necessary to have specific findings made with regards to this particular well in order to comply with the Natural Gas Policy Act of 1978?

A. Yes, sir. Mr Examiner, according to Sun's legal counsel, we have been advised that optional or infill wells must have a specific finding, regardless of field rule provisions, at this time.

According to Sun's interpretation of Order 43, which implemented Section 103 pricing of the Natural Gas Policy Act of 1978, inf'll wells which will not qualify for Section 103 prices unless from a specific finding of necessity, is secured from the jurisdictional agency prior to

spudding the infill well.

Q. Would you refer to what we've marked as Applicant Exhibit Number One and identify that document for us?

A. Mr. Examiner, Exhibit Number One is a copy of Sun's application packet for permit to drill. It includes an application for permit to drill, USGS Form 9331C, a sundry notice, and a well location acreage and dedication plat.

This exhibit shows that the proposed well, hereby known as the New Mexico Federal "N" Well No. 6-E, is projected for completion in the Basin Dakota Pool, and is comprised of a 320-acre proration unit, being the south half of Section 6, Township 30 North, Range 12W, San Juan County, New Mexico.

Q. What's the location of the infill well, Mr. Gray?

A. Mr. Examiner, the location of the well is 850 feet from the south line and 1135 feet from the east line of the section.

Q. How far is that from the existing well on this proration unit?

A. This is approximately 2460 feet from the existing well, which is Sun's New Mexico Federal "N" Well No. 6.

Q. All right, and the infill well will be No.

6-E, is that correct?

A. That's correct.

Q. All right. Would you describe for us again what the acreage to be dedicated to both wells is?

A. All right. Mr. Examiner, field rules for the Basin Dakota Gas Pool currently recognize the standard proration unit as being 320 acres, and we would request that the additional well on this unit also be assigned the standard 320 acres, simultaneous dedication of acreage.

Q. And that's the south half of Section 6?

A. That is the south half of Section 6.

Q. All right.

MR. KELLAHIN: If the Examiner please, that's all the questions I had of Mr. Gray. My subsequent two witnesses, one is a geologist and the other is a petroleum engineer.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Gray, specifically what section of the FERC regulations does this application apply to?

A. This application would be under Section 103 of the Natural Gas Policy Act.

Q. The section that you mentioned, though, requiring you to come in on infill wells we've already ap-

proved?

A. Order 43.

Q. Thank you.

The witness may be excused.

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Q. Would you please state your name and by whom you are employed?

A. James K. Snook, and I'm employed by Sun Oil Company.

Q. Mr. Snook, in what capacity are you employed by Sun Oil Company?

A. I'm a professional geologist.

Q. Have you ever testified before the New Mexico Oil Conservation Division as a professional geologist?

A. No, sir.

Q. Would you describe for Mr. Stamets when and where you obtained your degree?

A. I have a Bachelor of Science degree from Wichita State University and I received it in 1958.

Q. Subsequent to graduation where have you been employed as a geologist?

A. I've been employed as a geologist by Sun Oil Company and its predecessors for the last fifteen years.

Q. And do your duties as a geologist for Sun Oil Company currently include this portion of the San Juan Basin and the Basin Dakota Pool in San Juan County?

A. Yes, sir, it does.

Q. And in accordance with those duties, have you made a study of and are you familiar with the facts surrounding this particular application?

A. Yes, sir, I am.

MR. KELLAHIN: We tender Mr. Gray as an expert geologist.

MR. STAMETS: The witness is considered qualified.

Q. Mr. Gray, would you please go to the plats we --

A. I'm Mr. Snook.

Q. I'm sorry, Mr. Snook.

Mr. Snook, would you please go to the plats we've placed upon the wall over here and identify Exhibit Number Two, which is your structural cross section?

A. Yes.

Exhibit Two is a structural cross section

in the Basin Dakota Field. It's a north-south cross section.

Q Let's go to Exhibit Number Three, also, Mr. Snook, and if you'll located for us the proration unit and show Mr. Stamets where your wells are in relation to that plat.

A Okay. Exhibit Three is a net pay Isopach map on a scale of 1-to-2000 feet, the proposed location being in the southeast quarter of Section 6.

On this exhibit we have generated a net pay Isopach, New Mexico Federal "N" having 70 feet of pay; New Mexico Federal "N" No. 4 having 72 feet of pay; we're projecting approximately 70 feet of pay for the proposed location.

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A Yes, sir.

The number one well, the Aztec 1-A Holder Well, in the northwest quarter of Section 6, and is a diagonal north offset to the proposed location.

The next well is our Sun No. 6 New Mexico Federal "N", which is the well on the same proration unit. Between the No. 6 and the next well, which would be the Sun Oil Company No. 4 New Mexico Federal "N", it will be the closest -- the proposed location would fall in between those

two wells.

And then the bottom well is the New Mexico Federal "N" No. 5, Sun New Mexico Federal "N" No. 5.

And the reason for the cross section is to show where we got our net pay Isopach. The bottom stringer in the Dakota appears to be wet and the net pay Isopach is above that bottom stringer to the top of the Dakota.

The net pay Isopach was constructed to be the basis for which the drainage map was made, which Mr. Huckelbury will discuss.

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A. The Dakota formation will be the same. The porosity stringers will probably not carry from one well to the other. Some of the stringers will; some of the stringers will not. And from the low permeability, we would think that there probably would not be too much drainage on the -- on the proposed well; however, this -- this is all the Dakota and it's all one zone, but the sand stringers appear to come and go.

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well on this proration unit?

A. Yes, sir, I feel that the gas -- essentially all of the gas from the proposed location would not be produced from the existing well on the proration unit.

Q. In your opinion, then, Mr. Snook, is the infill well necessary in order to effectively and efficiently drain that portion of the reservoir underlying this proration unit that cannot be drained by the first well?

A. Yes, sir, it is.

Q. Were Exhibits Two and Three prepared by you or compiled under your supervision and direction?

A. Yes, sir, they were.

MR. KELLAHIN: That concludes my examination of Mr. Snook.

MR. STAMETS: Are you going to have a witness that speaks to the volume of additional gas?

MR. KELLAHIN: Yes, we are.

MR. STAMETS: Any questions of this witness?

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Snook, were you at the -- or have you reviewed the records in the Division case, or Commission case it was, that resulted in the Basin Dakota infill order?

A. No, sir, I haven't.

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

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A. My name is Jess Huckelbury. I am a reservoir engineer for Sun Oil Company, and I have worked for Sun for the past fifteen years.

I have a BS degree in mechanical engineering from the University of Tulsa, Oklahoma, in 1965.

Q. In accordance with your duties as a petroleum engineer, Mr. Huckelbury, have you made a study of and are you familiar with the facts surrounding this particular application?

A. Yes, sir, I have.

MR. KELLAHIN: We tender Mr. Huckelbury as an expert witness.

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Q. Would you please refer to what we've marked as Exhibit Number Four, identify that, and explain what information is contained in it?

A. Yes, sir. Exhibit Number Four shows an areal schematic of the drainage areas around -- surrounding Sun's proposed Well Federal "N" No. 6-E.

The well to the west, which is Sun's Well Federal "N" No. 6, is located about 2200 feet from the proposed location. It has a radial drainage of about 600 -- I'm sorry, a radial drainage of about 564 feet, an equivalent of 23 surface acres. It has produced about 1.064 billion cubic feet of gas and is presently producing about 16 Mcf per day, which is near depletion.

The well to the south, which is located about 2000 feet from the proposed location, has a radial drainage of 772 feet, an equivalent of 43 surface acres, and has produced 2.035 billion cubic feet and is presently producing 160 Mcf per day, which is approaching depletion.

The well to the east is located about 2200 feet from the proposed location and it has a radial drainage of about 684 feet, an equivalent of 34 surface acres. It has produced about 1.140 billion cubic feet and is producing at the present time an average of 44 Mcf per day.

This exhibit was prepared to show the equivalent drainage that we expect and that is taking place,

and we expect to get from our proposed location, Federal "N" No. 6-E.

Q. Would you please refer to what we've marked as Exhibit Number Five and identify that?

A. Exhibit Number Five is a sample calculations made which were made for all three of the surrounding wells, but which refer -- which is on the Federal "N" No. 6, Sun Federal "N" No. 6, located 2200 feet from the proposed location.

These data are -- or these calculations are being taken from data from the Applied Petroleum Reservoir Engineering, Craft and Hawkins, pages 24 through 27.

The gas production data was taken from Natural Gas Well Production History, Dwight, pages 71-79, and it is the exhibit, the next exhibit, which we'll discuss briefly.

This exhibit, Number Five, in equation one shows the basic calculation for calculating the acre feet of drainage.

The equation two shows the equation for calculating the radius of drainage.

MR. STAMETS: I believe that mine is marked Exhibit Six. Should this be Exhibit Five?

MR. KELLAHIN: Five.

MR. STAMETS: Let me remark that. Okay, go

ahead.

A. If we go on to Exhibit Six, it is a copy from published Dwight's. It shows the production data from for Federal "N" No. 6, dated 7-72, or production from 7-72 through 7-79, and on that data it also shows the pressures and six-month interval production and cumulative production, and it is from these data that we took our calculation -- data for our calculations in Exhibit Number Five.

Q. Based upon your study, Mr. Huckelbury, what conclusions do you reach about the ability of the first well, No. 6, to fully deplete this particular reservoir in the south half of Section 6?

A. The well, Federal "N" No. 6, is near depletion, and as you can see from the schematic, in Exhibit Number Four, it obviously will not efficiently and effectively drain the proposed location.

Q. In your opinion, then, Mr. Huckelbury, is the infill well, 6-E, necessary in order to effectively and efficiently drain that portion of the reservoir underlying the south half of Section 6 that is not currently being drained, nor will be drained, by the No. 6 Well?

A. Yes, sir, that's correct.

Q. All right. Do you have an estimate for the Examiner of what the additional gas recovery will be from the infill well?

A. The proposed well, Federal "N" No. 6-E, should drain or should produce about 1.19 billion cubic feet.

Q. And would you summarize for us how you made that calculation?

A. That calculation is made similar to Exhibit Number Five, and the same estimates were used, based on these calculations that were shown in Exhibit Number Five.

Q. Were Exhibits Four, Five, and Six prepared by you or compiled under your direction and supervision?

A. They were prepared by me, yes, sir.

Q. And in your opinion will approval of this application be in the best interests of conservation, prevention of waste, and the protection of correlative rights?

A. Yes, sir.

MR. KELLAHIN: We move the introduction of Sun's Exhibits One through Six.

MR. STAMETS: These exhibits will be admitted.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Huckelbury, you indicated you used the same calculations. I assume you're talking about the volumetric calculations then?

A. Yes, sir. If I might point out, that if

you'll look at Six, and look at the cumulative production on Exhibit Number Six, at the bottom where it says MMCF cumulative production from Exhibit Number Six where it shows 1.0636 billion cubic feet, if you'll also refer then to that same number on Exhibit Number Five, you'll see where we calculated the volumetric acre footage, where it shows 1.0636 for that equation, and it is used -- the basic numbers for the equation, as you can see, are taken -- are taken from Dwight's and the rest of the numbers are in the exhibit, Number Five, using a basic equation.

Q. For your infill well, what you did was take the original information off the initial well and utilizing this volumetric calculation --

A. Yes, sir, that's correct.

Q. -- projected --

A. That's correct.

Q. Now, how did you calculate a drainage area of 43 acres? If I'm looking at this correctly; maybe I'm not.

A. Of 43 acres.

Q. On Exhibit Number Four, it looks to me as though you calculated a drainage radius of 772 feet and 43 acres.

A. Okay, that's for Exhibit Number Four?

Q. Yes.

A. Yes, sir, well, I don't have those calculations as an exhibit but I used the same technique, using the cumulative production, which was 2.035 billion cubic feet from that well, which has produced since November.

Q. Okay, that refers to the well to the south and not to the proposed well.

A. Yes, sir. Yes, sir.

Q. Okay. You simply, then, have calculated that the second well will be as good as the first well.

A. Yes, sir, we think it will be as good as the first well. We hope so.

Q. Maybe better.

A. We hope so, but we're not really sure. We're going to go by what we feel has happened in the past in the surrounding wells.

Q. How old are the surrounding wells?

A. The oldest well is the well to the south. It was drilled 11, 1960.

The next well -- I say the well to the south, it's Federal "N" No. 4.

The next well was drilled in December of 1960, which is Federal "N" No. 6, located 2200 feet to the west of the proposed location.

And then the Amoco L. C. Lacey, which is located 2200 feet to the west, was drilled in March, 1964.

Q. Looking at those, it does not appear that the drainage radius is directly related to the date of completion, so it must be related to geologic conditions.

A. Yes. This is a very tight sand with an average permeability of .04 millidarcies.

Q. You did not show us any wells to the north, Mr. Huckelbury. Is there any reason for that?

A. Well, there's none up there that are producing that would have certainly have affected the area that we're -- it's another lease, and would certainly have no bearing on our lease.

Q. On Exhibit Number Six, the wellhead shut-in pressure has been increasing since 1973. What is the cause of that?

A. The only explanation I can give you is I feel that these sands are very tight and they just simply didn't wait long enough for them to build up pressure to get a good pressure. They probably were 48-hour tests and they just were not good tests.

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

Anything further in this case?

MR. KELLAHIN: No, sir.

MR. STAMETS: The case will be taken under advisement.

(Hearing concluded.)

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, Certified Shorthand Reporter, DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability from my notes taken at the time of the hearing.

Sally W. Boyd, C.S.R.

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

_____, Examiner
Oil Conservation Division

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
3030 Plaza Blanca (505) 471-2462
Santa Fe, New Mexico 87501

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

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

November 15, 1979

Mr. Thomas Kellahin
Kellahin & Kellahin
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Re: CASE NO. 6712
ORDER NO. R-6179

Applicant:

Sun Gas Company

Dear Sir:

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

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD x

Other

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

CASE NO. 6712
Order No. R-6179

APPLICATION OF SUN GAS COMPANY FOR APPROVAL OF INFILL DRILLING AND SIMULTANEOUS DEDICATION, SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on October 31, 1979, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 14th day of November, 1979, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Sun Gas Company, seeks a finding that the drilling of its N. M. Federal "N" Well No. 6-E to be located in Unit P of Section 6, Township 30 North, Range 12 West, Basin-Dakota Pool, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

(3) That the name of the applicant should be amended to Sun Oil Company.

(4) That Sun Oil Company is the operator of a 320-acre standard proration unit consisting of the S/2 of said Section 6 in the Basin-Dakota Pool.

(5) That said 320-acre proration unit is dedicated to applicant's N. M. Federal "N" Well No. 6 located in Unit M of said Section 6.

(6) That the evidence presented demonstrated that said N. M. Federal "N" Well No. 6 cannot effectively and efficiently drain said 320-acre proration unit.

(7) That the evidence presented further demonstrated that the drilling and completion of applicant's said new well should result in production of approximately 1.9 billion additional cubic feet of gas from said proration unit which would not otherwise be recovered from the proration unit.

(8) That such additional recovery will result in said unit being more efficiently and economically drained.

(9) That said new well is to be drilled as an "infill" well on the existing 320-acre standard proration unit.

(10) That in order to permit the drainage of a portion of the reservoir covered by said 320-acre standard proration unit which cannot be effectively and efficiently drained by the existing well thereon, the subject application for infill drilling and simultaneous dedication should be approved.

IT IS THEREFORE ORDERED:

(1) That the applicant, Sun Oil Company, is hereby authorized to drill its N. M. Federal "N" Well No. 6-E to be located in Unit P of Section 6, Township 30 North, Range 12 West, NMPM, as an infill well on an existing 320-acre standard proration unit being the S/2 of said Section 6, Basin-Dakota Pool, San Juan County, New Mexico. The authorization for infill drilling granted by this order is necessary to permit the drainage of a portion of the reservoir covered by the existing 320-acre proration unit which cannot efficiently and economically be drained by any existing well thereon.

(2) That said proration unit shall be simultaneously dedicated to applicant's proposed new well and to its N. M. Federal "N" Well No. 6 located in Unit M of said Section 6.

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

DONE at Santa Fe, New Mexico, on the day and year herein-above designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY
Director

S E A L

ea/

Docket No. 41-79

CASE 6684: (Continued from October 2, 1979, Examiner Hearing)

Application of CO_2-In-Action, Inc. for creation of a new carbon dioxide gas pool and special pool rules, Harding County, New Mexico. Applicant, in the above-styled cause, seeks the creation of the North Bueyeros-Santa Rosa CO_2 Gas Pool and the promulgation of special pool rules therefor, including a provision for 40-acre spacing and proration units. Said pool would comprise all or parts of Sections 1 thru 4, Township 20 North, Range 30 East, and Sections 8, 9, 10, 15, 16, 17, 20, 21, 22, 27, 28, 32, 33 and 34, Township 21 North, Range 30 East.

CASE 6714: Application of Jake L. Hamon for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a Morrow test well to be drilled 660 feet from the South and West lines of Section 20, Township 20 South, Range 36 East, North Osudo-Morrow Gas Pool, the S/2 of said Section 20 to be dedicated to the well.

Docket No. 41-79

Dockets Nos. 42-79 and 43-79 are tentatively set for November 14 and 28, 1979. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - OCTOBER 31, 1979

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

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

CASE 6706: Application of Consolidated Oil & Gas, Inc. for alternate filing requirements under the Natural Gas Policy Act of 1978, San Juan, Rio Arriba, and Sandoval Counties, New Mexico. Applicant, in the above-styled cause, seeks an order adopting alternate filing requirements under the Natural Gas Policy Act of 1978 whereby infill wells drilled in the Blanco Mesaverde and Basin-Dakota Pools pursuant to the pool-wide infill drilling findings and rules promulgated for said pools by Division Orders Nos. R-1670-T and R-1670-V, respectively, would qualify as new onshore production wells.

CASE 6707: Application of Gulf Oil Corporation for a unit agreement, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Southeast Bisti Unit Area, comprising 7,048 acres, more or less, of State and Federal lands in Townships 24 and 25 North, Range 10 West.

CASE 6708: Application of Doyle Hartman for an unorthodox well location, non-standard proration unit, and approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an 80-acre non-standard proration unit comprising the SW/4 NE/4 and SE/4 NW/4 of Section 36, Township 24 South, Range 36 East, Jalmat Gas Pool, to be dedicated to a well to be drilled at an unorthodox location 2310 feet from the North line and 1650 feet from the East line of said Section 36; applicant further seeks a waiver of existing well spacing requirements and a finding that the drilling of said well is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

CASE 6695: (Continued from October 17, 1979, Examiner Hearing)

Application of Millard Deck Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an 80-acre non-standard gas proration unit comprising the NE/4 NW/4 and NW/4 NE/4 of Section 36, Township 24 South, Range 36 East, Jalmat Gas Pool, to be dedicated to a well to be drilled at a standard location thereon.

CASE 6709: Application of HNG Oil Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the N/2 of Section 33, Township 16 South, Range 35 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 6710: Application of ARCO Oil and Gas Company for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Blinebry and Montoya production in the wellbores of the following wells on its State Y Lease: No. 3 located in Unit B, No. 6 located in Unit H, and No. 7 located in Unit A, all in Section 25, Township 25 South, Range 37 East.

CASE 6711: Application of Sun Oil Company of Delaware for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a Mississippian test well to be located 660 feet from the North and East lines of Section 27, Township 14 South, Range 37 East, the E/2 of said Section 27 to be dedicated to the well.

CASE 6712: Application of Sun Gas Company for approval of infill drilling and simultaneous dedication, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well spacing requirements and a finding that the drilling of its N.M. Federal "N" Well No. 6-E to be located in Unit P of Section 6, Township 30 North, Range 12 West, Basin-Dakota Pool, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

CASE 6713: Application of Depco Inc. for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the White Ranch Unit Area, comprising 18,962 acres, more or less, of State, Federal, and fee lands in Townships 12 and 13 South, Ranges 29 and 30 East.

TO Jim Sandige

DATE _____ TIME Energy Resources Grp

WHILE YOU WERE OUT

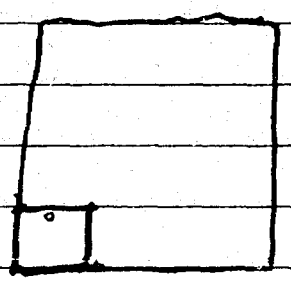
MR. _____

OF _____

PHONE _____ AREA CODE _____

TELEPHONED		PLEASE PHONE	
CALLED TO SEE YOU		WILL CALL AGAIN	
WANTS TO SEE YOU		RETURNED YOUR CALL	

MESSAGE



1250 FNL 660 FEL

MESSAGE TAKEN BY _____

DRAINAGE ESTIMATE
SUN'S NEW MEXICO FEDERAL "N" NO. 6
BASIN DAKOTA FIELD
SEC. 6-30N-12W
SAN JUAN COUNTY
NEW MEXICO

1. VOLUMETRIC*

$$Vb\ Ac\text{-}Ft = \frac{G}{43560\ (\emptyset)\ (1\text{-}Sw)\ (Bg)}$$

$$Bg = 35.35\ \frac{P}{(T)\ (Z)}$$

Where:

Vb = Ac-Ft

$\emptyset$ = Porosity, 15%

Tsc= BHT (131 + 460), 591^{o}R

H = Avg Net Thickness, 70 Ft

Sw = Water Sat., 40%

G = Gas Prod., SCF**

P/Z= (Initial), 2824

$$Vb\ (Ac\text{-}Ft) = \frac{1.0636 \times 10^{9}}{43560\ (.15)\ (1\text{-}.40)\ (168.91)}$$

$$Bg = \frac{35.35\ (2824)}{591}$$

Ac-Ft = 1606.2

Bg = 168.91

Acres Drained = (1606.2) ÷ (70) = 22.94

2. EQUIV. DRAINAGE RADIUS

$$Radius,\ Ft = \sqrt{\frac{(43560)\ (Acres)}{\pi}}$$

$$Radius,\ Ft = \sqrt{\frac{(43560)\ (22.94)}{\pi}}$$

Radius, Ft = 564.0 Ft

*Applied Petroleum Reservoir Engineering, Craft and Hawkins, Pgs. 24-27
**Natural Gas Well Prod. Hist., Dwights 7-1-79

PLOT SYMBOLS — WHSIP 0 · BHP Z · Common C

PAGE NO. 3474

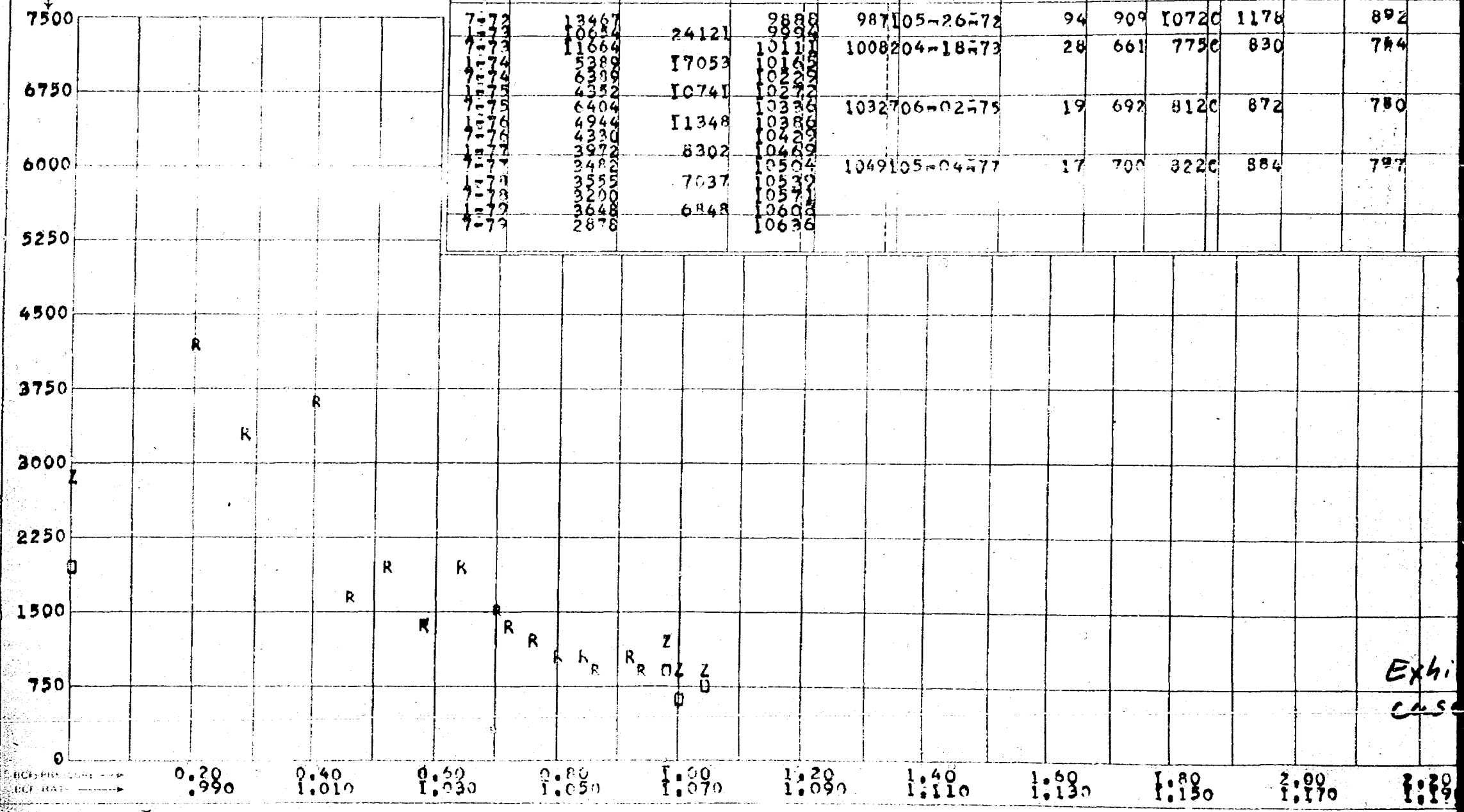
6 MOS TOTAL MMCF 6 R
(RATE CUM SCALE ON RIGHT SIDE)
TEMP GRAD 1.630

IDENTIFYING NUMBER	LOCATION	OPERATOR	WELL NAME
430N12W06M00DK	6M 30N 12W	SUN OIL COMPANY	NEW MEXICO FEDERAL N

STATE	FIELD NUMBER	FIELD NAME	RESERVOIR
NEW MEXICO	80069500	BASIN DAKOTA (PRORATED GAS)	DK

DIST	COUNTY/PARISH	DATE COMP	DATE INITIAL	SP GRAVITY	INIT TEST DATE	INIT POTENTIAL	INIT WHSIP	LATEST P PRES	INIT BHP Z	M/C	TOTAL DEPTH	
4	SAN JUAN	120360	I1-60	.68	040151	1702	2016	1750	28246		6893	6

PERIOD ENDING	MONTHLY PRODUCTION	CUM PRODUCTION	CUM GAS	INIT DATE	INIT POTENTIAL	WHSIP	BHP	C	BHP Z	ACFS/DAY	INIT WHSIP	
7-72	13467	9888	9871	05-26-72	94	909	10720		1178		892	
8-72	10684	24121	9994									
9-72	11664		10111	10082	04-18-73	28	661	7750		830		744
10-72	5388	17053	10165									
11-72	6539		10229									
12-72	4352	10741	10273									
1-73	6404		10336	10327	06-02-75	19	692	8120		872		780
2-73	4944	11348	10386									
3-73	4330		10429									
4-73	3972	8302	10469									
5-73	3482		10504	10491	05-04-77	17	700	8220		884		797
6-73	3555	7037	10539									
7-73	3200		10571									
8-73	3648	6848	10608									
9-73	2878		10636									



Exhi
cas

PAGE NO. 3474

IDENTIFYING NUMBER	LOCATION	OPERATOR	WELL NAME	WELL
430N12W06N00DK	6N 30N 12W	SUN OIL COMPANY	NEW MEXICO FEDERAL N	6

STATE	FIELD NUMBER	FIELD NAME	RESERVOIR	STATUS	ATTRIB	API NO.
NEW MEXICO	8004950	BASIN DAKOTA (PRORATED GAS)	DK	ACT SUG	PLA	9850

DIST NO	COUNTY OR PARISH	DATE COMP	DATE STATUS	NATIONAL ST	INIT TEST DATE	INIT POTENTIAL	INIT MSIP	LATEST SHUT-IN PRESS	INIT BHP Z		TOTAL DEPTH	PERFORATIONS			WELLHEAD PRESS OPERATING TIME
4	SAN JUAN	120360	II-60	.68	040151	1702	2016	.750	28246		6893	6660-6822			

PERIOD ENDING	MCF LAST 6 MONTHS	MCF YEARLY PRODUCTION	CUMULATIVE PRODUCTION	INIT SHUT-IN PRESS	TEST DATE	TUBING	CSG PRESS	BHP		BHT	TEST HRS DAY	SHUT-IN PRESS DAY	PERFORATIONS			
7-72	13467		9888	987	05-26-72	94	909	1072	C	1178		892		43	32	370
1-73	10654	24121	9994													
7-73	11664		10111	1008	04-18-73	28	661	775	C	830		744				372
1-74	5389	17053	10162													
7-74	6389		10227										181			
1-75	4352	10741	10277										184			
7-75	6404		10336	1032	06-02-75	19	692	812	C	872		780				305
1-76	4944	11348	10386													
7-76	4330		10429										182	1	2	
1-77	3972	8302	10469										184			
7-77	3462		10504	1049	05-04-77	17	700	822	C	884		797				305
1-78	3555	7037	10532													
7-78	3200		10571										181			
1-79	3648	6848	10608										184			
7-79	2878		10636										181			

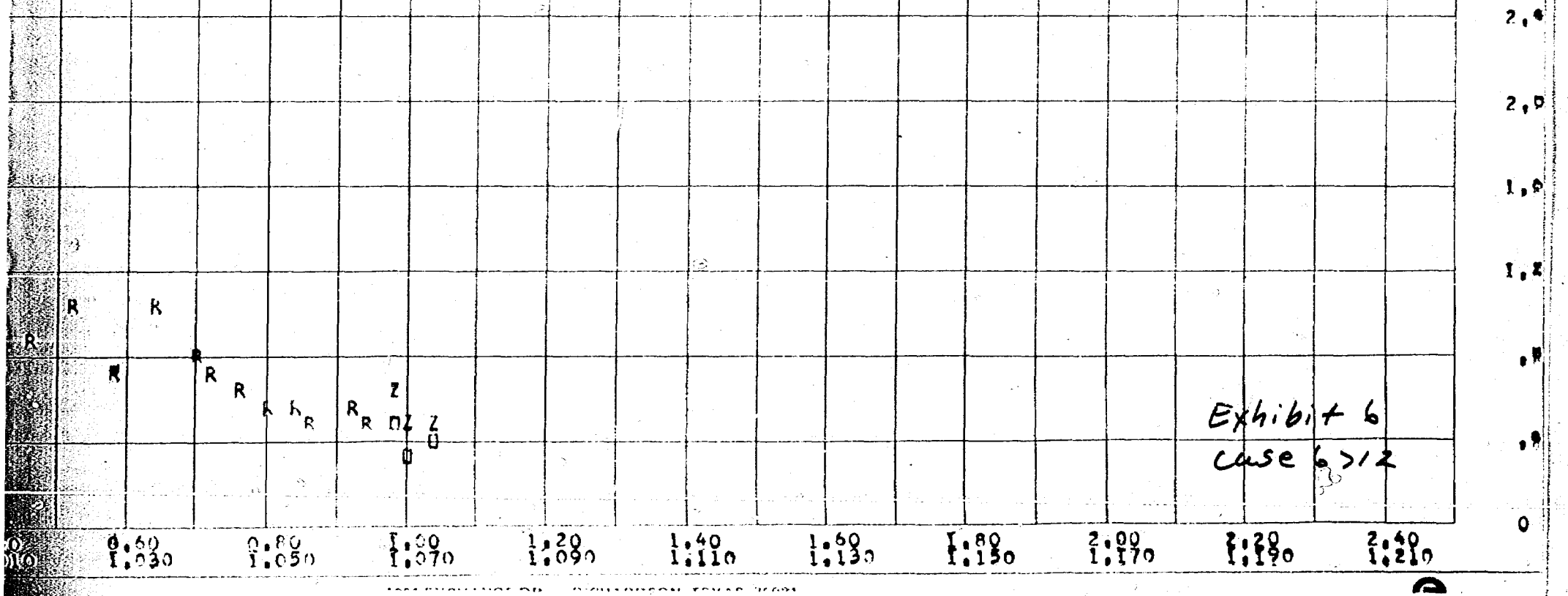


Exhibit 6
Case 6512

Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: ~~USA~~ NM-047

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A

7. UNIT AGREEMENT NAME: N/A

8. FARM OR LEASE NAME: New Mexico-Federal "N"

9. WELL NO.: #7 G-6

10. FIELD AND POOL, OR WILDCAT: Basin - Dakota

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 6 -T 30N-R 12W

12. COUNTY OR PARISH: San Juan

13. STATE: New Mexico

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER — SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Sun Oil Company

3. ADDRESS OF OPERATOR: 2525 NW Expressway, Oklahoma City, OK 73112

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: ~~1000~~ 850' FSL & ~~1000~~ 1135' FEL (SE SE)
At proposed prod. zone: Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 10.2 Miles North-Northeast of Farmington, New Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)	16. NO. OF ACRES IN LEASE	17. NO. OF ACRES ASSIGNED TO THIS WELL
1000'	320	320
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.	**19. PROPOSED DEPTH**	**20. ROTARY OR CABLE TOOLS**
2460+'	6,900'	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 6042' GR

22. APPROX. DATE WORK WILL START*: July 30, 1979

23. PROPOSED CASING AND CEMENTING PROGRAM * 2nd Stage: 1200sx 50-50 Poz W/additives

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12¼"	8-5/8" New	24#K55 ST&C	350'	250 sx Class "A" W/additives
7-7/8"	4½" New	9.5 #K-55 ST&C	6,900'	1st Stage: 425sx Light W/ additives + 100 sx Class"A" W/ additives *

1) Drill 12¼ " hole and set 8-5/8 " surface casing to 350 ' with good returns.
2) Log B.O.P. checks in daily drill reports and drill 7-7/8" hole to 6,900'.
3) Run tests if warranted and run 4½ " casing if productive.
4) Run logs, as needed, and perforate and stimulate as needed.

EXHIBITS ATTACHED:

"A"	Location & Elevation Plat	"G"	Drill Pad Layout, Cut-Fill Cross-Section & Production Facilities
"B"	The Ten-Point Compliance Program	"H"	Drill Rig Layout
"C"	The Blowout Preventer Diagram	"K"	Fracturing Program Layout
"D"	The Multi-Point Requirements for A.P.D.		
"E"	Access Road Map to Location		
"F"	Radius Map of Field		

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.
SIGNED R. H. Hallmark — TITLE Assistant District Drilling Engineer — DATE June 11, 1979

(This space for Federal or State office use)

PERMIT NO. — APPROVAL DATE Jan Wilson

APPROVED BY — TITLE — DATE

CONDITIONS OF APPROVAL, IF ANY:
"APPROVAL TO FLARE GRANTED WHILE DRILLING AND TESTING."
OPERATOR

*See Instructions On Reverse Side

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
SUN EXHIBIT NO. 1
CASE NO. 6712
Submitted by
Hearing Date AUG 3 1979

RECEIVED
This Approval Valid for One Year
AUG 23 1979

LAND · GEO

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: USA - 407 - NM 047

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A

7. UNIT AGREEMENT NAME: N/A

8. FARM OR LEASE NAME: New Mexico - Federal "N"

9. WELL NO.: 6-E

10. FIELD AND POOL, OR WILDCAT: Basin-Dakota

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 6-T30N-R12W

12. COUNTY OR PARISH: San Juan

13. STATE: New Mexico

OIL WELL ☐ GAS WELL ☐ X OTHER

NAME OF OPERATOR: Sun Oil Company

ADDRESS OF OPERATOR: 2525 Northwest Expressway, Oklahoma City, OK 73112

LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)
At surface: 850' FSL & 1135' FEL

4. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6042' GR

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐
REPAIR WELL	☐	CHANGE PLANS	☐
(Other) Revise Application to Drill	X		

SUBSEQUENT REPORT OF:

WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
(Other)			

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Based on requirements to protect a fresh water aquifer (OJO Alamo) at a depth of approximately 780', we propose to increase the amount of cement used on the upper stage cement job from 1200 sxs 50-50 Pozmix plus additives to 1300 sxs. This will bring the calculated top of cement on the 4-1/2" production string to 650'. A temperature survey will be run to confirm the top of cement.

Attached per your request is 4-1/2" casing design data sheet for the subject well. For wells in this depth and pressure range, Sun Oil Company utilizes minimum design factors of 1.6 for tension, 1.0 for burst and .85 for collapse in the portion of the casing covered by cement for a distance of 1000' above the casing shoe. Above that point a 1.0 collapse design factor is utilized. Also note collapse calculations are performed assuming no internal hydrostatic pressure.

Jim Willock

RECEIVED
AUG 15 1979
U.S. GEOLOGICAL SURVEY

I hereby certify that the foregoing is true and correct

SIGNED R. L. Haness TITLE Dist. Drilling Engineer DATE August 13, 1979

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

Operator	Lease	Well No.
Sun Oil Company	New Mexico Federal "N"	6E

Unit Letter	Section	Township	Range	County
P	6	30 N	12 W	San Juan

Actual Footage Location of Well:
850 feet from the South line and 1135 feet from the East line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage
6038	Basin-Dakota	Basin-Dakota	320 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

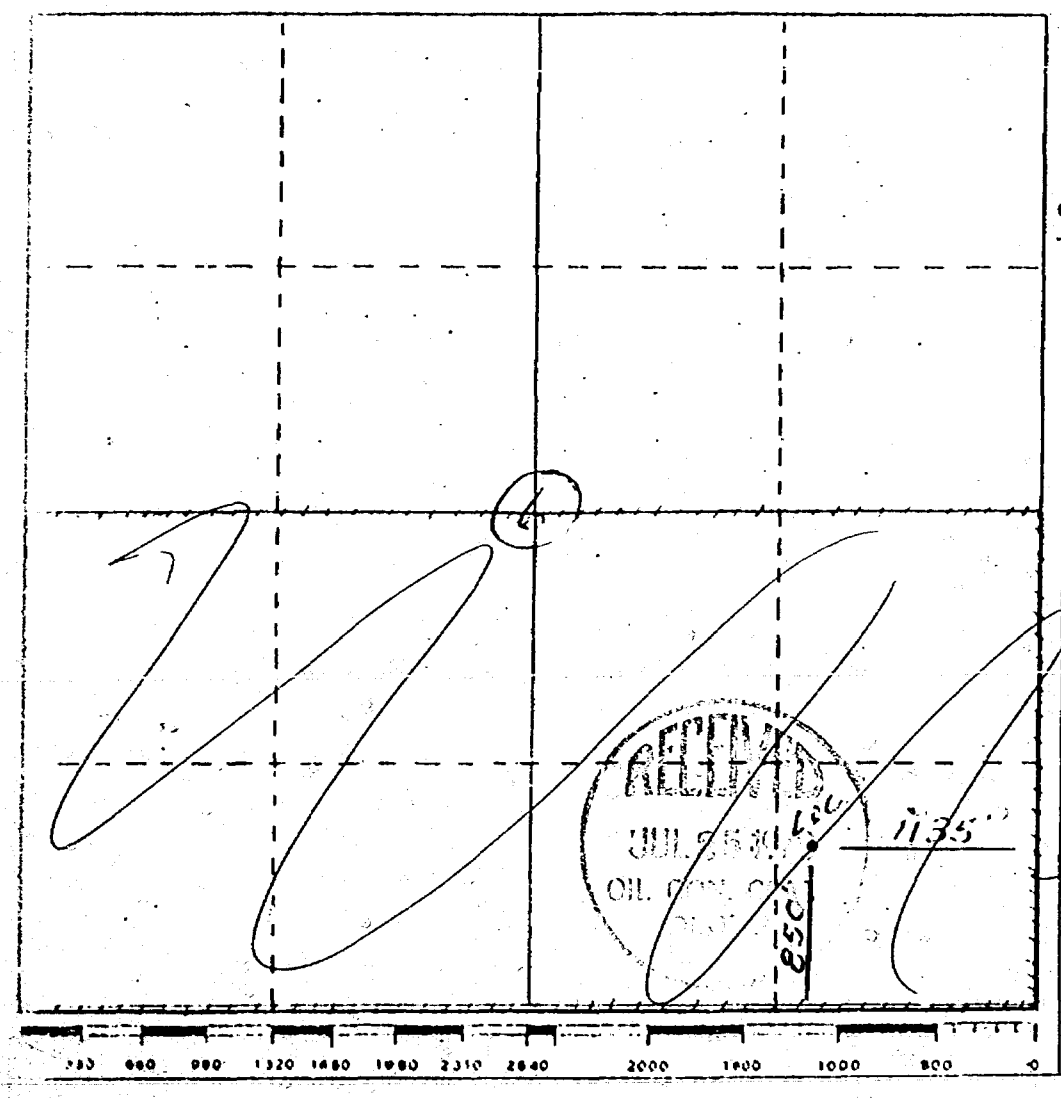
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

George Lapaseotes

Name: George Lapaseotes

Position: Vice-President

Company: Powers Elevation

Date: July 20, 1979

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

7-17-79

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

6857

Certificate No.

Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: USA ~~407~~ NM-047

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A

7. UNIT AGREEMENT NAME: N/A

8. FARM OR LEASE NAME: New Mexico-Federal "N"

9. WELL NO.: #7 6-E

10. FIELD AND POOL, OR WILDCAT: Basin - Dakota

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 6 -T 30N-R 12W

12. COUNTY OR PARISH: San Juan

13. STATE: New Mexico

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER — SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Sun Oil Company

3. ADDRESS OF OPERATOR: 2525 NW Expressway, Oklahoma City, OK 73112

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: ~~1000'~~ 850' FSL & ~~1000'~~ 1135' FEL (SE SE)
At proposed prod. zone: Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 10.2 Miles North-Northeast of Farmington, New Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 1000'

16. NO. OF ACRES IN LEASE: 320

17. NO. OF ACRES ASSIGNED TO THIS WELL: 320

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 2460+'

19. PROPOSED DEPTH: 6,900'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 6042' GR

22. APPROX. DATE WORK WILL START*: July 30, 1979

23. PROPOSED CASING AND CEMENTING PROGRAM * 2nd Stage: 1200sx 50-50 Poz W/additives

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12¼"	8-5/8" New	24#K55 ST&C	350'	250 sx Class "A" W/additives
7-7/8"	4½" New	9.5 #K-55 ST&C	6,900'	1st Stage: 425sx Light W/ additives + 100 sx Class"A" W/ additives *

1) Drill 12¼ " hole and set 8-5/8 " surface casing to 350 ' with good returns.
2) Log B.O.P. checks in daily drill reports and drill 7-7/8" hole to 6,900'.
3) Run tests if warranted and run 4½ " casing if productive.
4) Run logs, as needed, and perforate and stimulate as needed.

EXHIBITS ATTACHED:

"A"	Location & Elevation Plat	"G"	Drill Pad Layout, Cut-Fill Cross-Section & Production Facilities
"B"	The Ten-Point Compliance Program		
"C"	The Blowout Preventer Diagram	"H"	Drill Rig Layout
"D"	The Multi-Point Requirements for A.P.D.	"K"	Fracturing Program Layout
"E"	Access Road Map to Location		
"F"	Radius Map of Field		

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED R. H. Warren (as agent) TITLE District Drilling Engineer DATE June 11, 1979

(This space for Federal or State office use)

PERMIT NO. Joe Williams APPROVAL DATE Exhibit 1 Case 6312

APPROVED BY ____ TITLE ____ DATE ____

CONDITIONS OF APPROVAL, IF ANY: "APPROVAL TO FLARE GRANTED WHILE DRILLING AND TESTING." OPERATOR

This Approval Valid For One Year

RECEIVED
AUG 23 1979
LAND - GEOL.

*See Instructions On Reverse Side

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

OIL WELL ☐ GAS WELL ☐ X OTHER

2. NAME OF OPERATOR: Sun Oil Company

3. ADDRESS OF OPERATOR: 2525 Northwest Expressway, Oklahoma City, OK 73112

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.
See also space 17 below.)
At surface: 850' FSL & 1135' FEL

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6042' GR

5. LEASE DESIGNATION AND SERIAL NO.: USA - 407 - NM 047

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A

7. UNIT AGREEMENT NAME: N/A

8. FARM OR LEASE NAME: New Mexico - Federal "N"

9. WELL NO.: 6-E

10. FIELD AND POOL, OR WILDCAT: Basin-Dakota

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 6-T30N-R12W

12. COUNTY OR PARISH: San Juan

13. STATE: New Mexico

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other)			☐
(Other) Revise Application to Drill	X			(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

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Jack Willock

I hereby certify that the foregoing is true and correct

SIGNED R.L. Haness TITLE Dist. Drilling Engineer DATE August 13, 1979

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

Operator	Lease	Well No.
Sun Oil Company	New Mexico Federal "N"	6E

Unit Letter	Section	Township	Range	County
P	6	30 N	12 W	San Juan

Actual Footage Location of Well:
850 feet from the South line and 1135 feet from the East line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
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If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

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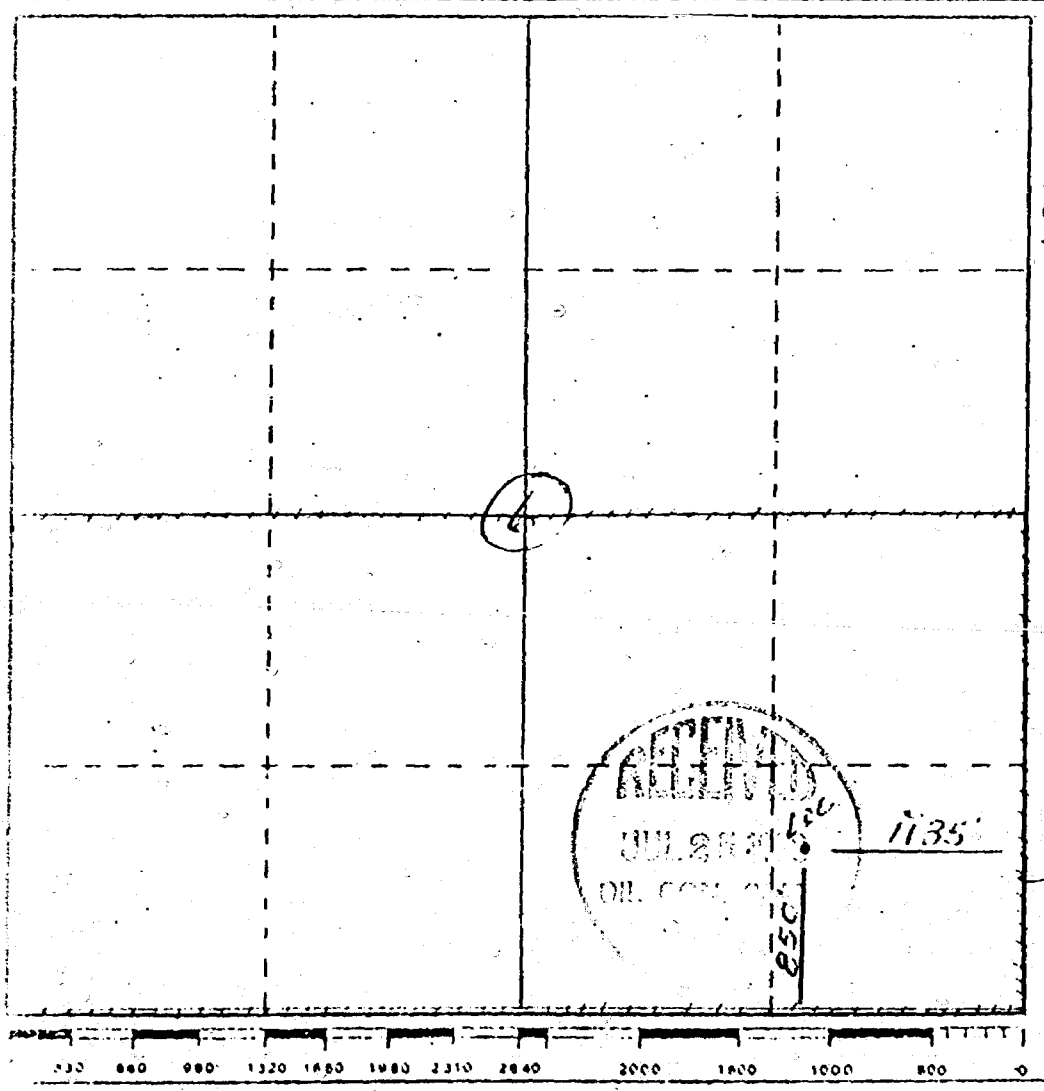


CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

George Lapaseotes

Name George Lapaseotes

Position
Vice-President

Company
Powers Elevation

Date
July 20, 1979

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

7-17-79

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

6857

Certificate No.

Jason Kellahin
W. Thomas Kellahin

Karen Aubrey

KELLAHIN and KELLAHIN
Attorneys at Law
500 Don Gaspar Avenue
Post Office Box 1769
Santa Fe, New Mexico 87501

Telephone 982-4285
Area Code 505

September 18, 1979

Mr. Joe Ramey
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Sun Oil Company

Dear Joe:

Please set the enclosed Application for hearing on October 17, 1979.

Very truly yours,

W. Thomas Kellahin

WTK:eps
Enclosure

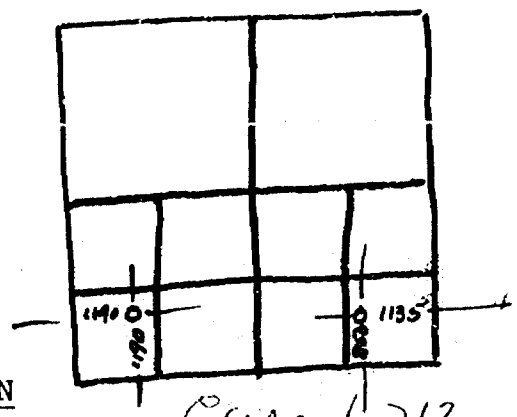
cc: Mr. Michael Kovich

STATE OF NEW MEXICO

DEPARTMENT OF ENERGY AND MINERALS

OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION OF SUN OIL COMPANY FOR SIMULTANEOUS DEDICATION AND FOR INFILL DRILLING, SAN JUAN COUNTY, NEW MEXICO.



Case 6712

A P P L I C A T I O N

COMES NOW SUN OIL COMPANY, by and through its attorneys, Kellahin & Kellahin, and applies to the Oil Conservation Division of New Mexico for an order for the Simultaneous Dedication of Acreage and for Wellhead Price Ceiling Category Determination pursuant to the Special Rules of the Division and Part 271.304 and 271.305 FERC NGPA Regulations, and in support thereof would show the Division:

1. Applicant is the operator of the S/2 of Section 6 T30N, R12W, NMPM, Basin Dakota Gas Pool, San Juan County, New Mexico.

2. That applicant operates its New Mexico Federal "N" Well No. 6, 1190 feet from the West line and 1190 feet from the South line of Said Section 6.

3. Applicant desires to drill its N.M. Federal "N" Well No. 6-E, another Basin Dakota Well, at a standard location 1135 feet from the East line and 850 feet from the South line of Said Section.

4. Applicant desires that the S/2 of Said Section be simultaneously dedicated to both wells.

5. Applicant seeks a determination pursuant to FERC NGPA Regulations that the N.M. Federal "N" Well No. 6-E is necessary

to effectively and efficiently drain a portion of the Basin Dakota reservoir covered by the proposed proration unit which cannot be effectively and efficiently drained by any existing well within the proration unit, and will offer evidence in support of that determination.

WHEREFORE APPLICANT respectfully requests that this matter be set for hearing on October 17, 1979 and that after notice and hearing as required by law, the Division enter its order approving the Application.

Respectfully submitted,

KELLAHIN & KELLAHIN

By W. Thomas Kellahin

W. Thomas Kellahin
P. O. Box 1769
Santa Fe, New Mexico 87501

ATTORNEYS FOR APPLICANT

STATE OF NEW MEXICO

DEPARTMENT OF ENERGY AND MINERALS

OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION
OF SUN OIL COMPANY FOR SIMULTANEOUS
DEDICATION AND FOR INFILL DRILLING,
SAN JUAN COUNTY, NEW MEXICO.

Case 6712

A P P L I C A T I O N

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Respectfully submitted,

KELLAHIN & KELLAHIN

By W. Thomas Kellahin

W. Thomas Kellahin
P. O. Box 1769
Santa Fe, New Mexico 87501

ATTORNEYS FOR APPLICANT

STATE OF NEW MEXICO

DEPARTMENT OF ENERGY AND MINERALS

OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION
OF SUN OIL COMPANY FOR SIMULTANEOUS
DEDICATION AND FOR INFILL DRILLING,
SAN JUAN COUNTY, NEW MEXICO.

Case 6712

APPLICATION

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Respectfully submitted,

KELLAHIN & KELLAHIN

By _____
W. Thomas Kellahin
P. O. Box 1769
Santa Fe, New Mexico 87501

ATTORNEYS FOR APPLICANT

ROUGH

dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

CASE NO. 6712

Order No. R-6179

APPLICATION OF SUN GAS COMPANY
FOR APPROVAL OF INFILL DRILLING AND
~~FOR~~ SIMULTANEOUS DEDICATION, SAN JUAN
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on October 31, 19 79, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this _____ day of November, 19 79, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Sun Gas Company, seeks ~~a waiver of existing well spacing requirements and~~ a finding that the drilling of its N. M. Federal "N" Well No. 6-E to be located in Unit P of Section 6, Township 30 North, Range 12 West, Basin-Dakota Pool, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

(3) That the name of the applicant should be amended to Sun Oil Company.

(4) That Sun Oil Company is the operator of a 320-acre standard proration unit consisting of the S/2 of said Section 6 in the Basin-Dakota Pool.

(5)~~(6)~~ That said 320-acre proration unit is dedicated to applicant's N.M. Federal "N" Well No. 6 located in Unit M of said Section 6.

(6)~~(7)~~ That the evidence presented demonstrated that said NM Federal "N" Well No. 6 cannot effectively and efficiently drain said 320-acre proration unit.

(7)~~(8)~~ That the evidence presented further demonstrated that the drilling and completion of applicant's said new well should result in production of approximately 1.9 billion additional cubic feet of gas from said proration unit which would not otherwise be recovered from the proration unit.

(8)~~(9)~~ That such additional recovery will result in said unit being more efficiently and economically drained.

(9)~~(10)~~ That said new well is to be drilled as an "infill" well on the existing 320-acre standard proration unit.

10~~(11)~~ That in order to permit the drainage of a portion of the reservoir covered by said 320-acre standard proration unit which cannot be effectively and efficiently drained by the existing well thereon, the subject application for infill drilling and simultaneous dedication should be approved. ~~as an exception to the standard well spacing requirements for said Los Medanos-Morrow Gas Pool.~~

IT IS THEREFORE ORDERED:

(1) That the applicant, San Oil Company, its N.M. Federal "N" Well No 6-E, is hereby authorized to drill ~~a well~~ to be located in Unit P of Section 6, Township 30 North, Range 12 West, NMPM, as an infill well on an existing 320-acre standard proration unit being the S/2 of said Section 6, Basin Dakota Pool, San Juan County, New Mexico. The authorization for infill drilling granted by this order ~~is an exception to applicable well spacing requirements~~ is necessary to permit the drainage of a portion of the reservoir covered by the existing 320-acre proration unit which cannot efficiently and economically be drained by any existing well thereon.

(2) That said proration unit shall be simultaneously dedicated to applicant's proposed new well and to its N.M. Federal "N" Well No. 6 located in Unit M of said Section 6.

(3) Jurisdiction

DONE