CASE 2406: Application of SHELL for an exception to Rule 502-I to increase daily production tolerance.

Case No.

2406

Application, Transcript,

Small Exhibits. Etc.

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WESTERN UNION
TELEGRAM

1201 (4-60)

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OIL CONSERVATION COMMISSION=

STATE LAND OFFICE BLDG SANTA FE NMEX=

RE CASE NO 2406 WE OPPOSE THE GRANTING OF EXCEPTION TO SHELL RULE 502-I LEA COUNTY NEW MEXICO TO INCREASE FROM 250/0 TO 1000/0 DAILY PRODUCTION TOLERANCE IN CERTAIN FIELDS IN LEA COUNTY NEW MEXICO SKELLY OIL COMPANY OPERATES WELLS IN THESE FIELDS AND AS PRODUCER IS OPPOSED TO CHANGING THE EXISTING RULE AS BEING UNNECESSARY AND LEADING TO CONFUSION SKELLY OIL COMPANY AS OPERATOR OF GASOLINE PLANTS ALSO OPPOSES APPLICATION SINCE IT WILL

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

WESTERN UNION TELEGRAM

CAUSE MAXIMUM VOLUME OF GAS AT SHORTER PERIOD OF TIME
TO MAKE EXISTING FACILITIES INCAPABLE OF HANDLING
SUCH TEMPORARY LARGE AMOUNTS=
GEORGE W SELINGER SKELLY OIL CO==

2406 502-I 25 100

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 25, 1961

EXAMINER HEARING

IN THE MATTER OF:
Application of Shell Oil Company for an exception to Rule 502-1, Lea County New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 502-1 to increase from 25 per cent to 100 per cent the daily production tolerance applicable to all of its wells located in the Hobbs, Eunice-Monument, Vacuum-Abo, and Vacuum-San Andres Pools Lea County, New Mexico.

CASE NO. 2406

BEFORE: Dan Nutter, Examiner

TRANSCRIPT OF HEARING

EXAMINER NUTTER: We will call Case No. 2406.

MR. MORRIS: Application of Shell Oil Company for an exception to Rule 502-1, Lea County, New Mexico.

MR. SETH: Oliver Seth, Santa Fe, representing Shell Oil. We have two witnesses.

(Witnesses sworn.)

R. L. SUMERWELL,

called as a witness by and on behalf of the Applicant, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. SETH:

Q Would you state your name, please.

A R. L. Sumerwell.

Q By whom are you employed, and in what capacity?

A Shell Oil Company as a mechanical engineer.

Q Have you testified before this Commission on previous hearings?

A Yes.

Q As a mechanical engineer?

A Yes.

MR. SETH: Are his qualifications acceptable?

EXAMINER NUTTER: Yes.

Q (By Mr. Seth) Would you tell us, first, what the general purpose, what is sought by the application of Shell Oil Company in Case No. 2406?

A Shell Oil is seeking an exception to Rule 502-1 to afford more flexibility in the operation of certain of our oil properties in Eastern New Mexico. Specifically, we are asking that the daily tolerance allowable be increased from 125 per cent to 200 per cent, and this will afford a more prudent operation in scheduling our oil properties.

Q Have you prepared, and have you available, a plat showing the several fields which are the subject of this hearing?

A Yes, sir.

Q I hand you what's been marked for identification as Shell's Exhibit No. 1. Would you state, please, what that shows?

A Exhibit No. 1 shows Shell's leases in the Monument Field,

which is one of the fields we have. We are asking for an exception to this rule.

Q Are the Shell's leases shown on the exhibit?

A The Shell's leases are labeled, outlined in red.

Q Are the well numbers also indicated in each lease?

A Yes.

Q Would you explain as to Exhibits 2 and 3 also?

A Exhibit 2 is a similar plat of the Hobbs Field, which is the second field that we are asking this exception.

Exhibit 3 depicts Shell's leases in the Vacuum-San Andres and Vacuum-Abo Field.

Q The Exhibit 3 shows two fields?

A Yes, the two fields are not differentiated on the map. However, there are two leases, the Vacuum State D and State GA, with both Andres and Abo completions on them.

Q There are a number of wells in each of these fields which you would like the exception to apply to?

A Yes. We have asked for an exception for all of our wells, even though a number of them, at the present time, are not capable of producing 200 per cent.

Q This application applies to all of Shell's wells in each of the four fields?

A Yes, that's correct.

Q Do you have a list of these wells?

A Yes, I do.

Q I hand you what's been marked Applicant's Exhibit No. 4 in this case. Could you tell us, please, what this shows?

A Exhibit 4 shows merely a listing of all Shell's wells in the four fields in question: The Monument, Hobbs, Vacuum-San Andres and Vacuum-Abo. The asterisk indicates that at the present time, in our opinion, these wells are not capable of producing in excess of 125 per cent top unit allowable; in many cases, not even that.

Q Why have you included these wells in the application?

A Primarily, in case if we should work a well over and it should be capable of producing 200 per cent, we'll have that privilege available.

Q Do you think there is any advantage to have the application and any order issued apply to all of the wells instead of part of them, for easy administration?

A Yes. I think that would make for easy administration of this case, and would also allow us more flexibility in the future, should we need it.

Q Referring to Exhibit 4, can any well on that lease be located by reference to Exhibits 1, 2, or 3?

A Yes, it can.

Q Your application would result in an increase in oil production at that particular time during the months the rate would increase; is that correct?

A Yes, this would be so at various times in the month.

Q Would this affect the pipeline companies that are presently taking the oil?

A No, that was one of the main concerns that we tried to cover. We do have letters from both pipe carriers in these areas.

The Texas-New Mexico Pipeline Company is the prime company in the Vacuum Field with one lease in the Monument, with Shell pipeline taking the remainder of the production.

Q Did you take this matter up with these pipeline companies?

A Yes.

Q What was their response?

A They have no objection, and indicated that they would not overload in any way or inhibit taking their oil.

Q Did you receive letters from them to that effect?

A Yes.

Q Referring to Exhibit 5, that's the letter from Texas-New Mexico Pipeline Company. What does that say? Would you mind reading that for the record, please?

A "Gentlemen: We understand the Shell Oil Company is requesting permission to produce this well in the Monument, Vacuum-San Andres and Vacuum-Abo Field on a 5-day work week rather than a 7-day allowable. This in no way would affect our pipeline operation from the fields."

That is addressed to the New Mexico Oil Conservation Commission, and it is signed by Mr. Frank K. Whitaker, Jr.

Q Do you have a similar letter from Shell Pipeline Company?

A Yes.

Q What does that say?

A "We are agreeable to your proposed method of operation in the Hobbs Monument Field whereby you will obtain the weekly production in five days. This agreement is based on the following conditions:

"(1) Under the present schedule of allowables, our gathering system will not be overloaded. However, if production materially increases or if you have other operators following this procedure, it will be necessary to run some of this oil on week ends.

"(2) This will require that operators maintain sufficient storage to hold over week ends and/or execute waiver.

"(3) Operators must execute waiver or have representative on hand when month ends and week end coincide."

Q Have you made a study of production rates through a typical month for each of these fields as to oil and gas?

A Yes. I have plotted it, using top allowables of thirty-five barrels per day.

Q Do you have an exhibit showing this?

A Yes.

Q Now, referring to what has been marked Exhibit 8, would

you tell us, please, what that shows?

A This is a plot of the oil production from Shell's properties, all of Shell's oil producing wells in the Monument Field.

Q Does it show the current production?

A It shows the current oil production, the rate is shown labeled as the dark lower black line. This is the production our wells are produced at at this time.

Q Generally, what is the shape of the line?

A It is quite flat to about the 25th or 26th day of the month, and then it drops down to what the marginal wells will produce so that the top allowable wells are at approximately 125 per cent, the majority of the month, about the first twenty-five days, and then only the marginal producers are producing, less than five or six days.

Q Now, what about the gas rate?

A The upper black line depicts the gas flow from our leases under current operations. The cross test area, the lower cross test area, is the anticipated oil rate should this exception be granted.

The upper cross test area is the anticipated gas rate.

Q What is the shape of the current gas rate line?

A Again, it is flat to about the twenty-fifth day of the month, and then it decreases to what the marginal wells will produce.

Q Is there a significant difference between the two, say

the current oil rate line and the proposed one? You will have a series of drops of shorter duration instead of the present drop of about the same magnitude that lasts for a number of days at the end of the month?

A That is practically right. There will be more dips during the month.

However, I think it will tend to even out Shell's gas production into the various plants throughout the month and perhaps will help alleviate the end-of-the month gas intake problem that the plants experience.

Q Now, a little bit more about the marginal wells. How would you propose they be handled?

A They are not capable of producing even top allowable. Allowable will be produced every day of the month just as they now are.

Q And the bottom of these dips shown on Exhibit 8, that is the total marginal production, is that right?

A Yes. I have actually labeled the number of marginal wells -- there are eight wells in the Monument Field that are marginal -- and there is a total of nineteen wells in the field.

Q Now, this exhibit is prepared showing the shut-in of production on certain days of the week or of the month. Do you make this proposal for the particular days of each month?

A No, sir. This is quite arbitrary. We merely picked these days for gravity. They will ultimately be selected through

cooperation with the gas plant operators and oil-handling pipeline carriers in an attempt to level out their peak loads so that we will work quite closely with those people in selecting two days of the week that the top allowable wells will be shut in.

Q And this exhibit is just an example, and you have selected particular days arbitrarily?

A That's right.

Q But will the spacing of the days that the wells will be shut in be essentially as shown on this, regardless where it occurs during the days of the month?

A Each week the wells will be produced five days of the week and shut in two, so we won't attempt to produce the well fifteen days and then shut them in, if this 200 per cent is granted.

Q Have you prepared similar exhibits for the Hobbs Field?

A Yes, for all four fields.

Q Referring to Exhibit No. 9, would you explain, please, what that shows?

A It is quite similar to the original graph on the Monument, and shows the oil-gas rates, both current and proposed, of the Hobbs Field. This does include all Shell's wells in the Hobbs Field.

Q Is this prepared in the same manner as Exhibit No. 8, to which you previously testified?

A Yes, it was.

Q Would you describe it and take us through this exhibit

briefly?

A All right. In the Hobbs Field we have 11 wells that are not capable, at the present time, of producing top unit allowable, and a total of 40 wells in the field.

The lower cross test area does show the oil production that would be in effect should this be granted. The lower heavy line, which is flat to approximately 25 days, shows the current producing rates.

The top cross test area is the proposed gas rate, and the top heavy line is the current gas rate.

Q Are these lines similar in shape to the one that you referred to for the Monument?

A Yes, quite similar.

Again, under the current producing schedule, we are shut in, virtually shut in, at the end of the month -- not shut in, but only the marginal wells are producing.

Q Do the same thing for Exhibit No. 10, please. That's the Vacuum-San Andres.

A Yes, it shows the producing -- both the heavy lines show the oil-gas rates that we are currently experiencing, and the lower cross test area shows the proposed oil rate for the Vacuum-San Andres, and the upper cross test area shows the proposed gas rate for the San Andres gas wells.

Q It shows the marginal portion of it?

A Yes.

Q Is there anything else on Exhibit No. 10 that's different?

A No, I don't believe so. The actual marginal production is shown, I think, best on this lower area. That's the two days that the well would be shut in, the top allowable wells would be shut in.

Q Now, referring to --

MR. PORTER: Can you give us the names of the wells on this exhibit?

THE WITNESS: The current marginal wells are six -- a total of twenty-four wells in the field.

Q (By Mr. Seth) Would you explain Exhibit 11?

A Exhibit 11 shows the current and proposed oil-gas rates for the seven Vacuum-Abo wells. All these wells are top allowable wells at the present time.

The lower cross test area shows the proposed oil rate, and the lower dark line shows the current oil rate.

The top cross test area shows the proposed gas rate, and the top heavy line shows the current gas rate.

With no top allowable wells, the valleys are more pronounced.

Q You mean with no marginal wells?

A Yes, with no marginal wells, with no production on two days out of each week.

I may also add that this is an ideal condition.

Oftentimes it is necessary that the well be produced seven days a week for various reason, so this would be the maximum condition, maximum peak load that we might impose for oil-gas handling. Oftentimes our top allowable wells might continue to produce all week.

Q About how many total wells are we talking about?

A A total of 65 wells -- a total of 90 wells.

Q 90 wells?

A Yes.

Q In the four fields?

A Yes,sir.

Q Do you have the oil volume by fields, or the total oil volume?

A Yes. In the Monument Field total oil production is 775 barrels per day. In the Hobbs Field, 1830 barrels per day. In the Vacuum-San Andres, 1142; in the Vacuum-Abo, 1190. These are approximate figures.

Q Do you have the same data as to gas production?

A Yes. In the Monument Field, daily gas production is 1243 MCF per day; in the Hobbs, 3537 MCF per day; in the Vacuum-San Andres, 1583 MCF per day.

EXAMINER NUTTER: 83 or 93?

THE WITNESS: 83.

A (Continuing) In the Vacuum-Abo, 1160 MCF per day.

Out of the 90 total wells, 65 of these are, in our

opinion, capable of producing 200 per cent of top unit allowable, 25 are not.

Q (By Mr. Seth) What gasoline plants are connected to your casinghead gas production?

A The Monument Field is connected to the Juan Plant. Phillips is the operator of the plant at Hobbs, and also the Vacuum-San Andres and Abo production goes into the Phillips plant at Buckeye.

Q Do you know about what percentage of Shell's gas is the total intake of the Phillips gasoline plant at Hobbs?

A Using the August production figures, 10 per cent of the Hobbs plant intake is contributed by Shell.

Q From the Hobbs field?

A Yes.

Q How about other gasoline?

A The Phillips plant at Buckeye, we contributed approximately 1.89 per cent, and the Warren Plant at Monument, we contributed 1.23 per cent.

Q Those are the three plants taking all of your casinghead gas from these four fields?

A That's correct.

Q Is Shell prepared to cooperate with these plants and with other producers to work out any severe peaks in the gasoline plant intake?

A Yes, we are.

In fact, we had a brief meeting with these operators and offered our complete cooperation.

Q Are you speaking of gasoline?

A Yes. Phillips and Warren were present, and we offered our complete cooperation in attempting to level out their peaks and any other intake problems they might have.

Q The amount of gas you contribute is really a relatively small amount to these plants, is it not?

A Yes, in most cases it's quite small.

Q Now, in the event that this application should be favorably considered, what savings would you expect in your operations, and what other advantages to the State would result?

A Well, one of the immediate effects of a favorable order on this case would be a reduction in the amount of supervision that we have to have to produce our wells. This would enable us to shut the well down two days a week, top allowable wells, and eliminate supervision during these days, and this would effect approximately $11,000. per year savings to Shell Oil Company.

This, of course, would ultimately reduce the economic limit of these wells and we could possibly recover as much as an additional 60,000 barrels of oil through lowering the economic limit.

We feel this is quite significant, both to Shell and the lease holder, and in some cases, to the State of New Mexico.

Q By reducing your operating cost, you could prolong the

period during which you could economically operate the field?

A Yes.

Q And that would result in production of more oil, with more --

A More recovery.

Q -- royalty to the State?

A Yes.

Q And more sales taxes?

A Yes.

Q Do you believe that is in the interest of conservation?

A I think it definitely is. In addition to this monetary saving, this also offers more flexibility in the operation of our wells and should a prolonged shutdown be necessary through remedial work, this will enable Shell to produce allowable production from the wells that have been shut down.

Q I guess all operators have experienced this, though, through storms and other unavoidable accidents and mechanical failures?

A That is correct.

Q At the present time, allowable is occasionally lost by these uncontrollable factors, is that right?

A Yes.

Q You can't make it up on present cost?

A That's right.

Q Now, I believe you testified that you do not intend this

application to permit any 15-day production and 15-day shut-in, is that correct?

A No. We would like permission to produce the well at the rate of 200 per cent, five days out of each seven.

Q If the Commission considers the application favorably, you would expect to have no objection to provisions in the order which would so limit it, is that right?

A Yes.

Q Do you have anything further you would like to mention?

A No, I can't think of anything at this time.

The ability of the wells to produce 200 per cent without damage to the reservoir will be covered by Mr. Stokes.

MR. SETH: Mr. Examiner, we would like to offer Exhibits 1 through 11. We have no No. 7, by the way.

EXAMINER NUTTER: They will be admitted in evidence, 1 through 6 and 8 through 11.

Are there any questions of the witness?

EXAMINATION

BY MR. MORRIS:

Q Mr. Sumerwell, now, as I understand the gist of it, you want to operate your wells on a five-day week rather than a seven-day week?

A Right.

Q Now, at the present time, are you operating your wells on a seven-day week?

A Yes, sir.

Q As I figure it, under the 25 per cent tolerance, you could actually make up one day and operate your wells on a six-day week at the present time?

A That's correct.

Q By producing each well 16 2/3 per cent in excess of daily allowable for six days?

A That's true.

Q But, according to my calculations you'd have to produce each well 40 per cent in excess of daily allowable per day for five days to make up two days production. Would you agree with that?

A I haven't figured that.

Q In other words, if each well produces 40 per cent in excess of daily allowable for five days, you would have made up -- you would be 200 per cent over?

A Yes.

Q And at the end of five days that would be two days allowable?

A Yes.

Q All right now, if you allowed something for give and take there, say another 25 per cent, that would bring you up to 65 per cent. I am wondering why you have requested a hundred per cent rather than some lower figure.

A By practice, our lease operators leave the field on

Friday evening and return Monday morning. There is actually 2 2/3 days unattended, so that will require approximately a hundred sixty two per cent of top unit allowable. Two hundred was quite arbitrary. We just thought that would be sufficient to afford us this flexibility.

Q Your figure, 2 2/3 days unattended, you would have to produce some sixty-odd per cent?

A Yes.

Q And periods in excess of that, the wells would actually have to make up?

A 62 per cent, I believe.

EXAMINER NUTTER: You have got almost three days off instead of two.

THE WITNESS: Nearly.

Q (By Mr. Morris) Do you contemplate any other wells being drilled in any of these pools by Shell?

A We don't at the present time, but should the order be considered favorably, we would like to have any future wells in this field included.

MR. MORRIS: That's all; thank you.

EXAMINER NUTTER: Are there any further questions of Mr. Sumerwell?

MR. JONES: Carl W. Jones, Phillips Petroleum Company. I think the Commission file will reflect there is a letter from Charles C. Spann entering an appearance on behalf of Phillips

Petroleum Company.

I may state that Phillips is a producer of oil and is vitally interested in anything which will make for more efficient and economical operation of their leases. However, in this case, Phillips is a gasoline plant operator and thinks that this application would involve more problems than it would solve, and would ultimately result in waste of gas.

For that reason, we believe the application should be denied.

EXAMINATION

BY MR. JONES:

Q Mr. Sumerwell, if I understand your testimony correctly, the two basic reasons for this application are the benefits that would be derived by reduction of supervision of the lease?

A One benefit.

Q And more flexibility in operation, particularly making up allowables that could not otherwise be produced?

A Yes.

Q Is there anything, Mr. Sumerwell, in these four fields that you have named that is peculiar to these fields that would not likewise be applicable to any other field in Southeastern New Mexico on the basis of the two reasons you advance?

A As far as Shell's leases are concerned, we have a large number of top allowable wells that are capable of producing 175 to 200 per cent.

Q Is there anything particular that makes this application particularly attractive to these four fields as distinguished from any other fields in Southeast New Mexico?

A Yes, the reasons I stated.

Q All right now, I believe you stated that of Shell's gas which is going to the Phillips plant, 10 per cent of the gas is going from the Hobbs Field from Shell's lease, is that correct?

A The August summaries indicate that, I believe.

Q All right, sir, and 1.89 per cent of the gas from the Vacuum-San Andres and Vacuum-Abo Pools going to the Phillips plant is Shell's gas?

A Yes.

Q Now, Mr. Sumerwell, is there anything about Shell's leases, those pools, which makes this application attractive from Shell's viewpoint, which wouldn't be applicable to other operators in those pools?

A Assuming they have an equivalent number of wells producing 200 per cent, I think not.

Q In other words, as far as you know, any other operators in those four fields would find this 100 per cent tolerance instead of 25 per cent equally attractive?

A Assuming they have sufficient wells capable; yes, sir, they could effect the same savings.

Q Now, as to your point about the reduction in supervision, which I believe you testified would save $11,000 a year and

possibly recover an additional 60,000 barrels of oil; how many wells does Shell operate in the Hobbs Pool?

A 40 wells.

Q All right, sir. Now, how many pumpers do you now have operating those 40 wells?

A one regular and one relief operator.

Q When does the regular pumper -- what days does he work?

A I am not prepared to answer that; I don't know.

Q Well now, I have noted that you stated in answer to a question by Mr. Morris that the leases or operators now leave the field on Friday evening and come back on Monday morning.

A I believe I did say that, and that was merely an example, not necessarily.

Q Are the 40 Shell wells in the Hobbs Pool unattended from Friday evening until Monday morning?

A No, sir.

Q And you have a relief pumper?

A Yes, sir.

Q And the savings, then, in the Hobbs Pool would be the elimination of the relief pumper?

A Yes, that would be one of the savings.

Q Well, as far as the reduction in supervision, wouldn't that be the only saving?

A Yes.

Q Now, how many wells does Shell operate in the Vacuum -San

Andres Pool?

A 24.

Q How many pumpers operate these wells under your present system of operation?

A There is one pumper that is handling the 24 San Andres wells, plus the 7 Vacuum-Abo Wells.

Q One pumper handles the production from both the Vacuum-San Andres and Vacuum-Abo?

A Yes.

Q What days does he work?

A I don't know that.

Q Does he have a relief pumper that takes over when he is not working?

A Yes.

Q The reduction in supervision, then, for the Vacuum-San Andres and Abo Pools would be the elimination of the relief pumper, is that correct?

A That's correct.

Q Now, as to the flexibility in operation. Isn't it a fact that you possibly can make up some allowable which you otherwise would not be able to get because of mechanical difficulties, so forth? Have you had some difficulties like that recently?

A Not to my knowledge, no. There have been no specific cases.

Q I suppose that 25 per cent tolerance now provided for

in Rule 502, Section 1, is designed to take care of situations like that?

A I think I might say that that isn't the paramount purpose of our application. It's reduction in supervision rather than flexibility.

Q All right, sir, and the flexibility is also provided by the other provisions in the rule which provide for five days tolerance during any one proration period, does it not?

A Yes.

Q So that you have two methods in the present rules to achieve such flexibility; one, a 25 per cent tolerance, and the other a five per cent, five-days tolerance for each proration period?

A Yes, that's right.

Q And then, did I understand you to say basicially, then, the reason for the application is reduction in supervision?

A That's correct.

Q And that in this case the fields subject to this application, it would mean the elimination of two relief pumpers for a period of two days?

A Plus a relief pumper in the Monument Field.

Q That would mean three relief pumpers for two days each week?

A Yes.

Q Mr. Sumerwell, there are now difficulties, are there not,

even under the present rules about scheduling of gas production? You are meeting with plant operators, are you not, to work that out?

A They have indicated in meetings that this always has been a problem.

Q And I believe you mentioned that sometime this week you had a meeting with gasoline plant operators to discuss this application?

A That's correct.

Q Was Phillips Petroleum Company represented at that meeting?

A Yes.

Q Do you recall who that representative was?

A They had three representatives, Mr. Hankin, Mr. Curlee, and Mr. Frank -- I am not positive of those.

Q All right. Did you present at that meeting any plan for the scheduling of oil leases into the plants if this application was granted?

A We presented to them the same graph we have presented to the Commission today, depicting current and proposed gas rates into the plants from Shell leases.

Q As far as seeding of Shell's leases is concerned, if this application were granted, do you have any specific plans there?

A No. We just offered our wholehearted cooperation in

attempting to reduce the peaks that they might experience on plant intake.

We also tried to point out at that meeting that this method of producing will perhaps reduce the problems that they now have at the end of the month, when the majority of the top allowable wells are shut in.

That is a problem in gas plant operation, I believe.

Q At the end of the month?

A Yes.

Q When they're shut in?

A Yes.

Q What problem is that?

A They indicated that they experienced quite low rates on their intake gas at the end of the month due to top allowable wells being shut down. There was evidence that there was a number of factors involved.

Normally, the voltage goes up; when the top allowable wells are shut down, the voltage goes up and the gas plant intake goes down, to the best of my knowledge.

Q If there is that problem of low intake at the end of the month, then there is a problem of higher intake during the early part of the month?

A I think they would attempt to rectify that, somewhat, by distributing the gas throughout the month rather than at the first part of the month.

Q During the time that Shell's leases were producing greater volume, if this application were granted, why the procedure of the gas in the gathering lines of the Shell leases into the Phillips lines would tend to increase, would they not?

A I should think so, slightly.

Q Well, wouldn't it be more of a proportionate increase rather than slightly?

A Shell's gas would increase during certain parts of each week, yes. However, it seems improbable that 1.8 per cent, a slight increase of that volume, would overload us.

Q If a plant were already lowered, it would, would it not?

A I am not that familiar with gas plant operation, sir.

Q All right, sir. If other operators having similar justification presented applications similar to this, why then that would tend to produce considerably more gas into the plant, would it not?

A No, sir, I don't agree. At any time that two operators would be granted permission to do this scheduling, it would tend to decrease the peaks, as long as the operators didn't take the two days off the same day of the week.

Q You work now with the plant operators, do you not, on scheduling?

A Yes.

Q Do you not find that there are difficulties on scheduling, even under the 25 per cent tolerance?

A We don't find any problem.

Q You have no problem?

A Not to my knowledge. We try to cooperate in every way we can to even out their loads.

Q Even with the utmost cooperation, don't you have peaks during the day as distinguished from the night?

A I am in the production department. I am not prepared to answer that.

EXAMINER NUTTER: You do have peak production during the day, do you?

A We probably do. However, we have intimeters and time clocks so that they're not necessarily producing in the day time.

Q (By Mr. Jones) Is it Shell's practice in some cases to shut down the pumping wells overnight?

A Not to my knowledge.

Q They are run by time clocks night and day?

A Yes.

Q Do you anticipate there would be any more difficulty in scheduling if this application is granted than there is at the present time? Do you think it would require more work between Shell's production department, say, and the gasoline plant operators?

A I think not, myself.

Q You don't think it would require any more work or effort?

A It was indicated to us that there is an existing problem

that hasn't been coped with yet, and it is actually our hope that this would help alleviate that problem, help provide better scheduling for the gas plant.

Q You don't think it would require any more effort or time on the part of your people to schedule properly under 100 per cent tolerance than it would under the 25 per cent tolerance?

A Not having had a scheduling problem, I can't answer that, but I think through cooperation this can help.

The gas plant operators indicated that sometimes producers would offer cooperation, particularly at the higher management levels, but oftentimes this wasn't carried out by the lease operators. This cooperation has been carried out and planned by our management, and has virtually been mandatory on the lease operators.

Q Who would cooperate and work on this scheduling with the lease operators?

A The Division Superintendent could do that. Perhaps this would be delegated later once any problems were ironed out.

Q Under this proposal, would the production of your leases be staggered so that some will be producing all of the seven days during the week?

A The wells that are capable of producing a hundred and sixty per cent would not be staggered, necessarily. The marginal wells would produce all seven days of each week.

What do you mean by "staggered"?

Q Would some of your -- referring to your answer, would some of your top allowable wells be producing all seven days of the week?

A No, sir, not under normal operating conditions.

Q Under normal operating conditions all of your top allowable wells would be producing the same five days of the seven-day week, is that correct?

A That is correct.

Q You don't anticipate that that would lead to any difficulty in scheduling?

A Again, I can't answer that.

The graph does depict an increase in gas rates in plants capable of handling this, and through proper scheduling, why, perhaps it won't.

Q Mr. Sumerwell, that is what I am asking you, about the scheduling. You told me there wouldn't be any scheduling of top allowable wells, that all would be producing five days in the same five days out of the seven-day week.

A I am selecting the two days that the top allowable wells will be shut in.

Q They will be shut in all at the same time?

A That's correct.

Q How is that scheduling production? Do you mean that some of the operators will produce during the two days that you are shut down?

A No. I am speaking of scheduling Shell's production with respect to other operators' production which could help to minimize the peak load in any gas plant.

Q Well, that would require cooperation not only between Shell and the plant operators, but all of the other operators.

A If you have problems with other operators, it would.

MR. JONES: I believe that's all the questions I have.

EXAMINER NUTTER: Are there any further questions of Mr. Sumerwell?

EXAMINATION

BY EXAMINER NUTTER:

Q Mr. Sumerwell, I missed a couple of figures. What was the oil production in the Monument Pool, please?

A 775 MCF.

Q And 1830 in the Hobbs?

A Yes.

Q And 1142, 1190 in the San Andres and Abo?

A Yes.

Q You have got 11 marginal wells in the Hobbs Pool and one pumper operating 40, and one relief pumper operating on the week end. Now, in the Vacuum-San Andres you have got 6 marginal wells out of a total of 24, with a regular pumper and a relief pumper, and 8 marginal wells in the Monument Field out of a total of 19, with one pumper and a relief pumper.

Then, if you are granted 200 per cent tolerance and shut

in the top allowable wells for two days, who would operate these marginal wells?

A They would be unattended.

Q For two and two-thirds days?

A Yes. We wouldn't necessarily be there. We would be there only in case of accident or some malfunction, if it was reported to him. He would be available, but he would not be inspected by any individual. We might circle a man by until we were sure there was nothing wrong.

Q There would be a limited amount of supervision on the marginal wells on the two and two-thirds days?

A Yes. We would only have a man go by the wells should accident occur, and he would be available to rectify it.

Q There would be no Shell people there to observe the accident and report it when it occurred?

A No, sir.

Q Are most of these marginal wells artificially lifted?

A I don't know whether they are or not.

Q It would be reasonable to assume that a large percentage of these would be?

A I think it would. I can provide that, I think. Twenty-two of the Vacuum-San Andres wells out of the 24 are artificially lifted by rod pump.

Q That would include the 6 marginal wells?

A Yes. Most of the flowing wells are capable of producing

200 per cent.

Q In your opinion, Mr. Sumerwell, do you deem it a prudent operation to leave a marginal well which is on artifical lift unattended for two and two-third days?

A I think the risk is minimized by leaving only the marginal producers operating, and that, again, is one of the purposes of this hearing, to attempt to minimize any waste that might occur during an unattended time by enabling us to shut in the top allowable wells.

Q But have you decreased the risk as far as the marginal wells themselves are concerned?

A We have not done that.

EXAMINER NUTTER: Are there any further questions?

If not, the witness is excused.

(Witness excused.)

DANA D. STOKES,

called as a witness by and on behalf of the Applicant, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. SETH:

Q Would you state your name, please.

A D. D. Stokes.

Q You are employed by Shell Oil?

A Yes, as District Reservoir Engineer for Shell Oil Company in Roswell.

Q Would you give us a little summary of your educational background and your experience?

A I am a graduate of the University of Houston, with a B.S. Degree in Petroleum Engineering.

I have been employed by Shell for fourteen years. I spent six years in production research laboratories, three years as a field engineer, and for the past five years I have been a reservoir engineer.

Q As a reservoir engineer, have you become familiar with these fields that are the subject of this hearing?

A Yes.

MR. SETH: Are the witness's qualifications acceptable?

EXAMINER NUTTER: Yes. You may proceed.

Q (By Mr. Seth) Would you state, briefly, a little bit of the background of each of these fields as relates to our rate of withdrawal problem here.

A I will start with the Hobbs Field.

The Hobbs Field was discovered in 1928. It has produced, to date, approximately a hundred sixty-seven million barrels. It had an original reservoir pressure of 1500 pounds, which is down to 900. It produces by a combination of water drive, gas expansion, and solution gas.

It had an original gas cap water level of approximately 620 feet sub-sea. Water encroachment has been from the west, with no water apparently on the east side of the field. The approximate

rate in the Hobbs Field is fairly high at times running from several thousand barrels per well in the late Twenties to a current thirty-four. As late as 1951, Shell production averaged 56,000 barrels per month, with an allowable of 53 barrels per day. That compares with a production of 36,600 barrels a month current, with an allowable of 34 barrels per day. In both cases, this is a gas ratio of about 10,000 barrels per month per daily barrel of unit allowable.

I believe the past performance of the Hobbs Field shows that it is producing in excess of 34 barrels per day, and that it will not cause reservoir damage.

Q Now, as to the other field?

A The Monument Field was discovered in 1936 and has produced, to date, approximately a hundred fifty-three million barrels. It had an original reservoir pressure of 466 pounds and currently has 920.

It produces, primarily, by water drive, with some effect from gas expansion. This was originally a gas-oil contact, 153 feet sub-sea, with oil contact at 390 feet sub-sea. Water drive has been primarily from the south and east.

In the Monument Field, since 1955, the water cut in the field has averaged 55 per cent to 65 per cent total production. It has not increased appreciably in that eleven-year period. I believe past performance in the Monument Field indicates that operation -- the flexibility we have requested will not cause a

reservoir damage.

The Vacuum Field was discovered in 1947, and produces a little over ninety-one million barrels. It had an original pressure of 1650 pounds and currently has around 900 pounds in the Fairway area.

It produces by solution gas drive through an original oil-water contact 735 feet sub-sea, but there has been no encroachment except for a minor amount on the southeast flank.

In 1951, Shell's production averaged 30,000 barrels per month, with 53 barrels per day allowable. The withdrawal of the requested rate will not cause damage.

The Vacuum-Abo Field was discovered in 1960. It has an original reservoir pressure of 3100 pounds and does not have a significant decline to date. It has an average porosity of 5 1/2 per cent and a permeability of 25,000,000, and a gross thickness of 500 to 600 feet. It has a net pay of approximately 250 feet. From the character of the structure, I believe that reservoir drive will be solution gas. The reservoir has excellent communication and should be capable of producing at a high rate without damage to the reservoir.

The wells in the Vacuum Unit have been producing in excess of top allowable, without decline of capacity or any evidence of damage.

Q Then, in summary, your opinion is that the rate of production that is requested in this application will not damage any

of the four reservoirs?

A In all but the case of the Vacuum-Abo, we have in the past produced considerably in excess of that rate without damage. I believe we can do so now.

Q Under the previous high allowable?

A Yes. The rate in 1951 of 53 barrels with a tolerance of 25 per cent would amount to 70-some-odd barrels per day, while in excess of 200 per cent of our current unit allowable.

MR. SETH: I believe that's all the questions I have.

EXAMINER NUTTER: Are there any questions of the witness? What were your initials, please?

THE WITNESS: D. D.

EXAMINATION

BY EXAMINER NUTTER:

Q You stated, Mr. Stokes, in 1951 when the Hobbs had an allowable of 53 barrels, it produced how much?

A Shell's production was 56,000 barrels per month.

Q Was 10,000 barrels per month per unit allowable?

A Well, it's just a factor that indicates that as far as Shell's capacity was concerned, we were able to make as much on a barrel of unit allowable in '51 as we are today, and vice versa.

Q Right now you're producing 36,600 per month, with a 34 barrel allowable?

A Yes, sir.

Q Now, there has been no evidence from -- particularly on

this west side, with the water coming in, that there is any danger of commingling of water by producing at high rates?

A I don't believe for the periods we will be producing at a high rate, that there would be damage. We will, in the period of a month, produce the same amount of oil as any other operator.

Q You stated that in 1951, with the 53 barrels normal unit allowable, that the 125 per cent tolerance would permit a rate of 70 barrels per day?

A Yes.

Q In excess of 200 per cent of the present allowable?

A Yes.

Q In the Monument Pool, you have a water drive from the south?

A The east and west flanks.

Q On both sides?

A Yes.

Q What did you say the water cut is at the present time?

A I believe last month it was 65 per cent.

Q This is more or less the same cut that it's been for the last eleven years?

A It was 55 per cent in 1951, which was the high allowable period during that time. It made 50 in 1951 with a high allowable. It declined to 55 per cent.

Q This increase in tolerance would reduce it?

A I wouldn't testify to that.

Q Now, the Vacuum-San Andres, you stated had a solution gas drive. There is evidence of a water drive in parts of this field?

A There is some water encroachment on the southeast flank. I don't believe that it has a significant effect on production in the field.

Q Are any of Shell's wells in that area?

A Not in the water-producing part, no, sir. We have some wells in the southeast part of the field but they're not making water.

Q You feel Shell's wells in particular are producing by means of solution gas drive?

A Yes. This field, as a whole, is primarily solution gas drive.

Q What was that field producing in 1953, Shell's leases, I mean?

A 30,000 barrels a month.

Q Right now you are making 22,000, with a 34-barrel allowable?

A Yes. Some of our wells were capable of making, say, 53 barrels in '51 but producing at a high rate, with no indication of damage.

Q The Vacuum-Abo Pool is so new that you haven't determined definitely that this is a solution-gas drive, is that correct?

A That's correct, but because of the reef nature of the

reservoir, I don't believe there will be any source for water.

Q You mentioned some tests that were conducted in this Vacuum edge unit in that field wells were produced at the high rate with no evidence of damage. What rate was that?

A According to the allowable schedule, two of the wells are given 150 per cent, and one well was shut in for observation, and its allowable distributed.

Q This was from the tests that you conducted?

A Yes.

Q 150 per cent, then, isn't as much as you are requesting here today, is it?

A No, sir.

Q But, of that 150 per cent there was no evidence of damage?

A Right.

EXAMINER NUTTER: Are there any further questions of Mr. Stokes?

EXAMINATION

BY MR. PORTER:

Q Mr. Stokes, you testified that original pressures in the Hobbs Pools were about 1500 pounds?

A Yes.

Q That was after production of approximately one hundred sixty-seven million barrels down to 500?

A Yes, sir.

Q Has there been any evidence that the pressure has declined at a slower rate under these lower allowables that we have had for the last three or four years from 34 to 39 barrels than it did under the high allowable, 45 to 53?

A Yes, sir. The last showed a drop due to the lower withdrawal.

MR. PORTER: That's all I have.

EXAMINER NUTTER: Are there any further questions of the witness?

The witness may be excused.

(Witness excused.)

EXAMINER NUTTER: Does anyone want to put on any testimony in this case?

We will recess until 1:15 and proceed then.

(Noon recess taken.)

EXAMINER NUTTER: The hearing will come to order, please.

Mr. Jones, would you like to proceed with your case?

MR. JONES: Yes.

We have one witness, Mr. D. M. Hankins.

D. M. HANKINS,

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

DIRECT EXAMINATION

BY MR. JONES:

Q Will you state your name for the record, please.

A D. M. Hankins.

Q By whom are you employed?

A Phillips Petroleum Company.

Q In what capacity?

A As District Gas Development Superintendent.

Q All right, sir.

Are you familiar with the gasoline plant operations of Phillips in Southeast New Mexico?

A Yes, sir.

Q How long have you been familiar with those operations?

A Ever since about 1930.

Q Now, specifically, are you familiar with the subject matter of this application and the gasoline plant operations of Phillips Petroleum Company as related to the Hobbs, Vacuum-Abo, and Vacuum-San Andres Pools, Lea County, New Mexico?

A Yes, sir.

MR. JONES: Are the witness's qualifications acceptable?

EXAMINER NUTTER: Yes, sir. You may proceed.

Q (By Mr. Jones) All right, sir.

Mr. Hankins, in the employment you have described with the Phillips Petroleum Company, is it part of your duty to work with the operators and producers in the pools to schedule handling of gas in the gasoline plants?

A Yes, sir.

Q Do you have meetings with the operators?

A Yes, sir.

Q And schedule and work out flow schedules?

A We work with each individual operator. We don't try to make any kind of schedule. We let the operator take care of his own producing of the well.

Q All right, sir. You do work with them?

A We work with the operators, yes, sir.

Q That is on the flow into the plant --

A Yes, sir.

Q -- of gas into the plant?

A That's right.

Q Now, are those meetings, have they been held for several years?

A Yes, for quite a number of years.

Q All right, sir. Despite the cooperation of the operators in the field and your efforts to work with them, do you find that you have peaks of gas production into the plants?

A We do.

Q When do you find those peaks with relation to during the day, during the week, or during the month?

A More of our peaks come through the first seventeen days of the month, and then also during daylight hours. A majority of the time our peaks hit us about, oh, say, nine o'clock in the morning till four or five in the evening.

Q All right, sir. So, you have peaks during the day as distinguished from the night?

A That's right.

Q Do you have peaks also during the week days as contrasted with the week ends?

A That's right.

Q You have peaks, as you say, during the first fifteen or so days of the month as contrasted with the latter half of the month?

A The first fifteen days of the month they are considerably higher than what we have during the latter part of the month.

Q Those three types of peaks, so to speak, exist despite your efforts, despite the co-operation of the operators in the field?

A That's right.

Q Even under the present situation of 25 per cent daily tolerance of production and the five days during any proration period during the month?

A That's right.

Q Now, of the fields involved in this application, Mr. Hankins, does Phillips Petroleum Company take the gas from the Hobbs Pools?

A Yes, sir.

Q Into what plant?

A Into the Hobbs plant.

Q All right. What is the capacity of the Hobbs plant?

A It has a capacity of 25, 27 million feet per day.

Q All right. What volume of gas, on an average, are you processing daily?

A 23.

Q Twenty-three million?

A Yes, sir.

Q That is a daily average during the month?

A That's a monthly daily average.

Q Do you have peaks of gas production coming into the Hobbs plant in excess of the twenty-three million average?

A That's right.

Q That's during the peak period you mentioned earlier in your testimony?

A That's right.

Q Even under the present operations, do you have peaks coming into the plant which exceed the plant capacity?

A We do.

Q To that extent, it results in either gathering of gas at the plant or preventing of wet gas in field, or the preventing of residue; is that correct?

A That's right.

Q All right, sir. Now, do you have figures showing the volume of gas from the Shell lease which is now being processed in the Hobbs plant?

A We processed during the Month of September, approximately

two million eight hundred thirty-five thousand cubic feet of gas per day from the Shell leases in the Hobbs area.

Q That's the average over the thirty-day month?

A Yes, sir.

Q All right. Under the proposal which has been advanced by Shell, which was to produce five days out of a seven-day week, that would result in Shell's production of twenty days during the month, would it not?

A That's right.

Q All right. Now, using the figures for the present Shell production, what would be the daily average of Shell gas under production of only twenty days during the month?

A I estimate approximately four million two hundred thousand feet per day.

Q All right. Now, do you have any figures showing the flaring during the peaks at the Hobbs plant under present conditions?

A Flaring of wet gas during peaks, it generally runs from two to four hundred thousand per day and residue which is flared out of the plant is approximately two to three hundred thousand feet per day.

Q The figures you have shown for the Shell production would be an increase of 50 per cent in daily production on twenty days out of the month as distinguished from present production over the thirty-day average?

A Approximately, yes.

Q Do you have figures comparable on the Lea plant?

A Yes.

EXAMINER NUTTER: Mr. Hankins, the Lea plant Mr. Sumerwell spoke of as being at Buckeye in the Vacuum Pool.

Q (By Mr. Jones) Of the fields involved in this application, which produce gas into the Phillips plant?

A Excuse me. Now, what was that now?

Q Which fields involved in this application of the four that have been mentioned, produce gas into the Lea plant?

A The San Andres.

Q The Vacuum-San Andres?

A Yes, and the Abo.

Q The Vacuum-Abo?

A Yes, the Vacuum-Abo.

Q What is the capacity of the Lea plant?

A Approximately fifty-two million feet per day.

Q What is your average of daily gas processed in the plant at the present time?

A Approximately fifty million per day.

Q During the peak period of production, do you have gas coming into the plant which exceeds its capacity?

A Yes.

Q To what extent?

A The wet gas figures are approximately two million feet

per day, and our residue flare is approximately three million feet per day.

Q All right. Now, what are the figures on Shell's gas which is processed in the Lea plant now?

A Based on a daily average, it is approximately two million eight hundred thousand per day.

Q All right. Now, taking the Shell proposal, to produce five days out of the seven-day week, which would be twenty days during the month, what would be the daily average production of Shell gas into the Lea plant?

A Approximately four million two hundred thousand.

Q That would be an increase of fifty per cent?

A Yes.

Q Mr. Hankins, from your knowledge of the operations of Phillips Petroleum Company Hobbs plant and its Lea plant, do you know of any reason why, if this application is granted to Shell, other operators would not be in a similar position to ask for and receive, likewise, a daily tolerance of 100 per cent instead of 25 per cent?

A I believe if the application is approved I feel pretty sure that all the rest of the operators in the area would ask for the same condition.

Q All right. Now, what, in your opinion, would be the effect of granting the Shell application in possible other applications as far as -- what would be the effect on the peaks of gas

production into the plant?

A The additional volume on peaks would have to be flared.

Q Is it your opinion you would obtain additional volume on peaks over and beyond what you are now peaking?

A Yes, that's right.

Q From your knowledge of the two Phillips plant with which we are here concerned, is it your opinion that it is economic and feasible for Phillips to install additional compressor capacity to handle the peak loads which you are now obtaining?

A No, sir.

Q Likewise, would it be economically feasible to install additional compressor capacities to handle any increased peak loads which you would get if this application were granted and if other applications were granted?

A It would not.

Q Mr. Hankins, I believe you are one of those parties having attended a meeting at which Shell presented its proposal and outline that has been presented at this hearing?

A Yes.

Q All right. Was any flow schedule or any specific plan of flowing and producing the gas presented to you at that time?

A No.

Q They offered you their cooperation, which I am sure they do give you, but there was no specific plan presented?

A No. They said they'd go ahead and cooperate with us.

Q All right, sir. Now, if the plan as outlined by Shell, that is, producing five days out of the seven-day week; is it not a fact that any plan which would prevent an increase in your peak loads would necessarily involve cooperation, not only by Shell but by the other operators in the field?

A I think they'd concern everyone producing in the area, in the whole field.

Q It couldn't be worked out just by the utmost good faith cooperation between Phillips and Shell?

A I don't believe it could.

Q Now, in the plant operations which you have outlined, do you occasionally find that you have trouble with trap pressure at the leases?

A We do, specifically on peak loads. Peak flows have a tendency to increase trap pressure and flare gas at the separators in the field.

Q Is that because these pressures on the lease line will not get into the Phillips gasoline line?

A Yes, that's right.

Q All right. Now, if you have an increased load of gas coming into the Phillips gathering lines by virtue of increased production of gas at any particular time, is it your opinion that this would tend to increase the pressure so that gas from some leases would not be able to buck the line pressure?

A That's right.

Q To that extent, would the gas have to be flared at the lease?

A That's right.

Q And those leases would not necessarily be Shell leases, but could very well be and probably could be leases of other operators, is that correct?

A That's right.

Q To that extent, those operators couldn't get their gas into the line at those particular times?

A That's right.

Q Mr. Hankins, from your experience with Phillips gasoline plant operations, is it your opinion that the granting of this application and the possible granting of similar applications would lead to the flaring of wet gas at the plant and at the lease to the preventing of residue gas at the plant?

A It would aggravate it, you mean?

Q Yes.

A That's right, it would.

Q To that extent, it would be a waste of gas, would it not?

A Yes, sir.

MR. JONES: That's all the questions that we have.

EXAMINER NUTTER: Are there any questions of Mr. Hankins?

EXAMINATION

BY MR. SETH:

Q About how much gas are you flaring each month at the Hobbs plant, wet gas we are speaking of?

A We have been flaring on a daily basis -- I have just took figures for the Month of September. The average on wet gas is approximately two to four hundred thousand feet per day. That's just average.

Q That would run throughout the month at about that rate?

A Yes, sir.

Q And the residue gas?

A Approximately two to three hundred thousand feet per day.

Q How long has this average prevailed?

A Well, it has prevailed for quite sometime.

Q Ten years, something like that?

A No, I wouldn't say that. It varies with the allowable increase. Also, it varies with your conditions, weather conditions, during the winter months.

Q About how long has it continued, would you say? How many years?

A I'd say anywhere from three to five years.

Q Has your plant had its present capacity for about that length of time?

A In the neighborhood of that, yes.

Q Twelve million?

A Yes.

Q How long has it been at that capacity?

A Well, I just couldn't truthfully say. We change capacities with the engine capacity.

Q Would you say four or five years, something like that?

A I'd say two to five years.

Q You change the capacity by changing your compressor capacity?

A Well, I think we just take the peak of capacity.

Q What would it take to increase the capacity of the plant?

A Additional horsepower, setting additional compressors.

Q Is that the same for your Buckeye plant? How long have you been flaring?

A That hasn't been flaring as long as we have at Hobbs.

Q How much --

A With additional drilling on the Abo Reef, in that country, it's just beginning to show up.

Q What would it take there to increase plant capacity?

A Well, at the present time El Paso is installing additional horsepower to take care of the flaring situation.

Q Your flaring, does that additional capacity, will that prevent the flaring of wet gas?

A Yes.

Q You are flaring about two million feet a day, wet gas?

A Yes, sir, and approximately three million of residue.

Q Can you compare those rates to what Warren is flaring

at their gasoline plant?

A No, sir.

Q At their Monument plant?

A No, sir.

Q Do you know the capacity of the Monument plant?

A No, sir.

Q Do you know where it is?

A Yes.

Q Do you know anything about it at all?

A No, sir.

Q What is your daily fluctuation into your Hobbs plant percentage-wise, or cubic feet?

A Anywhere from twenty to thirty-five, forty per cent.

Q That's principally from night to day?

A Yes, sir.

Q How about monthly fluctuation? What magnitudes are those?

A I'll guess on that; probably twenty-five per cent.

Q You testified you had a peak during the first few days?

A That's right.

Q That fluctuation is smaller in magnitude than your daily fluctuation?

A Wait. I didn't understand the question.

Q Is it your testimony that the extent of your monthly fluctuation in percentages is less or greater than your daily

fluctuation?

A Well, daily fluctuation would be larger, I think.

Q What have you done to reduce your monthly fluctuation?

A Well, we've tried to contact the producers in the field and work out some kind of schedule for the operators to work their own flowing schedule out themselves.

Q Have you worked out any schedule with them?

A We don't work out the schedule. We let the operator work their own schedule out.

Q Well, what have you done to bring this about?

A We have worked with them and showed them figures and charts on flowing, how they produce in the plant, things like that.

Q Has Shell cooperated in this effort?

A Yes, sir.

Q Have all the other operators?

A Well, you know, operators cooperate as best they can, but they can only go so far.

Q Now, how about fluctuation in your line pressure. How much do they -- what percentage are you talking about there?

A In towns?

Q Yes.

A That probably fluctuates anywhere from five to fifteen, twenty pounds.

Q Out of how much? What are your line pressures?

A About five pounds.

Q You testified that, in your opinion, there would be some lease flaring that would result if this application were granted, by reason of a build-up of line pressure; is that correct?

A That's right.

Q Where would this occur? Can you give us an example?

A On your laterals.

Q Any particular place in the field where this would occur?

A No, it would have to be worked out.

Q Has it ever occurred?

A On peak flows, yes.

Q Where has it occurred in the field?

A In the north end.

Q Can you give us any particular lease?

A No, I can't, but we know when we look at the chart we can tell that the pressure comes up during the day.

Q Do you know whether there's been any actual flaring up in that part of the field?

A Personally, I don't know.

Q You can't testify, then, there would be some resulting from approval of this application?

A From personal experience I think we could.

Q You don't know from your own experience it's ever occurred, do you?

A I haven't been on the lease myself, no.

Q Don't you believe there would be some conservation gained by permitting this type of operation?

A I wouldn't know from a production standpoint.

Q Would you know if the cost of operation is reduced on any field that the economic life of the field is extended? Isn't that going to come about?

A Well, I wouldn't know that.

Q Does Phillips have some production in any of these fields?

A No, they have it in the Vacuum Pool.

Q Do you think it would be to their advantage to extend the productive life of the Vacuum Pool?

A I think it's up to the production management to do that.

Q In your opinion, as an ordinary businessman, isn't that reasonable?

A Well, I think so, but I don't know any details or facts of this case.

Q Do you have any plans for expansion of the Buckeye or Hobbs plants?

A No, sir, unless -- with the exception of gathering the gas up there at the present time.

Q Have you had any new customers within the last two years, say?

A Specifically what do you mean?

Q The Hobbs gasoline plant.

A Oh, possibly two or three leases, I imagine.

Q How much gas?

A Oh, I wouldn't know.

Q Can you give us an approximate figure?

A Approximately two or three hundred thousand feet, I imagine.

Q Do you have a pressure valve on your wet gas flare at the plant?

A A back pressure valve?

Q Yes.

A Yes, five to seven pounds.

Q You testified at some length about the trouble it would take in scheduling the gas into the plant. Don't you believe some trouble is worthwhile if some conservation can be brought about by it?

A I think so, if, providing all the operators would co-operate.

Q Well, don't you, from your experience, don't you think all the operators do cooperate?

A They do a pretty good job, but they still could go a long way.

Q Have you been unsuccessful in your attempts to do any scheduling at all? Is that what you are testifying to?

A No, we have done pretty good.

Q Don't you expect to do the same? Is there anything

that's going to change that?

A Except -- the only thing I could do -- when he starts producing these leases at the high rate in the plants already loaded, we are going to flare.

Q When that happens, the allowable should go up five barrels a month?

A Well, if we can justify it we'll need additional horsepower.

Q You have experienced fluctuation in the allowables, haven't you, since you have been down there?

A Yes, sir, we have.

Q Isn't that the reason those fluctuations are a much bigger problem than this is?

A I don't think so, if we can justify it.

Q Could you work out your scheduling -- when you have a bigger increase in allowable, doesn't it increase your --

A Well, in the Hobbs field we haven't had too much of an increase in drilling activity up there. You know, that is a pretty old field.

Q I am talking about allowables now. You actually testified that at these meetings that Shell had not proposed any definite plans of scheduling, is that right?

A Well, the meeting we attended, they didn't.

Q Did you present any definite plan?

A No, sir.

Q Why didn't you present one?

A We did not think it necessary.

Q Why not?

A We came to observe what program he was going to present to the Commission.

Q Is that why you came to that meeting, and that was the only reason?

A Well, of course, naturally, we work with Phillips Petroleum, and we were interested in anything pertaining to the service and processing of the plant.

Q Don't you think you could propose a definite program that would take care of this plan? Why did you put the burden on the operator?

A Well, I think it's going to take additional manpower, additional labor at the plant.

Q What are you talking about?

A Phillips Petroleum Company and also for the other operators.

Q You are talking about there may be some trouble, it may take some more labor until you get the program settled down again, is that correct?

A Well, I don't know about the program settling down. There is always lots of things that come up, pipeline proration, pipline connections.

Q That always has been. That's not going to change that,

is it, Mr. Hankins?

A Well, I think it would.

Q On your figures, you figured your average there of the Shell contribution of gas to the Hobbs plant. At present, your average is over a thirty-day month?

A Yes.

Q Do they actually deliver gas over a thirty-day period now?

A I haven't seen other charts.

Q You don't know?

A I wouldn't know.

Q Why do you have an average over a thirty-day period?

A Well, that's the figures we used on any plant operation.

Q You are just assuming they do it. It may not be the case, right?

A That's right.

Well, you know, you have a lease out there and a meter that registers, that goes through there, and we usually figure the total volume from the month and come out with the figures. Now, where it produces every day for the month, I don't know. But we have charts to go back and look at.

Q I was speaking of what you testified to a minute ago. Your figures that you were using were on a thirty-day period?

A Yes.

Q You ordinarily do that?

A That's right.

Q If it's not produced for the thirty-day period, why these figures would have to be adjusted, is that right?

A That's right.

MR. SETH: May I have just a minute?

EXAMINER NUTTER: Yes, sir.

MR. SETH: I think that's all on the cross examination.

EXAMINER NUTTER: Are there any further questions of Mr. Hankins?

EXAMINATION

BY MR. JONES:

Q Mr. Hankins, it has been asked why you put the burden on the operator to work out their flow schedules, and, in effect, why you didn't do it for them.

Now, isn't it a fact that's the way gasoline plant business is run, not only by Phillips but other operators, that the operators themselves figure out their flow schedules, and they want to run their leases like they want to? Isn't that the truth of the matter?

A That's right.

Q And these gasoline plant operators don't purport to tell its producers when they can run gas and when they can't run gas?

A We don't think it's necessary to tell the operator when to produce and how to produce the lease. All we try to do is to have an even flow over the thirty-day period.

Q That just isn't done?

A No, sir.

Q It would be likely that producers would resent it that you'd be trying to run their leases for them?

A I think it would, yes.

MR. JONES: That's all.

EXAMINATION

BY EXAMINER NUTTER:

Q Mr. Hankins, you stated this would amount to about 50 per cent increase in the Shell gas into the plant. Were you taking into consideration the fact that some of these wells wouldn't be producing on these two days that they wouldn't have a pumper available?

A No, sir, I did not figure that.

Q You are assuming that all of the wells would be producing five days and all shut in for two days?

A That's right.

Q Now, the Hobbs plant flares two to three hundred thousand feet of residue gas per day. Whose responsibility is this, the fact that this residue gas is flared; is it the responsibility of the pipeline that they couldn't have the capacity to handle the gas?

A Well, I don't know. Let's go back to this. If the gas comes in, we process it through the plant, and what we are unable to handle, why, that has to flare. If we have a peak more than

the pipeline can handle, they also have to flare that peak.

Q That's the residue going through the gasoline plant, and then stripped of liquids and available to the gas transportion lines to take away if they can handle it?

A That's right. When you hit those peaks, there's nothing you can do about it.

Q Who is the gas purchaser of the gas residue at the Hobbs plant?

A El Paso.

Q Do you know if they have plans underway to increase their horsepower or compressor capacity?

A No, I don't.

Q This two hundred to four hundred thousand feet of wet gas which you average during the peaks, this is gas that's above and beyond the capacity of the plant, itself, to handle?

A That's right.

Q And in addition there is some gas being pumped out of separators in the field?

A No, I didn't say that. I just said if you increase the volume that you have in addition to what we already have coming in, we estimate gas would flare in the field.

Q I see. Out at the Lea plant?

A You have two million feet per day of wet gas.

Q That's flared during the peak, is that correct?

A Yes.

Q This is due primarily to the recent development in the Abo, there?

A Yes, sir.

Q Do you contemplate any increase in the capacity in that plant?

A We estimate that this residue and wet gas would be probably taken care of by the fifteenth of next month. El Paso is installing additional horsepower.

Q Is that going to increase your wet gas flare?

A Yes. El Paso will also pump some additional gas on the wet side.

Q They will buy some gas prior to that time?

A They will handle some of the wet gas that's being flared now.

Q You've got an average of five million feet of wet and dry gas both at the same plant?

A Yes.

Q Do you contemplate any changes or additional capacity in the Phillips plant at Buckeye?

A Not at the present time.

Q But El Paso is installing additional facilities?

A Yes.

EXAMINER NUTTER: Are there any further questions of Mr. Hankins?

If not, he may be excused.

(Witness excused.)

EXAMINER NUTTER: Are there any further statements in this case?

MR. SETH: We will recall Mr. Sumerwell.

R. L. SUMERWELL,

having been previously duly sworn, was recalled and testified further as follows:

EXAMINATION

BY MR. SETH:

Q Mr. Sumerwell, do you have some figures which show the percentage increase of the total Hobbs plant intake that will result if Shell were granted this application?

A Yes, sir. According to the figures we have -- these do differ somewhat with those of Mr. Hankins -- but taking the data we presented to the Commission, granting this application would increase Shell gas output approximately 18 per cent per day or increase the peaks on the Hobbs plant approximately 1.8 per cent.

Now, just doing some rough figuring, increasing the allowable from 34 to 35, it figures approximately 2.8 per cent increase in plant intake, so this seems, in one sense, quite small for an increase in gas rates.

Q Now, do you have similar figures on the other plants?

A Yes, sir. In the Monument, producing at the rate, again, that we presented on the graphs, this would effect approximately 25 per cent increase in Shell's gas rates, or approximately .5 per

cent increase in the Lea plant intake. That's a per-day increase.

Q Mr. Hankins testified to a thirty-day average period. Do your exhibits show that you delivered gas for each day of each month, ordinarily?

A Yes. However, I should point out that these exhibits are ideal graphs and that this is how we would normally produce the well, the top allowable wells would be produced at approximately 125 per cent of the unit allowables to the 25th or 26th day of the month, and marginal wells would run continuously all month.

Q Now, you testified to the big peaks during the first fifteen or seventeen days of the month.

Do you believe that this program you propose would tend to level out that peak?

A I think it would. In fact, I don't see how we could help but to level this out, and in my mind, it only gets more attractive to the gas plant as other operators might do this through proper scheduling of the days off. It would help level out the plant intake, but should other operators, major operators, do the same thing, I think the scheduling of the days off would level out the intake.

Q Do you believe other operators would be as cooperative as Shell?

A I shouldn't think so.

EXAMINATION

BY EXAMINER NUTTER:

Q Mr. Sumerwell, what per cent increase in Shell's gas did you say one barrel increase in the normal unit allowable would result, as far as the Hobbs plant is concerned?

A 2.8, I believe. That's not Shell gas; that's overall plant intake.

Q That's plant gas?

A Yes.

Q Do you make a normal allocation for the Lea plant?

A No.

Q Have you had any calculations as to the increase in Shell gas, or the increase in plant peak that would result in the Warren plant in the Monument?

A No, sir. Just these two.

EXAMINER NUTTER: Are there any further questions of Mr. Sumerwell?

EXAMINATION

BY MR. JONES:

Q Mr. Sumerwell, you stated that the production on five out of seven days during the week would tend to level out the peaks. That would only be true if you produced your wells twenty-four hours a day during those five days.

A I am speaking of monthly. I should have said that. I don't know what effect it will have on daily peaks.

Q It could only possibly affect the monthly peaks, then?

A Yes.

Q And not the daily peaks because more gas is produced, it seems, during week days than on week ends. It would have no effect on that?

A It could have.

Q And only if two of the five days were Saturday and Sunday?

A That's a plant problem.

Q Is it your proposal that, of the five days that Shell will produce, that two of them will be Saturday and Sunday?

A I'm not authorized to say that. I am authorized to say that Shell will cooperate with the gas boys if they have a problem in peak loads.

Q You found that the plants were willing to cooperate, have you not? These are matters that just happened in spite of all good faith by both parties, isn't it?

A I think so, yes.

Q Now, Mr. Sumerwell, you have testified that of the three fields with which Phillips is concerned, and you understand, of course, Phillips is not concerned with the Monument because it doesn't take the gas there -- of the three fields, why the saving in supervision will be the fact you will no longer need the relief pumper on Saturday and Sunday in those three fields. Is that true?

A That's correct.

Q Is the same pumper now performing relief pumping in all three fields?

A No.

Q You have three different relief pumpers?

A Yes.

Q All right. Now, how was the figure of 60,000 barrels additional recovery computed?

A It was computed by assuming that the cost would be reduced by approximately $11,000 per year on a 10 per cent decline on all these four fields.

Q That is the total on all four fields?

A That is correct. It is an estimate.

Q Do you have any breakdown as to the additional recovery among the four fields as distinguished from the total of 60,000 barrels?

A I'm sorry.

Q Do you have the figures for each of the four fields?

A No, I don't, not broken down separately.

Q Now, the 60,000 barrel savings, you will not have the pumper pumping on Saturday and Sunday, is that correct?

A Yes, so that would be a minimum saving. We anticipate possible other savings.

MR. JONES: I believe that's all.

EXAMINATION

BY EXAMINER NUTTER:

Q Mr. Sumerwell, in the event this application were granted, and in the event that other operators seek and should receive approval for the same type of scheduling of production, would Shell be willing to cooperate with such other operators to work out these days off that the pumpers would have?

A Yes, to the fullest.

Q Even to the extent of possibly changing the days off from Tuesday and Wednesday to Thursday and Friday?

A Yes, we are not after any two days.

EXAMINER NUTTER: Are there any further questions of the witness?

The witness may be excused.

(Witness excused.)

MR. SETH: That's all.

MR. CARNEY: I am B. R. Carney, representing Warren Petroleum. I have been asked to make a statement on behalf of Warren, which operates a gas processing plant in the Monument Field, and also in the Eunice and San Andres.

Now, we are opposed to this application. We regret to have to come here, but in fairness to ourselves and in fairness to the other gas suppliers, we feel we should state our opposition. I don't want to close my statement here without giving some reasons. I think I can best give these reasons by describing very briefly in a general way, some of our operations.

In our Monument plant we have a normal capacity of

ninety-five to a hundred million feet of gas. We are running now on an average of on the order of ninety million a day. With that margin of capacity, we just get by without any flaring. It gives us a capacity over and above our average loads.

At Eunice, we have a capacity of about sixty-five million and it is so nearly fully loaded that we do, on peak periods, have some little flaring. The amount I am not prepared to say, but some of it does get away in Eunice.

Now, we can't or shouldn't presume to judge what this Commission might do about other applications similar to those presented by Shell. We have to take into account the possibility, perhaps I should say probability, that the Commission would give similar treatment to persons similarly situated, in which case we feel we would have relatively large peaks of gas during the five operating days and would have about four periods in the month coinciding with week ends when our plant would be loaded to a fraction of capacity, resulting in wasting of gas during the peaks and wastage of gas during the low days.

At the same time, it wouldn't be economical for us to install additional facilities to try to catch those peaks.

Also, we'd have problems with our customers who are obligated to take a certain specified amount of gas and who expect to take that, day in and day out through the month.

In short, our apprehension in this matter is a good deal the same as the apprehension touched upon by Shell in their letter

which Mr. Sumerwell read this morning. The Shell people said that their ability to continue to take the oil, and so on, would tend, might be affected by what other operators did beside Shell. We are apprehensive for the same reason.

That's a brief outline of the reasons why we feel it would lead to waste of gas, waste of capacity on off-peak days.

EXAMINER NUTTER: Thank you.

Is there anything further?

MR. RAINEY: D. H. Rainey, El Paso Natural Gas. With reference to Case No. 2406, El Paso would like to make a comment or two.

The wells involved in this case do not deliver gas to El Paso's plants, therefore El Paso is not actively participating. However, El Paso will oppose extending the proposed exception to Rule 502 (1) to wells delivering gas to El Paso plants unless the facts clearly establish that the exception would not result in waste due to severe fluctuations in the volumes of casinghead gas delivered to the plants.

EXAMINER NUTTER: You are not actively opposed to granting the application?

MR. RAINEY: We are neither for nor against this particular application, but we are serving notice we will actively oppose any similar application in regards to the El Paso plants.

EXAMINER NUTTER: Are there any further statements to be made in this case?

MR. KELLAHIN: Jason Kellahin, appearing for Amerada Corporation. Amerada is in support of Shell's application in Case No. 2406.

The proposal would possibly have some effect on the gasoline plant operations as brought out in testimony, but it does not appear to us that the difficulties resulting would be insurmountable, as has been shown. The effects on gasoline plant operation would be no greater than that resulting from a change in the allowable, should we be so fortunate to get one at some future date in other areas where the allowable is assigned on the basis of production.

The gas lines should be able to cope with the situation. Difficulties entailed here are, in our opinion, more than offset by the operating economics that would be affected, and the flexibility of operation that would be achieved.

For that reason, Amerada is in support of the application.

MR. BLACK: C. R. Black, with Texaco, Inc. Texaco goes along with the other operators also vitally interested in any operational procedure that would result in providing for more efficient, economic operation.

Texaco believes that the problems between operators in the gasoline plants concerning peak production can be resolved reasonably, and Texaco does wish to concur with Shell Oil Company in this application.

EXAMINER NUTTER: Thank you.

MR. MORRIS: If the Examiner please, the Commission is in receipt of a telegram from George W. Sellinger of Skelly Oil Company.

"Reference Case No. 2406. We oppose the granting of exception to Shell Rule 502-1, Lea County, New Mexico, to increase from 25 per cent to 100 per cent daily production tolerance in certain fields in Lea County, New Mexico. Skelly Oil Company operates wells in these fields and as producer, is opposed to changing the existing rule as being unnecessary and leading to confusion. Skelly Oil Company, as operator of gasoline plants, also opposses application since it will cause maximum volume of gas at shorter period of time to make existing facilities incapable of handling such temporary large amounts."

That is signed by George W. Sellinger of Skelly Oil Company.

EXAMINER NUTTER: Is there anything further?

MR. JONES: Mr. Examiner, we go along with Warren and find ourselves in the position of reluctantly opposing anything which will lead or could lead to more economic or more efficient operation of the plant.

However, we think the difficulties presented to the gasoline plants will certainly become aggravated. The testimony has brought out that, in spite of good faith cooperation on both the part of the plant operator and the part of the producers under the present rule, serious difficulties are encountered by three

peaks, day as versus night, week days versus week ends, and the first of the month as against the last of the month.

Mr. Examiner, we see no difficulty and no difficulty has been pointed out in the evidence between these fields involved and any other fields in Southeast New Mexico. There is no difference between the Shell leases in these four fields and the leases of other operators in the four fields. In other words, the effect of granting the application would be a total abrogation of rule 502, section 1, providing for the 25 per cent tolerance, because anybody with a top allowable can show some increase in efficiency or some savings. In this case, we believe the saving of two days of relief pumpers' time in four fields, three of which Phillips are interested in, is certainly a minimal saving as compared to the waste of gas which will undoubtedly result; and all of the testimony indicates that there would be serious peaks which would aggravate the present peaks, and that all of the efforts by operators and of the plants and of producers of the leases acting together have not been able to eliminate.

We think the saving, although it could be accomplished without waste, is not justified in this case. There is no difference here than in any other field that might be presented, and Shell fields are in no different position than any other operator, and we ask that the application be denied.

EXAMINER NUTTER: Is there anything further?

If not, the case will be taken under advisement.

STATE OF NEW MEXICO)
) ss
COUNTY OF SAN JUAN)

I, THOMAS F. HORNE, Court Reporter, in and for the County of San Juan, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported [illegible] machine shorthand and reduced to typewritten transcript under my personal supervision, and that the same is a true and correct record to the best of my knowledge, skill and ability.

Thomas F. Horne
NOTARY PUBLIC

My commission expires:
10-2-65

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2406, heard by me on 10/25, 1961.

[signature], Examiner
New Mexico Oil Conservation Commission

No. 29-61

DOCKET: EXAMINER HEARING - WEDNESDAY - OCTOBER 25, 1961

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

The following cases will be heard before Daniel S. Nutter, Examiner, or Elvis A. Utz, as alternate examiner:

Cases 2413 through 2420 will not be heard before 1:00 P.M.

CASE 2403: In the matter of the hearing called by the Oil Conservation Commission to permit Henry W. Etz, Jr. and all interested parties to appear and show cause why the Rice Andrews Well No. 1, located in Unit C, Section 14, Township 14 South, Range 25 East, Chaves County, New Mexico, should not be replugged in accordance with a Commission-approved plugging program.

CASE 2404: Application of Continental Oil Company for a 272.38-acre non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a 272.38-acre non-standard gas proration unit in the Eumont Gas Pool, comprising Lots 2, 3, 4, 5, 6, 7 and 8 of Section 1, Township 21 South, Range 36 East, Lea County, New Mexico; said unit is to be dedicated to the State F-1 Well No. 6, located 660 feet from the North and West lines of said Section 1.

CASE 2405: Application of Amerada Petroleum Corporation for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its Ida Wimberly Well No. 11, located in the NW/4 SW/4 of Section 24, Township 25 South, Range 37 East, Lea County, New Mexico, as a dual completion in the Justis-Paddock and Justis-Blinebry Pools, with the production of oil from the Paddock zone to be through a tapered string of tubing of 2 3/8-inch and 2 1/16-inch diameter and the production of oil from the Blinebry zone to be through a tapered string of tubing of 2 3/8-inch and 1-inch diameter.

CASE 2406: Application of Shell Oil Company for an exception to Rule 502-I, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 502-I to increase from 25 percent to 100 percent the daily production tolerance applicable to all of its wells located in the Hobbs, Eunice-Monument, Vacuum-Abo and Vacuum-San Andres Pools, Lea County, New Mexico.

CASE 2407: Application of Shell Oil Company for approval of the Cabezon Unit Agreement, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Cabezon Unit Agreement embracing 22,743 acres, more or less, of State, fee and Federal lands in Townships 16 and 17 North, Ranges 2, 3 and 4 West, Sandoval County, New Mexico.

CASE 2408: Application of Texaco, Inc. for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its V. M. Henderson Well No. 6, located in Unit C, Section 30, Township 21 South, Range 37 East, Lea County, New Mexico, as a triple completion adjacent to the Paddock, Blinebry, and Drinkard Pools, with production of oil from the Paddock and Drinkard zones to be through parallel strings of 2 1/16-inch tubing and the production of gas from the Blinebry Gas Pool to be through the tubing-casing annulus.

CASE 2409: Application of Texaco Inc. for a quintuple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its G. L. Erwin "b" NCT-2 Well No. 2, located in Unit J, Section 35, Township 24 South, Range 37 East, Lea County, New Mexico, as a quintuple completion (tubingless) in undesignated Ellenburger, McKee, Fusselman, Siluro-Devonian and Drinkard pools, with the production of oil from the McKee, Fusselman, Siluro-Devonian and Drinkard zones to be through parallel strings of 2 3/8-inch tubing and the production of oil from the Ellenburger-zone to be through a string of 2 7/8-inch tubing, all strings of tubing to be cemented in a common well bore.

CASE 2410: Application of Hondo Oil & Gas Company for permission to directionally drill and for an unorthodox bottom hole location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks permission to directionally drill a well in Section 26, Township 17 South, Range 28 East, Eddy County,

CASE 2410: (Cont.)
New Mexico, the surface location to be 2310 feet from the North line and 1980 feet from the East line of said Section 26 and the bottom hole location to be in the Empire-Abo Pool at a situs 2540 feet from the North line and 1980 feet from the East line of said Section 26.

CASE 2411: Application of Socony Mobil Oil Company, Inc., for an exception to Rule 303 (a), Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 303 (a) to permit the commingling of the production from the Anderson Ranch-Devonian and the Anderson Ranch-Wolfcamp Pools on its New Mexico "S" lease, which includes Lot 2 of Section 2, Township 16 South, Range 32 East, Lea County, New Mexico. Applicant proposes to meter the production from one pool only, and to allocate production to the other pool according to the substraction method; the API gravity of the Anderson Ranch-Devonian crude is greater than 45^{o}.

CASE 2412: Application of Val R. Reese & Associates, Inc., for an unorthodox gas well location and a non-atandard gas unit, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks permission to locate its Benn W . No. 1-9 at an unorthodox gas well location in an undesignated Gallup pool, 2210 feet from the North line and 330 feet from the East line of Section 9, Township 23 North, Range 7 West, Rio Arriba County, New Mexico, said well to be dedicated to a 152.02-acre non-standard gas unit comprising the NE/4 of said Section 9.

The following cases will not be heard before 1:00 P.M.

CASE 2413: Application of Aspen Crude Purchasing Company for an unorthodox oil well location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox oil well location in the Totah-Gallup Oil Pool for a well to be drilled 1190 feet from the South line and 2210 feet from the East line of Section 11, Township 28 North, Range 13 West, San Juan County, New Mexico.

CASE 2414: Application of Southwest Production Company for an unorthodox gas well location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox

CASE 2414: (Cont.)

gas well location in an undesignated Mesaverde pool for a well located 2360 feet from the South line and 830 feet from the West line of Section 26, Township 30 North, Range 12 West, San Juan County, New Mexico. Said well is to serve as the unit well for a 160-acre gas proration unit comprising the SW/4 of said Section 26.

CASE 2415: Application of Southwest Production Company for an order pooling all mineral interests in the Basin-Dakota Gas Pool in the E/2 of Section 14, Township 30 North, Range 12 West, San Juan County, New Mexico. Interested parties include the unknown heirs of Abas Hassan, deceased, the unknown heirs of D. M. Longstreet, deceased, and Robert E., Alice L., and Samuel Glenn Goodwin, and/or their unknown heirs.

CASE 2416: Application of Southwest Production Company for an order pooling all mineral interests in an undesignated Mesaverde gas pool in the E/2 of Section 22, Township 30 North, Range 12 West, San Juan County, New Mexico.

CASE 2417: Application of Scanlon Engineering Company for an order fixing the spacing of wells, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks an order fixing the spacing of wells producing from the Mesaverde formation in Sections 21, 22 and 27, all in Township 20 North, Range 9 West, McKinley County, New Mexico. Applicant recommends the establishment of two and one-half acre well spacing.

CASE 2418: Application of Humble Oil & Refining Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its State BM Well No. 1, located in Unit I, Section 2, Township 25 South, Range 37 East, Lea County, New Mexico, as a dual completion (Tubingless) in undesignated Fusselman and Ellenburger pools, with the production of oil from the Fusselman zone through 2 7/8-inch casing and the production of oil from the Ellenburger zone through 2 3/8-inch casing cemented in a common well bore.

CASE 2419: Application of Leonard Oil Company for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its Federal Ginsberg Well No. 11, located in Unit E, of Section 31, Township 25 South, Range 38 East, Lea County, New Mexico, as a triple completion (conventional) in the Justis Blinebry Pool, in an undesignated

CASE 2419: (Cont.)
Tubb Pool and in the Justis Fusselman Pool, with production of oil from the Tubb and Fusselman zones to be through parallel strings of 2 3/8-inch tubing and the production of oil from the Blinebry zone through a string of 2 1/16-inch tubing.

CASE 2420: Application of Zapata Petroleum Corporation for authority to inject water into the Maljamar Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authorization to inject water into the Maljamar Pool (Grayburg and San Andres formations) through eight wells located in Sections 17, 18 and 19, all in Township 17 South, Range 33 East, Lea County, New Mexico, for the purpose of secondary recovery.

ig/

J. O. SETH
A. K. MONTGOMERY
OLIVER SETH
Wm. FEDERICI
FRANK ANDREWS
FRED C. HANNAHS
GEORGE A. GRAHAM, JR.

SETH, MONTGOMERY, FEDERICI & ANDREWS
ATTORNEYS AND COUNSELORS AT LAW
301 DON GASPAR AVENUE
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POST OFFICE BOX 828
TELEPHONE YU 3-7315

October 2, 1961

New Mexico Oil Conservation Commission
Post Office Box 871
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.
Secretary-Director

Re: Exception to Rule 502-I of the New Mexico Oil Conservation Commission Rules.

Gentlemen:

Application is hereby made by Shell Oil Company for an exception to Rule 502-I relating to the daily tolerance for the production of wells.

The exception is requested to permit the production of all Shell wells located in the Monument, Hobbs, Vacuum San Andres, and Vacuum Abo Fields at 200% of top unit allowable.

It is not practicable to qualify for administrative approval and, consequently, it will be appreciated if the matter can be set down for hearing.

Respectfully submitted,

SHELL OIL COMPANY

By _____
Its Attorney

OS:dd

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 11/16/61

CASE 2406 Hearing Date 9 am 10/25/61 DSN @ SF

My recommendations for an order in the above numbered cases are as follows:

Enter an order denying Shell Oil Co's request for an exception to Rule 502-I for all its wells in the Hobbs, Eunice-Monument, Vacuum-Abo, and Vacuum (San Andres) Pools in Lea Co.

Find that while we are sympathetic w any reasonable effort to reduce operating costs and extend the economic life of the wells in these pools, there is an offsetting disadvantage in that if Shell's request were granted, other operators would probably request the same thing and unless all operators could get together on production schedules to insure a uniform flow of gas into the gasoline plants, waste will certainly result from excessive peak flows. Find also that Shells proposal would leave marginal producers producing unattended for 2⅔ days each WEEK, and the Commission does not believe this to be in the interest of prudent operations.

Dan Nutter
Examiner

GOVERNOR
EDWIN L. MECHEM
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. O. BOX 871
SANTA FE

November 21, 1961

Mr. Oliver Seth
Seth, Montgomery, Federici & Andrews
P. O. Box 828
Santa Fe, New Mexico

Re: Case No. 2406
Order No. R-2127
Applicant:
Shell Oil Company

Dear Sir:

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

Very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC

Aztec OCC

OTHER Mr. Carl Jones - Phillips Petroleum Company, Midland, Texas
Mr. B. R. Carney - Warren Petroleum Company, Tulsa, Okla.
Mr. Dave Rainey - El Paso Natural Gas - El Paso, Texas
Mr. Jason Kellahin- Amerada - Santa Fe, New Mexico

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 2406
Order No. R-2127

APPLICATION OF SHELL OIL COMPANY
FOR AN EXCEPTION TO RULE 502-I,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 25, 1961, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 21st day of November, 1961, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Nutter, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Shell Oil Company, seeks an exception to Rule 502-I of the Commission Rules and Regulations to increase from 25 percent to 100 percent the daily production tolerance applicable to all of its wells located in the Hobbs, Eunice-Monument, Vacuum-Abo, and Vacuum-San Andres Pools in Lea County, New Mexico.

(3) That the applicant proposes to produce the top allowable wells in the above-described pools at a maximum of 200 percent of top allowable five days each week and to shut in the top allowable wells two days each week.

(4) That the applicant further proposes to produce the marginal wells in the above-described pools seven days each week and to leave said marginal wells unattended 2 2/3 days each week while the wells would be producing.

(5) That the proposed plan of the applicant would result in higher than normal peak flows of casinghead gas during the five-day periods in which the top allowable wells would be producing.

(6) That although the applicant's proposal could reasonably have the effect of reducing the applicant's operating costs and extending the economic life of its wells in the above-described pools, approval of the subject application would probably inspire other operators to seek increases in the daily tolerances for their wells and, in the absence of an agreement by all operators to ensure a uniform flow of casinghead gas to the gasoline plants, would ultimately cause waste by the flaring of considerable quantities of casinghead gas during periods of excessive peak flow.

(7) That the proposal of the applicant to leave its marginal producing wells unattended for a 2 2/3-day period each week is not in the best interest of prudent operations.

(8) That for the reasons set forth in Findings 5, 6, and 7 above, the subject application should be denied.

IT IS THEREFORE ORDERED:

That the application in Case No. 2406 is hereby denied.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

EDWIN L. MECHEM, Chairman

E. S. WALKER, Member

A. L. PORTER, Jr., Member & Secretary

esr/

GRANTHAM, SPANN AND SANCHEZ
ATTORNEYS AT LAW
914 BANK OF NEW MEXICO BUILDING
POST OFFICE BOX 1031
ALBUQUERQUE, NEW MEXICO

EVERETT M. GRANTHAM
CHARLES C. SPANN
MAURICE SANCHEZ

TELEPHONE
243-3525

October 23, 1961

Mr. A. L. Porter, Jr., Director
Oil Conservation Commission
Santa Fe, New Mexico

Re: Application of Shell Oil Company for exception to Rule 502(i)
Case No. 2406

Dear Mr. Porter:

Please enter my appearance as local attorney of record for Phillips Petroleum Company in the above entitled and numbered cause which is set for Examiner hearing on October 25, 1961, at Santa Fe. Mr. Carl Jones, attorney for Phillips, of Midland, Texas, will be personally present to make a statement.

Very truly yours,

GRANTHAM, SPANN AND SANCHEZ

By: [signature]

CCS:rr

J. O. SETH
A. K. MONTGOMERY
OLIVER SETH
WM. FEDERICI
FRANK ANDREWS
FRED C. HANNAHS
GEORGE A. GRAHAM, JR.

SETH, MONTGOMERY, FEDERICI & ANDREWS
ATTORNEYS AND COUNSELORS AT LAW
301 DON GASPAR AVENUE
SANTA FE, NEW MEXICO

POST OFFICE BOX 828
TELEPHONE YU 3-7315

October 13, 1961

New Mexico Oil Conservation Commission
State Land Office Building
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.
Secretary-Director

Re: Case No. 2406
Shell Oil Company

Gentlemen:

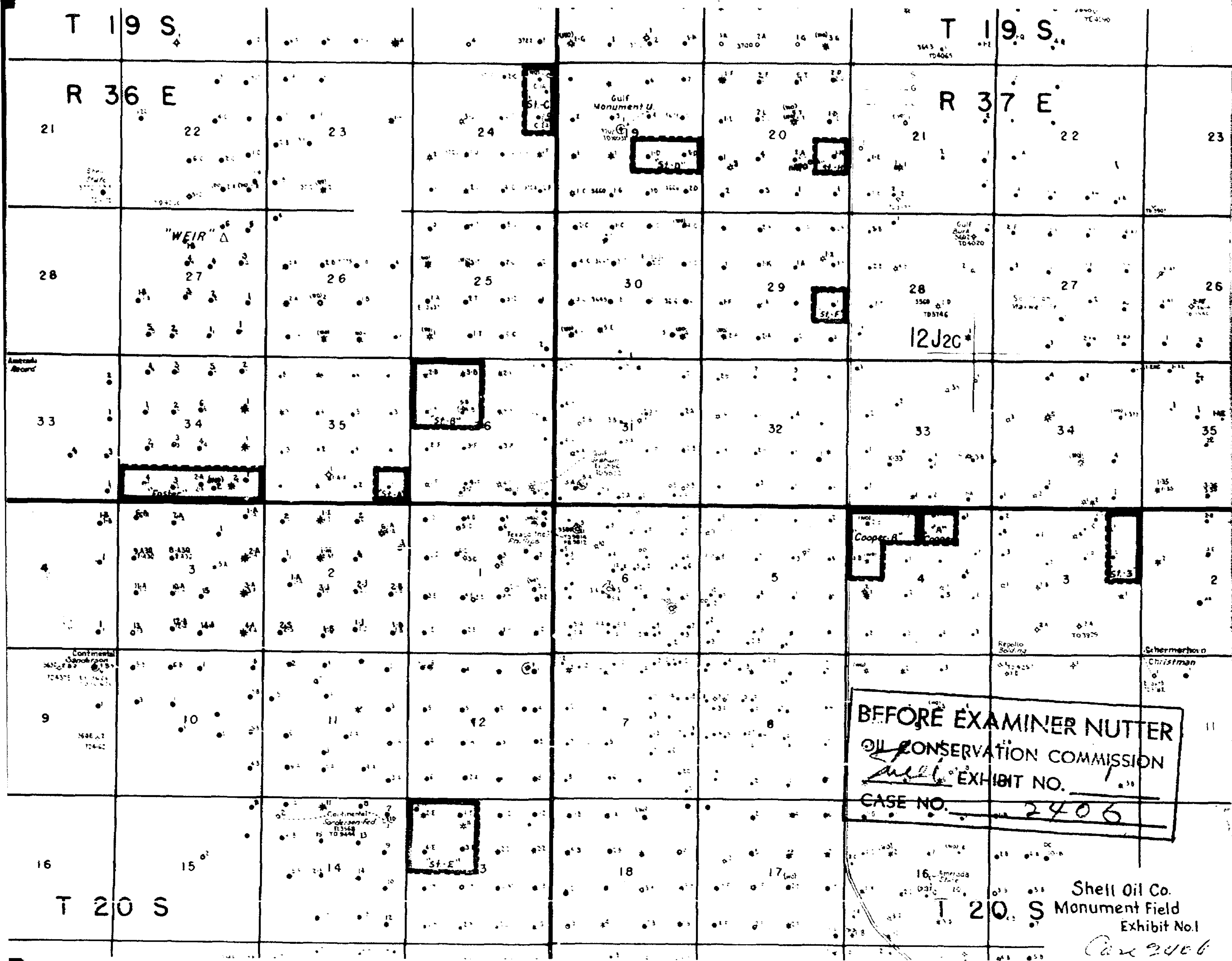
Please find enclosed with this letter a list of wells and leases involved in the application of Shell Oil Company for exception to Rule 502-I which is the subject of Case No. 2406 to be heard October 25.

It would be appreciated if this could be considered part of the material supporting the application.

Very truly yours,

OS:wcl'
enclosure

cc: Mr. R. L. Rankin
Division Production Manager
Shell Oil Company
P. O. Box 1858
Roswell, New Mexico


T 19 S
R 36 E
T 19 S
R 37 E
"WEIR"
Gulf Monument U.
"Foster"
St-A
St-B
St-C
St-D
St-E
St-F
"Cooper-B"
"A" Cooper
St-3
12J2C
Continental Sanderson
Schermerhorn
Christman
T 20 S
T 20 S
BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 1
CASE NO. 2406
Shell Oil Co.
Monument Field
Exhibit No.1
Case 2406

T 18 S

R 38 E

"Rice"

St-F

St-D

"McKinley-A"

"McKinley"

BOWERS
• 7R 10/35

"HOBBS TANK"

HOBBS

Grimes

"St-B"

"St-A"

Berry

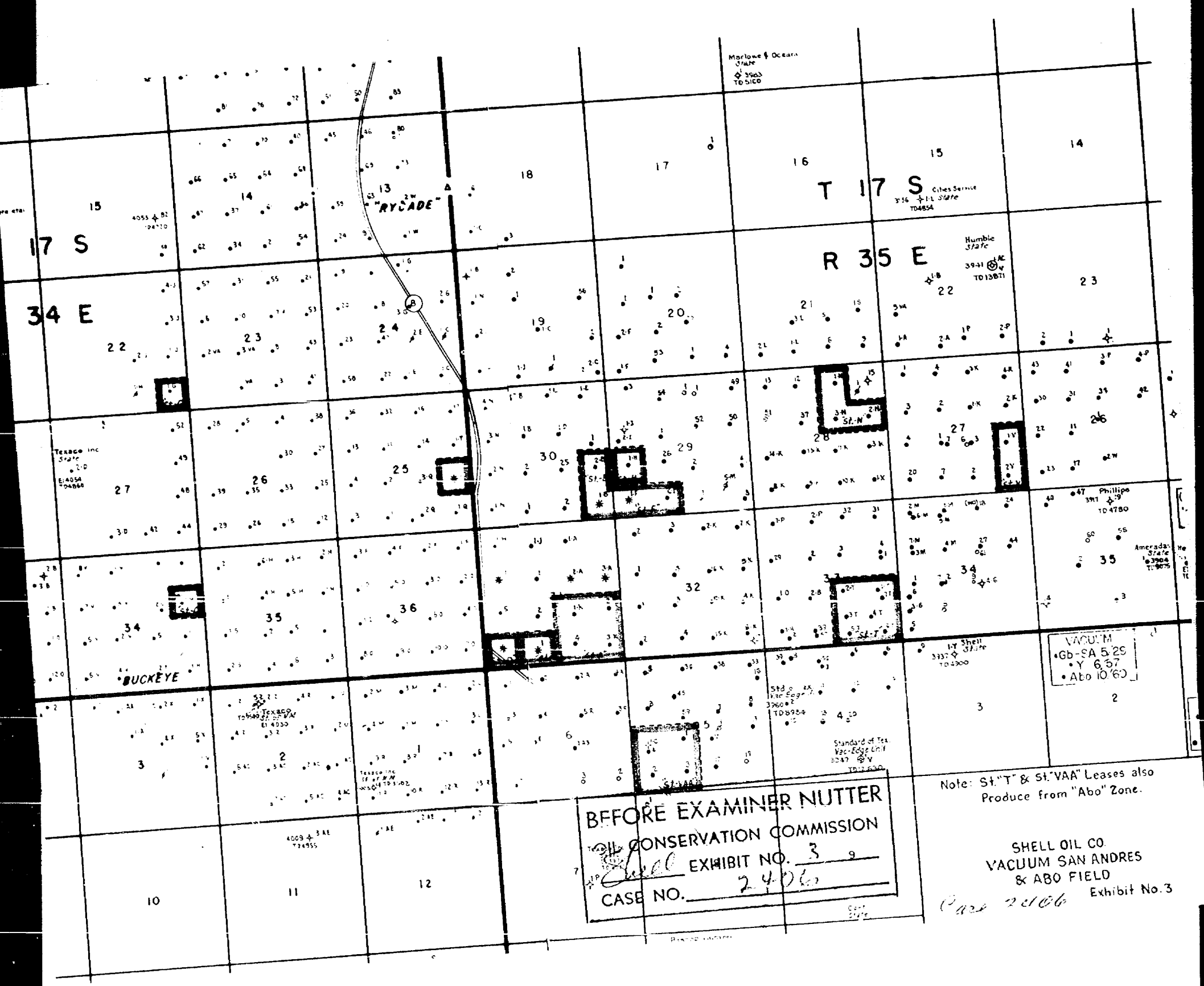
BYERS
• Qn 2

N'EAST MONUMENT
• Qn. 4/56

SO. BOWERS
• SR 11/59

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 2106

Shell Oil Co.
Hobbs Field
Exhibit No. 2
Case 2106



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 2406

Note: St."T" & St."VAA" Leases also Produce from "Abo" Zone.

SHELL OIL CO.
VACUUM SAN ANDRES
& ABO FIELD
Exhibit No. 3
Case 2406

SHELL OIL COMPANY
WELL FOR EXCEPTION TO
RULE 501-I

EXHIBIT 4
Case 2406

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Shell EXHIBIT NO. 4
CASE NO. 2406

HOBBS

Berry	1
	2
	3
	4
Grimes	1
	2
	3
	4
McKinley A	1
	2
	3
	4
	5
	6
	7
	8*
McKinley B	1*
	2*
	3
	4*
Rice	1
	2
	3*
	4*
Sanger	1
	2
	3
	4
	5
State A	3
	4
State B	1
	2
State D	1*
	2*
State F	2*
	3*
Thorpe	1*
Turner	1
	2

MONUMENT

Cooper A	1*
Cooper B	1
	2*
	3
Foster	1*
State A	1
State B	1
	2
	3
	4
State C	1-A
	2-A
State D	1
	2*
State E	2-A*
	4
State F	1*
State H	1*
State (Sec. 3)	2*

VACUUM

State A	1
	2
	3
	4
State B	1
	2
State D	1
State E	1
State F	1
	2
State G	1*
State H	1*
State I	2*

* = not [illegible] of [illegible] .125% [illegible] acres

VACUUM (CONTINUED)	
State N	1*
	2
	3
State O	1*
State T	1
	2
	3
	4
State V	1
	2
Swigart	1*
VACUUM ABO	
State T	5
	6
	7
State VAA	1
	2
	3
	4

*Will not produce over 125% of top unit allowable.

TEXAS-NEW MEXICO PIPE LINE COMPANY

F. B. WHITAKER, JR.
DIVISION MANAGER

September 21, 1961

P. O. BOX 1510
MIDLAND, TEXAS

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Gentlemen:

We understand that Shell Oil Company is requesting permission to produce their wells in the Monument, Vacuum San Andres and Vacuum Abo Fields on a five-day work week rather than the seven day allowable.

This in no way would affect our pipe line operations from these fields.

Yours very truly,

TEXAS-NEW MEXICO PIPE LINE COMPANY

By F B Whitaker

F. B. Whitaker, Jr.
Division Manager

FBWjr-btk

cc: Shell Oil Company
P. O. Box 1858
Roswell, New Mexico

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Shell EXHIBIT NO. 5
CASE NO. 2406

Exhibit No. 5
Case 2406

SHELL PIPE LINE CORPORATION
WILCO BUILDING
P. O. BOX 1910
MIDLAND, TEXAS

October 3, 1961

Subject: Exception to Rule 501-I of the New Mexico Oil Conservation Commission Rules

Shell Oil Company
Box 1858
Roswell, New Mexico

Attention Mr. R. L. Rankin

Gentlemen:

We are agreeable to your proposed method of operation in the Hobbs and Monument fields whereby you will obtain the weekly production in five days. This agreement is based on the following conditions:

1. Under the present schedule of allowables, our gathering system will not be overloaded. However, if production materially increases or enough other Operators follow this procedure, it will be necessary to run some of this oil on week ends.

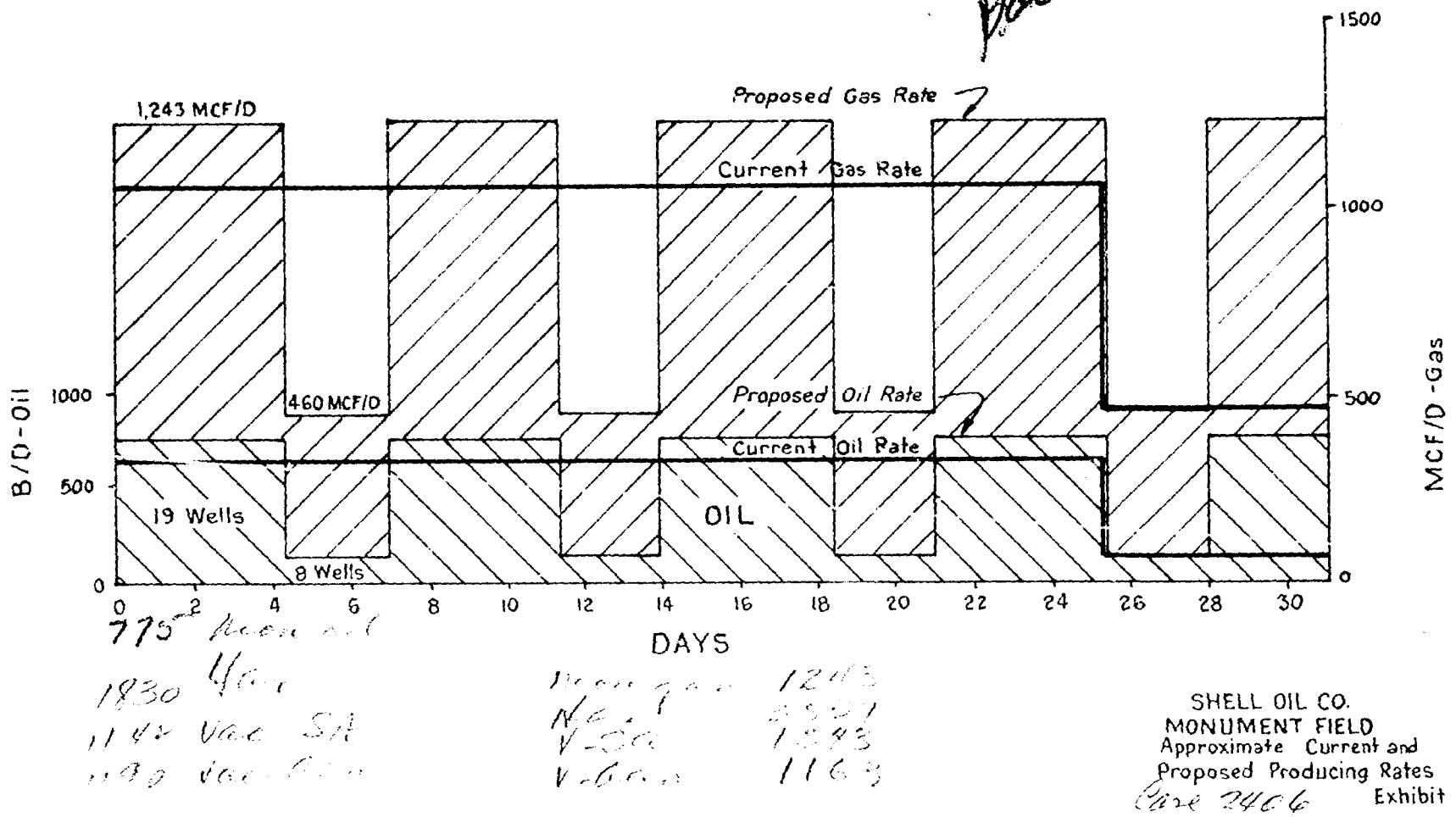
2. This will require that Operator maintain sufficient storage to hold over week end and/or execute witness waiver.

3. Operator must execute waiver or have representative on hand when month end and week end coincide.

Yours very truly,

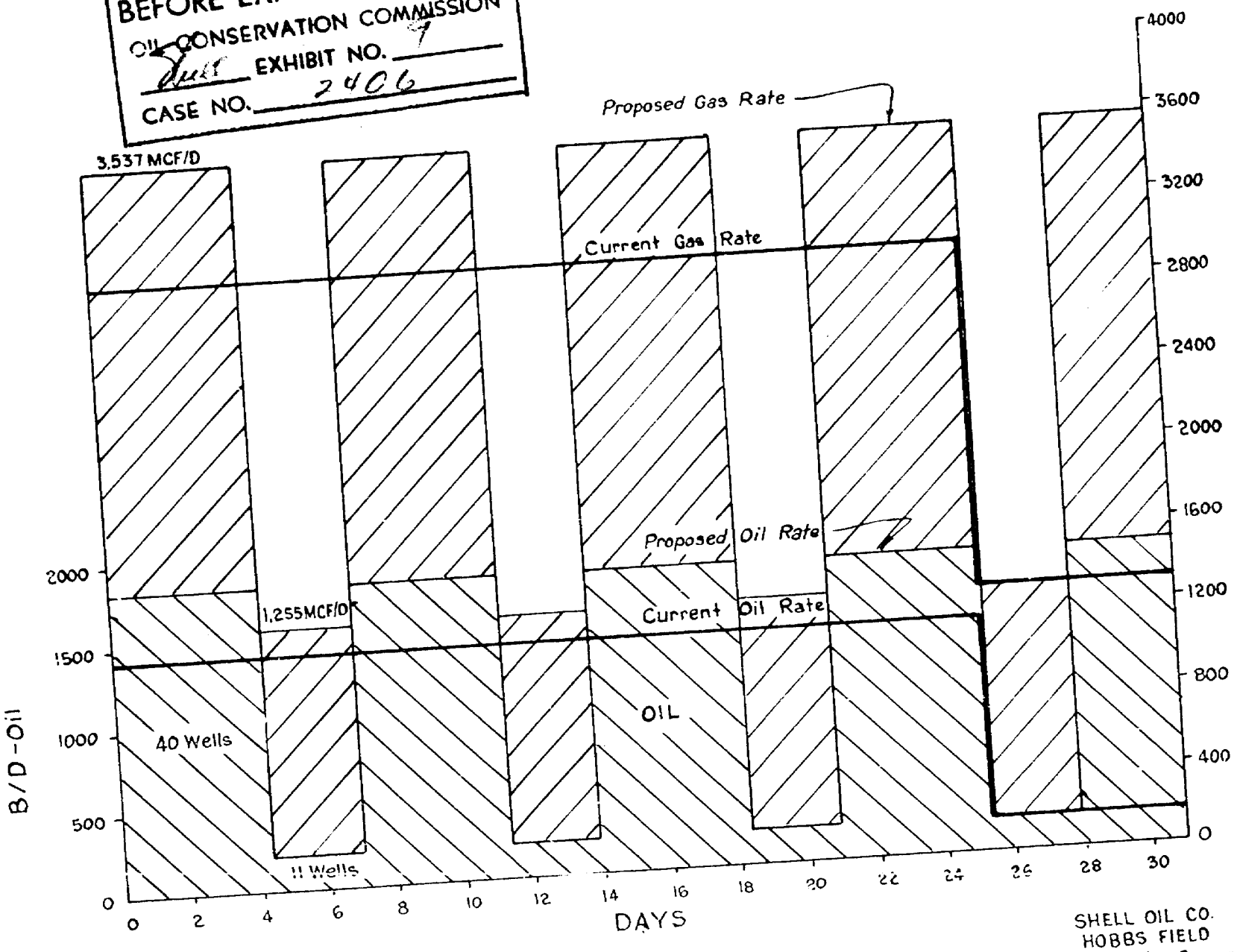
H. E. White
Division Manager

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Shell EXHIBIT NO. 8
CASE NO. 2406



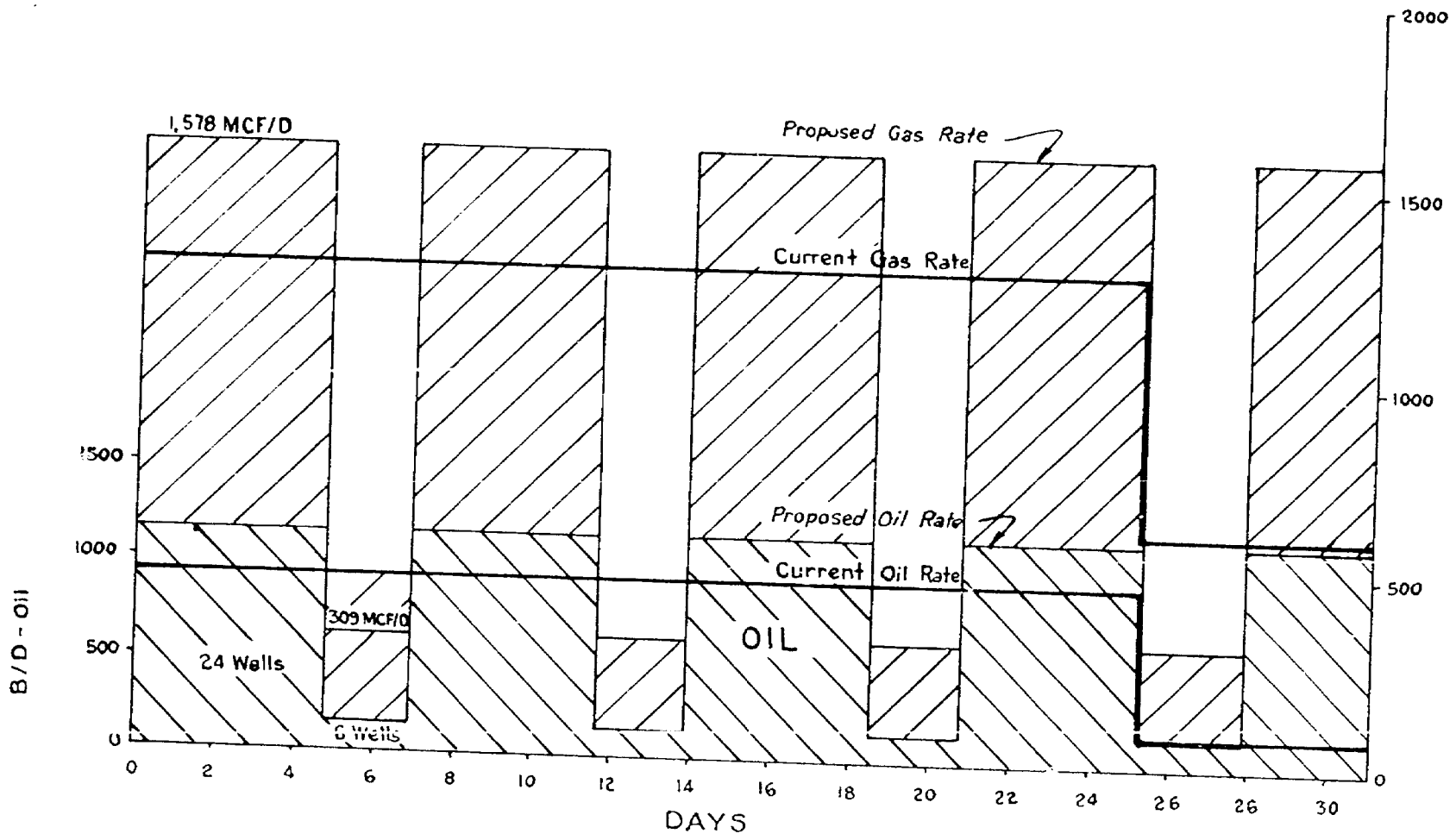
SHELL OIL CO.
MONUMENT FIELD
Approximate Current and
Proposed Producing Rates
Case 2406 Exhibit No. 8

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Shell EXHIBIT NO. 9
CASE NO. 2406



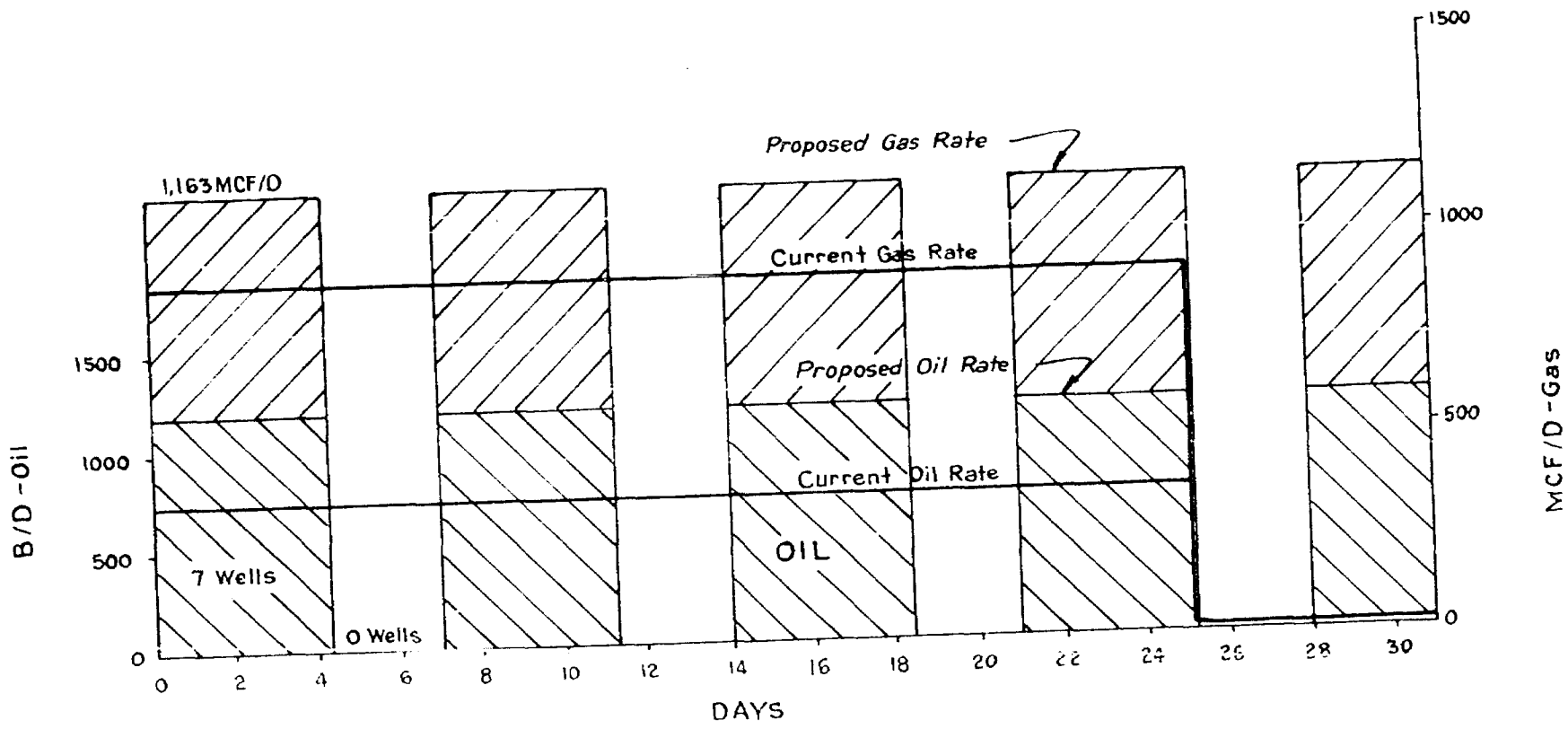
SHELL OIL CO.
HOBBS FIELD
Approximate Current and
Proposed Producing Rates
Exhibit No. 9
Case 2406

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Shell EXHIBIT NO. 10
CASE NO. 2406



SHELL OIL CO.
VACUUM SAN ANDRES FIELD
Approximate Current and
Proposed Producing Rates
Case 2406 Exhibit No. 10

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Shell EXHIBIT NO. 11
CASE NO. 2406



SHELL OIL CO.
VACUUM ABO FIELD
Approximate Current and
Proposed Producing Rates
Exhibit No. 11
Case 2406

Case 2406

April 21, 1961

CAHOCK UNIT
Frank Jones - Production Foreman
Red Harrison - Lease Foreman

CAHOCK, LAKE (11,179')		
State SA	1	P
	2	P
HENSHAW, WEST (11,840')		
Spencer Fed. A	1	P Water Well
	2	P
	3	P
	4	P
Taylor Fed.	1	P
	2	P
Little Lucky Lake Unit		
Little Lucky Lake	1	P
	2	P
	3	P
Wms. Fed. B	1	P
State HA	1	P
HUME (3,955')		
State WM	1	P
State WC	1	P
	2	P
KEMNITZ WOLFCAMP (10,791')		
State WC	1	P
	2	P
State WD	1	P
MALJAMAR (4,342')		
State A	1	P
	2	P
	3	P
	4	P
QUERECHO PLAINS - PENN. (11,660')		
Querecho Plains	1	P
QUERECHO PLAINS - BONE SPRING (8,560')		
Querecho Plains Unit	2	P
ROBERTS (4,488')		
State RP	1	P
SAUNDERS (9,870')		
Gray	1	P
	2	P
State A	1	P
	2	P
	3	P
	4	P
	5	P
	6	P
	7	P
	8	P
State SC	1	P
	2	P
VACUUM (4,675')		
State A	1	P
	2	P
	3	P
	4	P
State B	1	P
	2	P
State D	1	F
State E	1	P
State F	1	P
	2	P
State G	1	P
State H	1	P
I	2	P
State N	1	P
	2	P
	3	P
State O	1	P
State T	1	P
	2	P
	3	P
	4	P
State V	1	F
	2	P
Swigart	1	P
VACUUM ABO (8,780')	7	P
State T	5	F
	6	F
SQUARE LAKE (8,830')		
Henshaw Deep Unit	1	F
	2	F
VACUUM ABO		
State VAA	1	F
	2	F
	3	F
	4	drlg.

HOBBS UNIT
H. B. Leach - Production Foreman
M. R. Dillon - Lease Foreman

BOWERS (3,685')		
Berry	6	P
	7	P
BYERS-QUEEN (3,685')		
State A	1	Gas (s)
EUMONT (3,890')		
Coleman	1	F
	1-A	F
Devonian State	1-A	P
	2	P
	3	P
	4	P
Foster	2-A	P
	3	F
	4	P
State (Sec. 3)	1	P
State A	1	F
	2-A	F
	3	F
	4	F
State C	1	F
	1-A	F
	2-A	P
	3	P
	4	F
State EMA	1	P
State EMB	2	P
State EMC	1	P
State H	1	F
	1-A	F
	2	P
	3	F
	3-A	F
	4-A	F
	5	F
	6	F
	7	F
	8	F
State L	1	P
	2-A	F
	3	P
	4	P
State M	1	P
	2	P
	3	P
	5	F
	6	F
	7	F
	8	F
State N	1	F
	1-A	P
State S	1	P
	2	P
EUMONT (GAS) (3,578')		
Devonian State	1	Gas
State A	2	Gas
State C	2	Gas
State H	4	Gas (dual)
State L	2	Gas
State M	4	Gas
EUNICE (3,864')		
Coleman	2	P
State E	1	P
	2	P
State F	1	P
	2	P
State G	1	P
	2	P
State J	1	P
	2	P
	3	P
	4	P
State K	1	P
	2	P
	3	P
	4	P

HOBBS (4,179')		
Berry	1	P
	2	P
	3	P
	4	P
Grimes	1	F
	2	F
	3	F
	4	F
McKinley A	1	F
	2	F
	3	P
	4	F
	5	P
	6	F
	7	F
	8	P
McKinley B	1	P
	2	P
	3	P
	4	P
Rice	1	P
	2	P
	3	F
	4	F

HOBBS (continued)

Sanger	1	F
	3	F
	4	F
	5	F
State A	3	F
	4	F
State B	1	F
	2	F
State D	1	P
	2	P
State F	2	P
	3	F
Thorpe	1	P
Turner	1	F
	2	F

LOS MEDANOS (ATOKA GAS) (12,929')

James Ranch	1	Gas (s)

MONUMENT (3,936')

Cooper A	1	P
Cooper B	1	F
	2	P
	3	P
Foster	1	F
State A	1	F dual
State B	1	F dual
	2	F
	3	F
	4	F
State C	1-A	F
	2-A	F
State D	1	F
	2	P
State E	2-A	P
	4	P
State F	1	P
State H	1	F
State NMA	1	F
State (Sec. 3)	2	P

MONUMENT (GAS) (3,582')

Foster	2	Gas (s)
State	1	Gas (s)
State A	1	Gas (d)
State B	1	Gas (s)

State C	1	Gas (s)
State F	1	Gas (d)

PEARL (7,820')

Allen Estate	1	P
	2	P
	4	P
Allen Estate A	1	P
Hooper	1	P
	2	P
Kimberlin	1	P
	2	P
	3	P
	4	P
McIntosh	1	P
	2	P
	3	P
McIntosh A	1	P
McIntosh B	1	P
	2	P
	3	P
McIntosh C	1	P
	2	P
	3	P
	4	F
	5	P
McIntosh D	1	P
	2	P
	3	P
McIntosh E	1	P
Record A	1	P
State PA	1	P
	2	P
State PB	1	P
	2	P
State PC	1	P
	2	P
State PD	1	P
	2	P
	3	P
	4	P
State PE	1	P
State PF	1	P
	2	P
State PG	1	P
	3	P
State PK	1	P
	2	P