[illegible]

[illegible] Unit [illegible] 1(a).

[illegible] all wells in [illegible] Unit Area.

San Juan County, New Mexico

Case No.

1698

Application, Transcript,
Small Exhibits, Etc.

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

COPY

July 10, 1959

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

Dear Mr. Seth:

On behalf of your client, Shell Oil Company, we enclose two copies of Order No. R-1437 issued July 9, 1959, by the Oil Conservation Commission in Case No. 1698.

Very truly yours,

A. L. PORTER, Jr.,
Secretary-Director

ir/

Enclosures

Copy to
M. Ben Howell

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. 1698
Order No. R-1437

APPLICATION OF SHELL OIL COMPANY
FOR AN ORDER EXEMPTING ALL WELLS
IN THE CARSON UNIT AREA AND ALL
OTHER SHELL WELLS IN TOWNSHIP
25 NORTH, RANGES 11 AND 12 WEST,
BISTI-LOWER GALLUP OIL POOL, SAN
JUAN COUNTY, NEW MEXICO, FROM THE
DAILY TOLERANCE PROVISIONS OF
RULE 502 I(a) OF THE COMMISSION
RULES AND REGULATIONS

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 8:00 o'clock a.m. on June 24, 1959, at Santa Fe, New Mexico, before Elvis A. Utz, 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 9th day of July, 1959, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, 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 order granting an exception to the daily tolerance provisions of Rule 502 I(a) of the Commission Rules and Regulations for all wells in the Carson Unit Area and for all Shell wells in Township 25 North, Ranges 11 and 12 West, Bisti-Lower Gallup Oil Pool, San Juan County, New Mexico.

(3) That the evidence presented indicates that the production of oil in excess of the 125 percent daily tolerance will not injure the Bisti-Lower Gallup Oil Pool.

(4) That approval of the subject application will enable the applicant to deliver casinghead gas into the gas gathering facilities at a more constant rate.

(5) That approval of the subject application will neither cause waste nor impair correlative rights provided that the volume of casinghead gas produced does not at any time exceed the capacity of the gas gathering and processing available to handle this casinghead gas.

(6) That the exemption from the daily tolerance provisions of Rule 502 I(a) of the Commission Rules and Regulations should be limited to all Shell-operated wells in the Bisti-Lower Gallup Oil Pool and all Shell-operated wells within one mile therefrom producing from the Lower Gallup formation which are connected to gas gathering facilities.

IT IS THEREFORE ORDERED:

That all Shell-operated wells presently drilled or hereafter completed in the Bisti-Lower Gallup Oil Pool and all Shell-operated wells presently drilled or hereafter completed within one mile therefrom which are producing from the Lower Gallup formation and which are connected to gas gathering facilities be and the same are hereby granted an exception to the daily tolerance provisions of Rule 502 I(a) of the Commission Rules and Regulations and may be produced at a daily rate not to exceed 240 barrels per day or 200 percent of the daily top unit allowable for the Bisti-Lower Gallup Oil Pool, whichever is greater.

PROVIDED HOWEVER, That all wells shall be produced in such a manner that the volume of casinghead gas does not at any time exceed the capacity of the gas gathering and processing facilities available to handle this casinghead gas.

PROVIDED FURTHER, That the authority granted herein shall exist only so long as the applicant is scheduling the production of the wells involved in such a manner as to ensure a uniform flow of gas into the gas gathering and processing facilities.

PROVIDED FURTHER, That nothing contained herein shall be construed as authorizing the production of wells in said pool in excess of the monthly tolerance set forth in Rule 502 II of the Commission Rules and Regulations.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

vem/

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

502(e) I (a)

Date 7-2-59

CASE NO. 1695 HEARING DATE 6-24-59

My recommendations for an order in the above numbered case(s) are as follows:

1. Approve Shell's request for an exception to O.C.C. General Rules & Regulations Rule 502 I (a) which requires oil wells to be produced at no more than 125% of its daily allowable.
2. Put a ceiling of 240 BOPD on any well. This is a rate which they testified would not harm the reservoir and meet their needs for constant Gas flow.
3. Stipulate that the volume of gas shall not at any time exceed the capacity of available ~~processing~~ facilities for gasoline plant facilities.
4. List the acreage for which this exception is granted as listed in application.

Staff Member

El Paso Natural Gas Company

El Paso, Texas

J. F. EICHELMANN
VICE PRESIDENT AND
EXECUTIVE ENGINEER

June 22, 1959

New Mexico Oil Conservation
Commission
Santa Fe
New Mexico

Gentlemen:

In Case No. 1698 on the Docket for Examiner Hearing June 24, 1959, Shell Oil Company applies for exception to Rule 502 I (a), seeking an order which would exempt all wells in the Carson Unit area and all other Shell wells in Township 25 North, Ranges 11 and 12 West, Bisti-Lower Gallup Oil Pool from the daily tolerance provisions of said Rule 502 I (a). This would permit production during one day of more than one hundred twenty-five percent (125%) of a well's allowable.

El Paso Natural Gas Company, pursuant to contract with Shell and others, has almost completed construction of gathering, compressing, and processing facilities to take casinghead gas produced from the wells covered by this application. The capacity of the facilities is limited to ten million cubic feet of gas per day.

El Paso Natural Gas Company favors rules which will result in casinghead gas being tendered to it on a reasonably level basis throughout the month and throughout each day. Any rule which results in peak production of casinghead gas in excess of available facilities during the month or during any particular day obviously will result in waste. El Paso believes Rule 502 I (a) is desirable as a state-wide rule and that it prevents waste. However, Shell advises El Paso that enforcement of the state-wide rule to production from the Bisti-Lower Gallup Oil Pool will cause peaks which can be leveled by granting Shell's application. The amendment will permit the operator to use production from high deliverability wells at the most desirable time to avoid peaks. Shell, as operator of the Unit area, is anxious to maintain casinghead gas production at reasonable levels and to avoid production in excess of the available facilities. Under these circumstances, El Paso supports Shell's application as meritorious, but suggests to the Commission that any order issued shall contain conditions limiting the production at any time of casinghead gas from the area to the capacity of available facilities.

Respectfully submitted,

JFE:BRH:mlr

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE NO. 1698

TRANSCRIPT OF HEARING

June 24, 1959

DEARNLEY - MEIER & ASSOCIATES
GENERAL LAW REPORTERS
ALBUQUERQUE NEW MEXICO
Phone CHapel 3-6691

I N D E X

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE NO. 1698 Application of Shell Oil Company for an exception to Rule 502 1 (a). Applicant, in the above-styled cause, seeks an order which would exempt all wells in the Carson Unit Area and all other Shell wells in Township 25 North, Ranges 11 and 12 West, Bisti-lower Gallup Oil Pool, San Juan County, New Mexico, from the daily tolerance provisions of Rule 502 1 (a) of the Commission Rules and Regulations.

BEFORE:

Mr. Elvis A. Utz, Examiner.

T R A N S C R I P T O F P R O C E E D I N G S

MR. UTZ: Case 1698.

MR. PAYNE: Case 1698. Application of Shell Oil Company for an exception to Rule 502 1 (a).

MR. KELL: Mr. Leslie Kell and Oliver Seth appearing for Shell Oil Company. We have two witnesses to be sworn.

MR. UTZ: Are there any other appearances to be made in this case? If not you may proceed.

(Witnesses sworn.)

MR. KELL: We will call Mr. Rheems as our first witness.

Q (By Mr. Kell) You are employed by Shell Oil Company?

A That's correct.

Q And what are your duties?

A I am assistant production superintendent in charge of our Bisti operation.

Q You have not testified before the Commission, have you?

A No, I never have.

Q Would you give the Commission a summary of your education?

A Well, I graduated from an acredited university in 1947 receiving a B. S. in mechanical engineering. I went to work directly for Shell Oil at that time and have been with them ever since. I have been mainly associated with drilling and production operations in California. The last nine months I have been in charge of all operations in the Bisti field.

Q Your practical experience has been primarily with production?

A Production and drilling, that's correct.

Q Give us a little bit more detail on your duties as far as Bisti is concerned.

A Well, I am in charge of the drilling operations out there -- in charge of the production and seeing that all operations are performed in an efficient and intelligent manner; collecting, producing, and shipping the oil.

MR. KELL: Are his qualifications acceptable?

MR. UTZ: They are.

Q (By Mr. Kell) Are you generally familiar with the petition of Shell Oil Company in this case?

A Yes, I am.

Q Would you tell the Commission briefly what it seeks to accomplish?

A Well, this petition is an exception to Rule 502 1 (a), which will permit monthly allowables. And I would also like to say that our sole purpose for requesting that exception to Rule 502 is so we may deliver gas at a continuous rate and most efficient manner possible to the joint Shell-El Paso facilities for collecting and compressing gas which will be available sometime on or about July 1st of this year.

Q Have you prepared a map showing the area covered by that petition?

A Yes, I have. This is the map.

Q Would you tell us, please, what that map shows?

A Well, this map covers Township 25 North, Ranges 11 and 12 West, and it's a map of our Bisti field. On the legend to the right you can see the barred section represents our Carson unit and the dotted section represents the Shell leases outside the Carson unit, which will be connected to the gas system on or about July 1, 1959. And the barred or dashed section are all other Shell acreage that we would like to have included in this exception.

Q And the map shows the entire area that's the subject of the petition in this case, is that correct?

A That is correct.

Q About how many wells are there involved in the operation?

A At present we have 104 wells which we own and which we operate for others. Half of these are producing 24 hours a day and the other half roughly production periods vary from 4 to 24 hours per day.

Q And is there a substantial amount of gas produced with this oil?

A Yes, there is. At my last count it was in the neighborhood of nine million feet a day.

Q Would you describe the present method of producing these wells?

A Well, our personnel number five operating people and one production foreman. For operating purposes we divide the field in half and we give the responsibility for production and for getting the oil out of each half to a lease operator and his relief. The third man is a lease operator who works as a mechanic over the entire field, and the last man is a lease maintenance man who shuts in the wells at night that require more than eight hours to make their allowable production.

Q And would you mind stating again about how many wells?

A 104 at present.

Q How many must be on the entire time or produced continuously?

A About half have produced continuously and about half, I'd say, production periods vary from four to twenty-four hours a day.

Q Have you made a study of the rates of production of gas that results from this operation under the present rules?

A I have.

Q Briefly, what does that show?

A Well, it is shown here.

Q What time is covered by this study -- what period?

A Well, the period of May to this month I made a very detailed study of our producing operations.

Q Is that month pretty typical of the present situation?

A Yes, I would say so. Of course, the wells vary in their gas production and oil production, but I'd say it is typical.

Q Have you made a chart showing these rates?

A Yes, I have. It's shown as Shell Exhibit B.

Q Would you describe to the Commission, please, what that Exhibit B shows?

A Well, on the left hand scale you see M.C.F. an hour, and that is representing the scale on the left. The bottom scale are the hours in the day. And at the lower left hand corner you can see the number rate that we produce along the early morning hours is five million feet a day. And then as the daylight people come on work and we turn more wells into the stream, we reach a maximum rate of around twelve and a quarter million feet a day in the midday. And then again the gas production slackens off back down to midnight again.

Q And that's a pretty typical day?

A Yes. This is a characteristic day.

Q Now, how does that look on a monthly basis?

A Well, if you will turn the page and look at Shell Exhibit C. Again the M.C.F. per hour scale on the left hand side, and now days on the bottom instead of hours in the day.

Q Now, this is just a repitition every day of this peak that

you have shown on Exhibit B?

A Exactly, that's correct.

Q Now, why is there this peak? Referring to Exhibit B again.

A Well, we desire whenever possible to do all our operations in daylight. We find it much more efficient and it is much safer. So if we can tailor our operation to do that, that's what we have tried to do. And this is possible in the Bisti field because we have 40 or 50 exceptionally good producers, which is almost half of our wells. And to give an example of how this operates, for 80 acres we are allowed 108 barrels a day production. And if you divide this by 24 hours a day you come at a figure 4½ barrels per hour average rate. And as I say, 40 or 50 of our wells are capable of producing efficiently three times this rate. And they not only can produce efficiently but it is also necessary because the characteristics of the well to produce somewhere near this maximum rate, because if we don't the wells load up with dead oil and they die.

Q Then it's necessary for some hours of the day to produce at this higher rate by reason of the characteristics of the well?

A Yes. And so that means that since we produce them at three times the allowable rate in the 80 acres of wells we can get our production in eight hours and then in our 40 acres of wells we can get the production in four hours. We also have several pump wells that are capable of near this maximum rate, and we don't like to beam them back at the well head because in the first place it in-

creases our horsepower requirements, and in the second place it increases the pressure underneath the stumping box, which means we have more failures at that point and a resultant loss of gas and oil. And this could be a measureable amount if the lease operator happens to be at the other end of the field when this failure occurs. And the second reason why we have this high rate is again characteristic of the well. As I pointed out, some of these wells or many of these wells run from sixteen to twenty hours, and during this period fluid, being heavy, drops out of the tubing and mainly goes up into the casing. And some of it will go into the formation, and that means you have a solid column of gas in your tubing.

So then when the lease operator comes around each day and opens these wells up, he must work this gas column off before the fluid, the formation fluid, can arrive. And we have fifty of these wells over a short period of time. So producing you will get a high peak of gas production.

Q And that is what happens daily under the present condition?

A Exactly. And if it were under a thirty-day allowable we would only do this once. And since it would be at different times a day and even different times of the month, this small amount of pure gas production would only be a small ripple in our total gas rate.

Q Is it generally considered to be more efficient operation to deliver gas and oil at a reasonably constant rate?

A Yes, it is. It's considered more efficient all the way along the line. Our lease facilities work more efficiently and

also -- although I'm not an expert in gas plant operations, I do know enough to know that a constant rate to their force increases their efficiency, which means they can extract more products, which is a measure of conservation.

Q Now, in connection with the petition. Have you prepared some tentative -- or scheduling as an example over a monthly period of time?

A Yes, I have. I have made, as I say in May, a detailed analysis, and if you will turn to Shell Exhibit D you will see where I have made an illustrative schedule of how the wells can be produced over a monthly period and give this desired effect of a constant gas flow.

Q Now, would you explain the chart, Exhibit D, a little bit?

A The first column,of course, is the wells. The second one --

Q The first column -- that's a description of the wells?

A Yes. The second column are the barrels per hour, of which you see ten barrels an hour is our maximum rate, and the others vary according to their capabilities. And the third column are the M.C.F. & R., which is the gas associated with that production. And the fourth column is fourth month allowable.

Q What are the numbers across the page?

A Those are the days representing the days of the month across the top.

Q Now, if you would proceed and give us a couple of examples.

A Well, about the 6th or 7th one down if you want to take 329,

that's a pump well and it is capable of producing four, and it is allowable to 1620 barrels, and it requires 13 days' production in order to make that 1620 barrels which I have shown there.

Q And you have set this in on that schedule for the first 13 days of the month?

A That's correct. The next well there is 1310, which is one of our maximum producers at 10 barrels an hour. It also has 1620 barrels a day which I have scheduled for the first 7 days of the month. There is any number of others I could illustrate if you care. The next one is 1410, which is 4 barrels an hour and it will take around 17 days to make the production, and I scheduled that for the last part of the month.

Q Now, you have set these all in in order to come out with a reasonably constant rate of oil-gas production, is that correct?

A That's correct.

Q And will this type of scheduling have to be flexible? Is this going to change from time to time?

A Yes. Because the characteristics of the wells change, it by necessity has to be flexible. But this is in essence the type of program that we would follow in order to arrive at this constant flow of gas.

Q Now, assume this type of scheduling was followed, what would be the result as far as gas and oil production?

A If you care to go to Shell Exhibit E you will see again on the left hand scale the numbers represent both M.C.F. of gas an

and barrels per hour. The solid line on the graph is the gas production, and the dotted line represents the oil production.

Q This covers a period of a month again?

A That's correct. The days of the month are on the bottom. And you can see we reach maximum gas rate during the month of close to eight million feet a day and a minimum rate of close to seven million feet a day, which is a million variation during the month, and within a day there would be a much smaller variation.

Q Could this be compared with Exhibit C, for example?

A Yes. Exhibit B do you mean?

Q Well, C is on a monthly basis.

A All right. You can see where we reach a maximum of 12¼ million during the day and a minimum of five million during the day, so there is a considerable difference in the variation there.

Q You have flattened out the peak considerably of gas?

A Yes.

Q Now, a little bit about the oil production. Does that flatten out too?

A Yes. The oil production will follow the gas production fairly closely, as you can see there. And this is also a desirable thing as far as our operations are concerned. It helps everybody from the pipeline people on back through us.

Q Would you tell the Commission why scheduling of this character is important and why Shell felt it necessary to submit this petition at this particular time?

A Well, as I have mentioned previously in my testimony Shell has entered into an agreement with El Paso Natural Gas to construct joint facilities to deliver gas to their change over plant in order to conserve this gas. And this proposed change in 502 will enable Shell to make proper use of the jointly owned facilities, which is namely a ten million foot a day compressor facility which is available to us. And by getting this exception we will be able to stay within the capacity of that compressor and not waste gas.

Q And it's pretty well geared up to the use of this facility and the conservation of gas from the Bisti field?

A That is exactly correct.

Q Do you believe the application considering all the factors is in the interests of conservation and the prevention of waste.

A I do.

Q Can actual physical waste occur if there are say this twelve million peak was delivered or attempted to be delivered in the gas facilities.

A Yes. As I said the compressor capacity is to be ten million and it will exceed that by some two and a quarter million feet a day under our existing operating conditions.

Q Is there anything further you would like to mention in connection with the petition?

A No. I believe I have stated everything.

MR. KELL: That's all I have of this witness.

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

MR. NUTTER: Yes.

Q (By Mr. Nutter) This monthly allowable would evidently smooth out the flow of gas from these 104 wells that you are talking about that Shell owns or operates. How would the Commission face up to the problem, however, if other operators were seeking the same thing. Now, perhaps if your peak production being seven million nine hundred thousand a day there would coincide with the production of some other operator on that same day, being the 14th day of the month. Now, how would the Commission smooth out the flow of gas into the gas line plant if everyone were operating under a monthly allowable?

A Well, Mr. Nutter, I don't believe you could call that a peak. That seven point nine million which is only a million above the minimum which is six point nine. That's about as even as you can get gas production from that field because I spent considerable time juggling these figures and that was the best that I could come up with.

Q Now, is your Exhibit E drawn from the schedule on Exhibit D?

A Yes, that's correct.

Q Well, in the event that it became necessary to schedule production from various parts of the pool into the gas line plant if we had other leases besides your own operating on a monthly allowable, would Shell Oil Company be willing to discuss scheduling wells with other operators to be sure that a uniform flow of gas would go into the gas line plant?

A Well, I still stick to my point. I consider this a uniform flow of gas. I don't believe that you would get it much more uniform than that.

Q On a daily basis?

A Well, if you started scheduling wells with other companies you know what kind of hassels you can get into with that, and I'd hate to commit my company on something like that. It would present tremendous problems in -- you mean co-ordinate our production with our neighbors?

Q Yes, sir.

A I think that would create some tremendous problems.

Q You are not asking for a fieldwide exception to 502, you are asking for an exception to Shell-owned properties, is that correct?

A That's correct.

Q Now, most of your pumping wells, are they operating 24 hours a day on this schedule D?

A The greatest percentage of them, yes.

Q And it is only the flowing wells that you have tried to schedule for production in a short period of time?

A No. We have some pumping wells as I stated previously that are capable of high rates of production.

Q Well, now, you stated that if you operated these wells for -- I believe you said if you operated for eight hours a day then during the night it would log up with heavy oil and it would be difficult

to start flowing the next morning?

A No. I said during the shutin period the oil would drop from the tubing leaving a column of gas in the tubing and this column of gas has to be worked off first before this formation fluid arrives.

Q Now, would it operate if you had a smaller shock in there and the well was flowing 24 hours a day?

A Then it would load up with oil and you don't have enough pressure. That's why we have to flow these wells at somewhere near the high rate as I mentioned in order to keep it.

Q Then what you are attempting to do here is cause that loading up period to occur less frequently than it does under daily operation?

A Yes. We don't think it would occur at all.

Q If you flowed the well at a larger capacity for half the month?

A Yes, that's correct.

MR. NUTTER: I believe that's all. Thank you.

MR. UTZ: Well, it would occur once a month, wouldn't it?

A No. Because, see, the problem is that you flow it at smaller rates and the tubing fills up with heavy fluid which kills your well. But when you shut the well in this heavy fluid drops in the tubing leaving the tubing solid gas which, of course, will flow very nicely, and this helps bring the formation fluid in.

Q (By Mr. Utz) That's when the well is shut in?

A Yes.

Q Well, you are going to shut in some of these wells for fifteen, twenty days a month?

A Yes.

Q So it will occur once a month?

A Yes. Once a month, which is better than having gas occur every day.

MR. UTZ: Are there any other questions of the witness?

Q (By Mr. Nutter) Is it your intention to schedule your wells in a manner similar to this?

A Yes. But it has to be flexible because the condition of the wells change and we are bringing in new wells every day, but this is basically the pattern we will follow.

MR. NUTTER: That's all.

Q (By Mr. Payne) Mr. Rheem, when do you plan to have your gas gathering system in operation?

A We hope to by July 1st of this year.

MR. PAYNE: Thank you.

MR. UTZ: Are there any other questions? If not the witness may be excused.

(Witness excused.)

WILLIAM C. MILLER

called as a witness, being first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. KELL:

Q Would you state your name, your employer, and the capacity

in which you are employed?

A My name is William C. Miller. I'm the Division Reservoir Engineer, Farmington Division, Farmington, New Mexico, for Shell Oil Company.

Q You have not previously testified as an expert witness before the Commission or an Examiner, have you?

A No, sir.

Q Would you state briefly your educational background in the field of Engineering?

A I graduated from Stanford University in 1950 with a Batchelor of Science degree in Petroleum Engineering.

Q Since then what has been your operational experience in the field?

A I was employed by Shell Oil Company at that time and have worked as a petroleum engineer specializing in reservoir engineering with assignments in Long Beach, Ventura, Bakersfield, Houston, and most recently in the Los Angeles area office prior to me assignment as Division Reservoir Engineer in Farmington when the division was formed in April, 1957.

MR. KELL: Are the witness' qualifications as an expert witness acceptable?

MR. UTZ: Yes, sir.

Q (By Mr. Kell) Are you familiar with and have you made a detailed study of the Bisti field reservoir?

A Yes, sir. In the over two years I have been associated with

the field I have made numerous reservoir studies.

Q What types of data were available to you and upon what did you base this study?

A I have had available production information, oil and gas core analysis, well logs, pressure volume temperature information on the reservoir fluids and other pertinent reservoir information.

Q Just about all the available information?

A Yes, sir.

Q Would you describe briefly the general characteristics of the Bisti reservoir?

A The Bisti field produces under a solution gas drive mechanism. Virtually no water is produced in the field. A small gas cap is present in the extreme southeastern portion of our leases, which has stayed pretty much immobile during production of the oil bearing portions of the reservoir. It has not moved into the adjoining producing wells. There has been no evidence of secondary gas caps forming in this extremely low dip reservoir. The dips are somewhat under one degree in the Bisti field. The productive portion of the Shell leases contain in general a large number of highly productive wells, many of which still flow. About 35 per cent of them are still flowing production.

Q Based upon your knowledge of the reservoir and the detailed studies that you have conducted, do you feel that the proposed manner in which Shell desires to operate, as further brought out by Mr. Rheem's testimony, would in any wise be harmful to the reservoir?

A It is my opinion that the use of the monthly allowable as proposed here with a maximum of 10 barrels an hour or 240 barrels a day on the very best of the wells could not be considered by any reasonable standards, taking into consideration the characteristics of the formations present in this reservoir, to be excessive for the better Bisti wells.

Q Now, have you prepared an exhibit which we refer to as Shell's Exhibit F which will more or less illustrate in a couple of instances the effect of the proposed operation?

A Yes, sir, I have.

Q Would you describe that for the Commission? Point out what it illustrates.

A Exhibit F contains pertinent data on two wells typical of those very best wells which will be produced at the maximum scheduled rate of 10 barrels per hour. These two wells were selected because they are typical and because we have a recent pressure built up survey on these wells performed during the recent June pressure survey in the field. The well in the left column is our Carson unit 12-19, which is in Section 19 and is circled in red on the official map. This well has 80 acrea dedicated to it and is a top allowable well. The pressure survey obtained in June of this year the well was producing at that time an instantaneous production rate of 485 barrels a day. This, of course, was produced for only a portion of the day. The static reservoir pressure at the end of a five-day build up was 1247 pounds. The flowing pressure

immediately before the well was shut in was 842 pounds. The draw down is 405 pounds at the above raite. The productivity index is 1.20 barrels per day per pound of draw down. The draw down, of course, being the difference between the static reservoir pressure and the flowing pressure in the well bore itself. This productivity index is rather typical of our other measurements of our most productive Bisti wells.

At a drawdown of 200 p.s.i. the well would produce at the maximum scheduled rate of 10 barrels per hour and this would be only 16 per cent of the available pressure in the reservoir. And, as I say, by any reasonable standards I think this could not be considered excessive. And, in fact, Shell's laboratory work both in Houston and in our Amsterdam laboratories corroborated by field studies and practical experience indicate that in solution gas drives where no secondary gas caps are being formed in reservoirs such as the Bisti, the recovery is probably independent of the rate of the production or, indeed, the scheduling of the production periods.

The right hand column contains data on another well, Government 44-10, which is a 40 acre dedicated well. The pertinent data is contained there also. The productivity index again is indicated to be above 1, and at the maximum scheduled rate the per cent drawdown would only be 21 per cent. As I say, these are typical of these better wells which flow most efficiently at these rates.

Q Now, you have indicated that in the draw mechaniam is

solution gas, and I think you have also said, have you not, in that type of mechanism it's the quantity of the production rather than the rate of production that is most significant?

A That is true.

Q Now, in what respect does the effect upon this rate vary in other types of drive mechanism rather than solution gas?

A In other reservoirs certain factors such as water drive and/or gravity drainage may make the recovery from a field sensitive to the rate of production. These factors are not present in my opinion in the Bisti field.

Q And have you encountered any other factors or peculiarities of the structural formation in the Bisti reservoir that would lead you to believe that they would react other than other general gas mechanisms?

A After considering all the other factors I can see where no damage can occur under the proposed schedule.

Q And what were the maximum rates of production, I think that you mentioned, that these wells would be producing under the proposed plan of operation in terms of barrels a day?

A 240 barrels a day, which of course is considerably less than their potential.

Q In your opinion, will operation of the Shell wells covered by the application which are along the boundaries of competitor lands adversely affect such wells -- the competitor wells, I mean?

A No. Since there will be production only at the allowable

with the same amount of oil being produced under this requested procedure during a month, there will be no violation of the correlative rights of others.

Q Now, we have mentioned, too, that under this plan some of these wells will be shut in for rather substantial periods of time. Some of them will produce appreciably less. Some will produce 10 or 15 days and some even less. Will this shut in period have any adverse effect?

A No, it will not. We have examined this possibility and come to this conclusion. We can expect no paraffin accumulation in the perforated interval. We have never encountered paraffin in these wells below 1500 feet. The wells produce no water and, therefore, there is none to accumulate in the bottom of the well. We have no sand problems. We have no corrosion problems in these wells and, in fact, we have experience of a much longer shutdown in many of these wells as they were waiting the completion of the Four Corners pipeline serving this area. And during that period there was no detrimental effect noted to the productivity of the wells after this shutdown as compared to that which we have measured before.

Q In your opinion as a reservoir engineer, if this application is granted, will it prevent waste and promote conservation of the gas involved and adequately protect correlative rights?

A It is my engineering opinion that production of the Shell wells under a schedule such as planned under the requested exception will result in no damage to the recovery to the Bisti-Gallup

reservoir, and will result in no violation of any operator's correlative rights; will permit an even, constant flow of gas to the gas facilities and, therefore, is in the interest of conservation.

MR. KELL: That's all the questions I have at this time, and I would like to move for the introduction of Shell Exhibits A through F inclusive.

MR. UTZ: Without objection Exhibits A through F will be admitted. Any questions of the witness? Mr. Nutter.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Miller, are you acquainted with any other orders that the Commission may have entered from time to time allowing exceptions to the daily tolerance for various pools?

A Not directly, no, sir.

Q Well, assuming that such orders have placed a limitation upon the rate of production to 200 per cent of the daily allowable, how would that affect you here. Now, as I calculate it the present allowable of 108 barrels for an 80 acre well is a rate of production of 4.5 barrels per hour. Now, you propose that the maximum rate of production would be 10 barrels an hour, correct?

A Yes, sir.

Q 200 per cent of that would be 9 barrels an hour. Now, would the difference between the maximum of 10, would that adversely affect you to any substantial degree?

A Course, the place where it would would be in the 40 acre wells.

Also their natural characteristics in order to maintain an even, stabalized rate of production also choose to flow stably at 240 barrels a day, which would be some 4 times the 40 acre allowable. The second example on the right there was such a well.

Q I see. So you would then in the case of a well that had half the allowable, you would produce that allowable at the same rate per hour that you produce an 80 acre allowable, is that correct?

A Yes, sir, that being a characteristic of these wells.

Q I see.

MR. NUTTER: I believe that's all. Thank you.

MR. UTZ: Any other questions?

MR. PAYNE: Yes, sir.

Q (By Mr. Payne) Mr. Miller, I would like to get straight what acreage is involved in this application. Is this acreage first of all in the Bisti-Gallup oil pool?

A The outlines of the pool are of a smaller dimension than the land indicated here.

Q So that there is a possibility that some of this acreage might be in another pool?

A Not at the present, no, sir.

Q Not at the present, but all of it is not in the Bisti at present either or has not been proven productive from the Bisti Lower Gallup to this date, is that right?

A Yes, sir, that is correct.

Q Now, referring to Section 9 -- north half of Section 9, 25

North, 12 West, hasn't Shell Oil Company traded off some of this acreage with Phillips?

A We are in the process of consumating that trade, yes, sir.

Q Well, now, your application is not to suspend the daily tolerance rate for any wells except Shell, is that right?

A Well, we will operate those wells for the Phillips Petroleum Company for a considerable amount of time and during that period we would like that exception.

MR. PAYNE: I see. I believe that's all. Thank you.

A I think in response to your first question. The order, I think, could be restricted to it not applying to other possible pools to be discovered in the future.

MR. PAYNE: Yes, sir.

MR. UTZ: Are there any other questions. If not the witness may be excused. Any other statements to be made in this case?

(Witness excused.)

MR. KELL: I'd like to make a brief statement. We feel that this proposed scheduling will make this gas production curve as flat as possible over a monthly period. Consequently, if other operators go on a monthly basis, if the Commission permits, they will be producing against this constant rate. But if there are any problems in that connection in scheduling, why, Shell will always be glad to discuss those with the Commission or the other operators. The most important thing we believe right now is to even out the gas flow into the gas gathering facilities. That's the critical

thing now in order to dispose of gas. The matter of delivering into the gas line plant is important, too. But that's not as critical a problem we don't believe as the gas delivery.

MR. UTZ: Are there any other statements?

MR. BRATTON: Howard Bratton appearing on behalf of Sun Oil Company. Sun is an operator in the Bisti-Gallup Oil Pool. Sun has no objection to the granting of the application of Shell in this case. However, Sun feels that any waiver or exception to the daily tolerance rule which is afforded to Shell in this case should be made available also or afforded to other operators in the pool. Of course, it very possibly could not be done in this case. However, Sun feels that the Commission should consider that any exception to the daily tolerance rule which is granted to Shell in this case should be and would be considered as a precedent for other operators in the pool at a later date, at a later hearing.

MR. PAYNE: Mr. Examiner, we have received the following communication from El Paso Natural Gas Company which reads as follows:

"In Case No. 1698 on the docket for Examiner Hearing June 24, 1959, Shell Oil Company applies for exception to Rule 502 1 (a) seeking an order which would exempt all wells in the Carson Unit area and all other Shell wells in Township 25 North, Range 11 and 12 West, Bisti oil pool from the daily tolerance provisions of said Rule 502 1 (a). This would permit production of

one day of more than 15 per cent of wells allowable. El Paso Natural Gas Company pursuant to contract with Shell and others has almost completed construction of gathering , compressing, and processing facilities to take casing head gas produced from the wells covered by this application. The capacity of the facilities is limited to ten million cubic feet of gas per day. El Paso Natural Gas Company favors rules which will result in casing head gas being tendered to it on a reasonably level basis through the month and throughout each day. Any rule which results in peak production of casing head gas in excess of available facilities during the month or during any particular day obviously will result in waste. El Paso believes that Rule 502 1 (a) is desirable as a statewide rule and that it prevents waste. However, Shell advises El Paso that enforcement of the statewide rule to production from the Bisti Lower Gallup oil pool will cause peaks which can be leveled by granting Shell's application. The amendment will permit the operator to use production from high deliverability wells at the most desirable time to avoid peaks. Shell as operator of the unit area is anxious to maintain casing head gas production at reasonable levels and to avoid production in excess of the available facilities. Under these circumstances

El Paso supports Shell's application as meritorious, but suggests to the Commission that any order issued contain conditions limiting the production at any time of casing head gas from the area to the capacity of available facilities."

MR. UTZ: Are there any other statements? If not the case will be taken under advisement.

C E R T I F I C A T E

STATE OF NEW MEXICO)
: ss
COUNTY OF BERNALILLO)

I, Ned A. Greenig, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in stenotype and reduced to typewritten transcript by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my hand and seal this the 30th day of June, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Ned A. Greenig
Notary Public

My. Commission Expires:

May 5, 1963

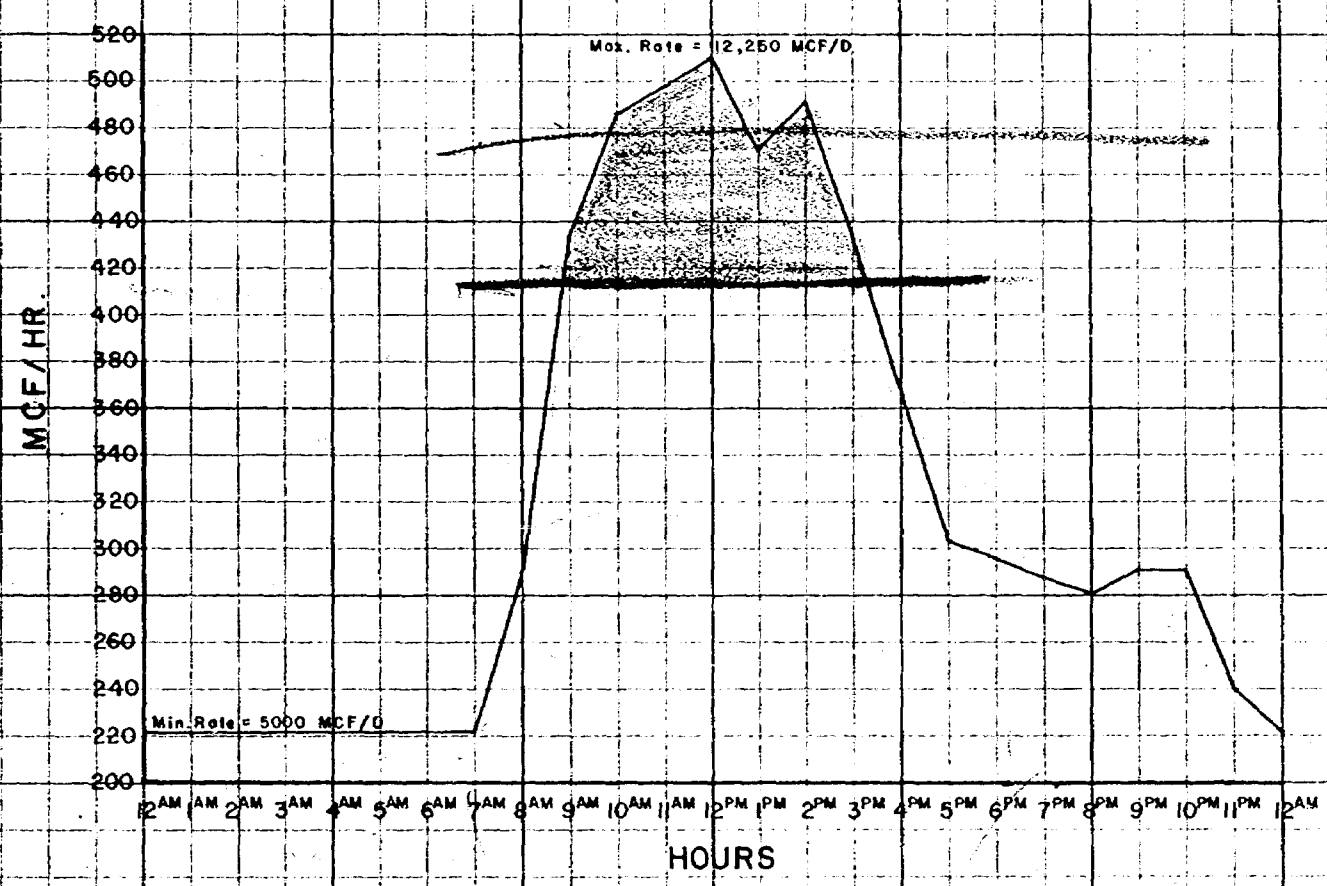
I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner ~~hearing~~ of Case No. 1618, heard by me on ~~19~~ June-24-59

....., Examiner
New Mexico Oil Conservation Commission

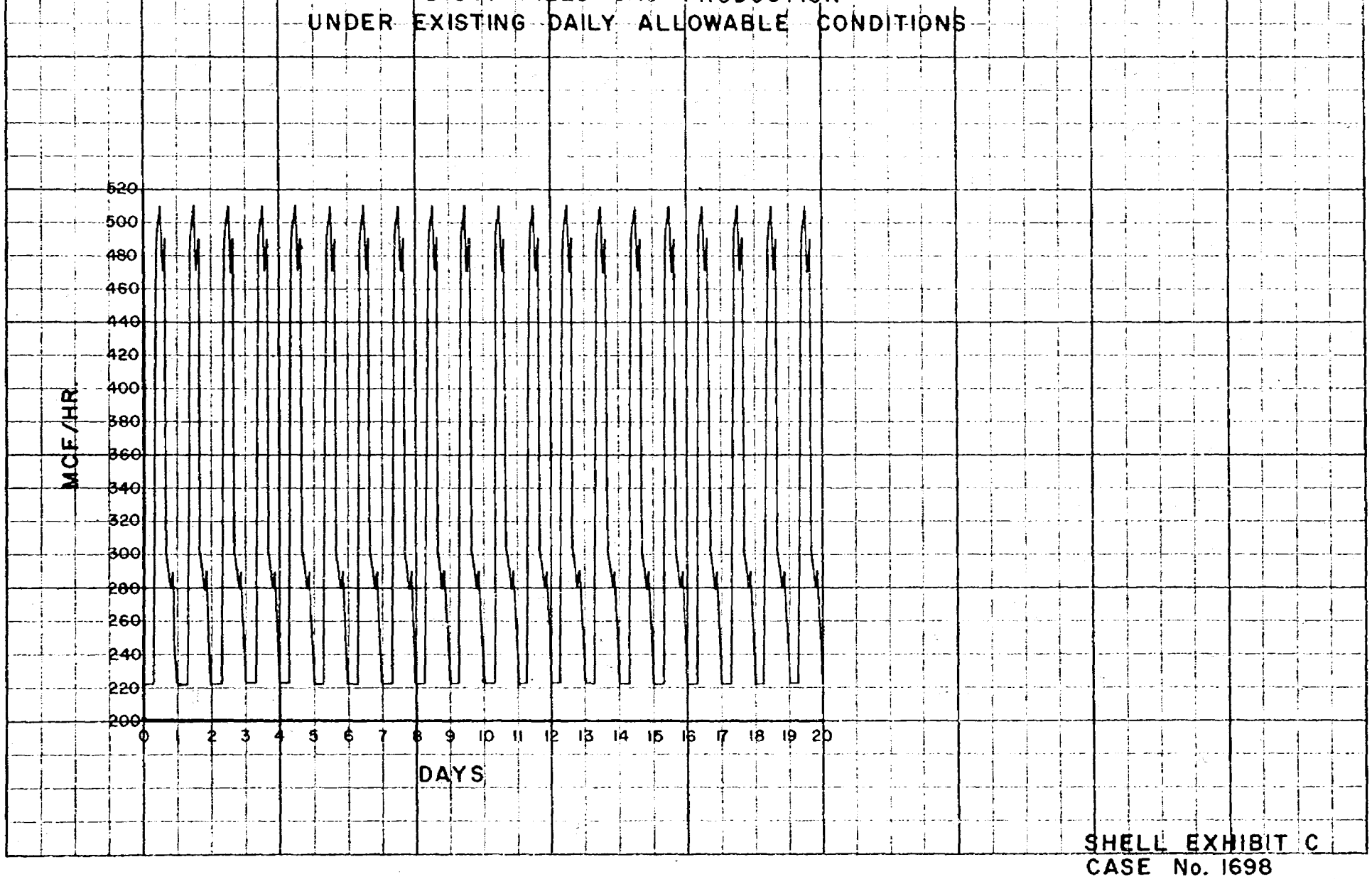
DEARNLEY - MEIER & ASSOCIATES
GENERAL LAW REPORTERS
ALBUQUERQUE, NEW MEXICO
Phone CHapel 3-6691

MAY 1953

BISTI FIELD GAS PRODUCTION
UNDER EXISTING DAILY ALLOWABLE CONDITIONS



SHELL EXHIBIT B
CASE No. 1698

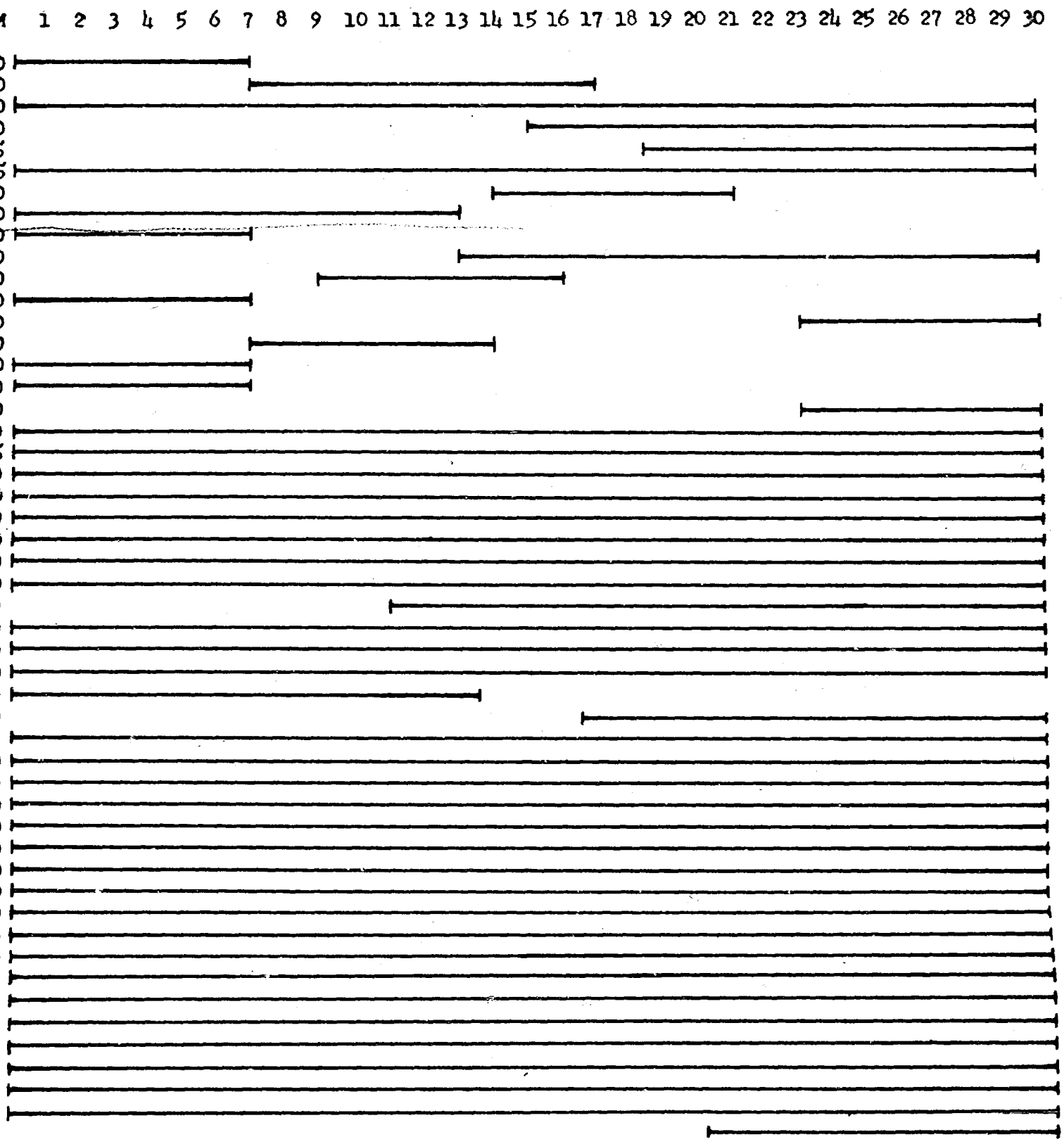


SHELL EXHIBIT C
CASE No. 1698

MAY 1959

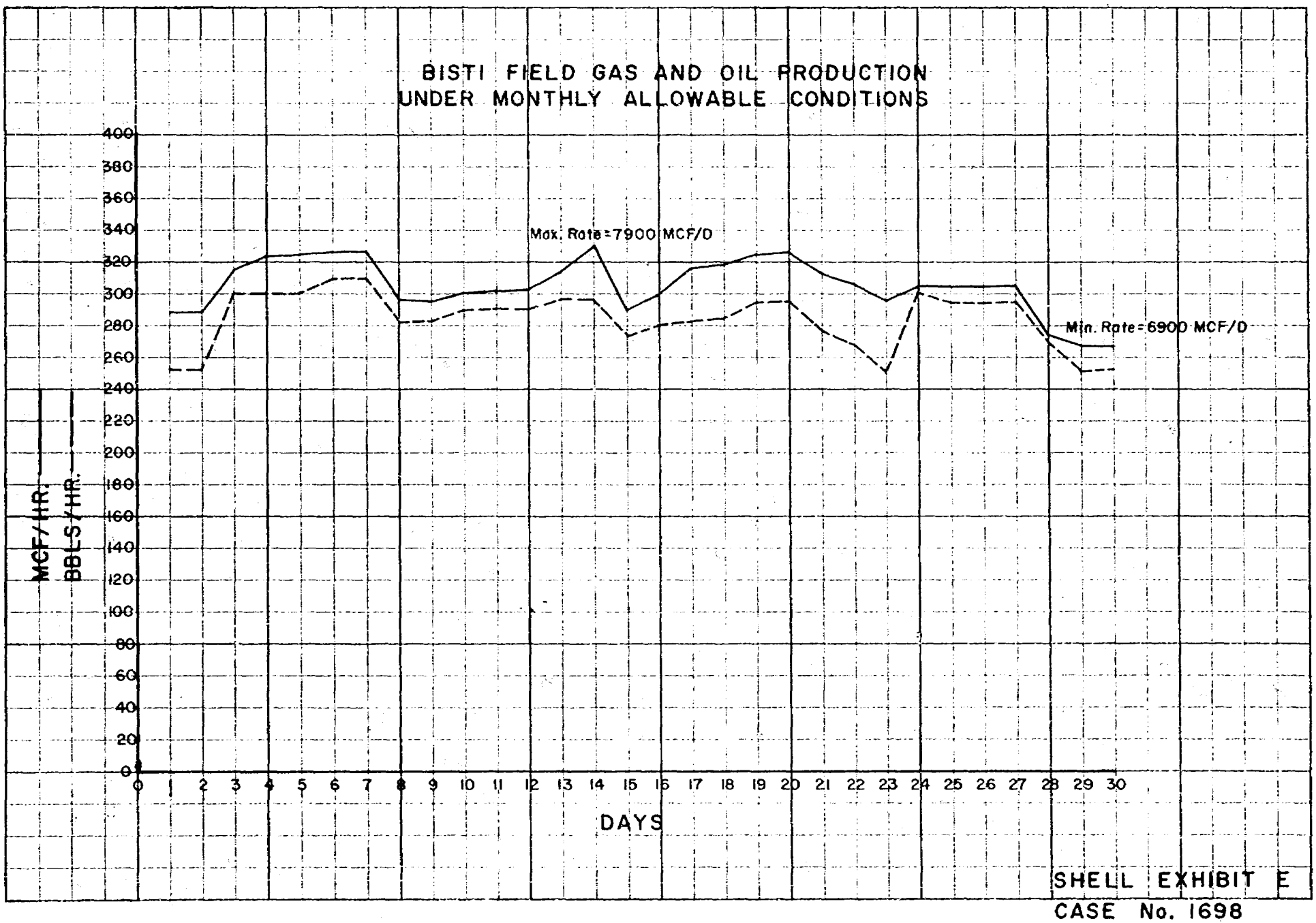
ILLUSTRATIVE WELL SCHEDULE - BISTI FIELD

WELL	B/HR	MCF/HR	B/M
21-9	10.0	15.0	1620
11-9	7.1	4.8	1620
12-9	2.5	4.5	1620
22-9	4.6	6.8	1620
31-9	10.0	11.7	2735
41-9	0.7	0.3	505
42-9	10.0	12.3	1620
32-9	5.2	4.2	1620
13-10	10.0	10.2	1620
14-10	4.0	6.0	1620
24-10	10.0	11.4	1620
23-10	10.0	12.5	1620
33-10	10.0	11.7	1620
34-10	10.0	10.0	1620
43-10	10.0	10.0	1620
44-10	10.0	11.1	1620
31-15	10.0	11.4	2160
32-15	1.5	0.9	1080
41-15	1.8	3.2	1295
32-10	2.8	3.2	2010
12-15	1.5	8.6	1080
14-15	0.5	0.6	360
23-15	4.7	6.1	3240
43-15	2.0	1.6	1440
21-15	2.0	2.2	1440
44-15	7.1	11.1	3240
31-10	0.6	0.5	430
23-17	1.8	3.3	1320
32-17	1.8	5.9	3150
34-17	10.0	7.2	3240
43-17	10.0	7.3	3240
23-20	0.9	6.5	630
31-17	0.3	0.1	180
3	0.7	3.1	600
34-7	2.8	1.6	2010
41-13	0.9	0.5	630
14-18	1.6	0.7	1170
32-18	1.7	1.2	1260
34-18	4.1	5.8	2940
43-18	1.3	0.8	930
34-13	2.7	7.1	1980
43-13	3.0	5.2	2160
43-23	1.0	1.9	690
13-11	2.6	2.5	1800
22-11	2.0	2.0	1410
44-11	4.1	5.3	2960
13-12	0.7	0.3	510
12-13	4.2	4.3	3060
23-14	3.7	5.4	2670
33-14	10.0	5.8	2640



34-14	1.2	1.8	600
41-14	1.9	0.6	1380
41-23	2.0	2.0	1440
12-24	4.0	4.9	2820
21-24	0.5	0.2	360
32-24	0.5	0.3	360
33-24	3.0	2.6	2160
43-24	1.3	1.6	900
21-19	1.4	2.1	1000
32-19	1.3	1.1	960
34-19	0.3	0.5	180
23-19	0.5	1.1	360
4	10.0	17.7	3240
14-17	10.0	17.1	3240
41-20	10.0	21.1	3240
24-7	10.0	4.6	3240
12-18	7.6	11.2	3240
21-18	9.5	4.7	3240
23-18	10.0	12.9	3240
41-18	10.0	5.4	3240
1	10.0	9.4	3240
14-13	10.0	9.8	3240
23-13	7.5	10.3	3240
32-13	10.0	13.4	3240
42-23	10.0	13.3	3240
14-12	10.0	10.4	3240
21-13	10.0	10.8	3240
14-11	10.0	8.6	3240
33-11	6.9	4.1	3240
11-14	10.0	4.5	1620
12-14	10.0	3.0	3240
14-14	10.0	14.2	3240
21-14	10.0	7.5	1620
32-14	10.0	10.4	3240
43-14	10.0	7.8	1620
44-14	10.0	7.9	1620
21-23	6.1	6.8	3240
23-24	10.0	13.5	3240
12-19	10.0	4.5	3240
41-19	10.0	7.5	3240
11-30	9.2	1.2	3240
13-16A	10.0	3.5	1620
14-16A	10.0	4.0	1620
23-16A	10.0	3.3	1620
24-16A	10.0	4.4	1620
34-16A	10.0	4.0	3240
12-16A	1.3	0.8	960
41A-21	0.3	0.1	180

SHELL EXHIBIT D
CASE NO. 1698



SHELL EXHIBIT E
CASE No. 1698

EXAMPLES OF WELLS TO BE PRODUCED

AT THE MAXIMUM SCHEDULED RATE OF 10 Bbl. / HR.

Well	C.U. 12-19	Govt. 44-10
Dedicated Acreage	80 ac.	40 ac.
Date of Pressure Survey	June, 1959	June, 1959
Instantaneous Production Rate	485 B/D	425 B/D
Static Reservoir Pressure	1247 psig.	1132 psig.
Flowing Pressure	842 psig.	714 psig.
Drawdown	405 psi.	418 psi.
Productivity Index-B/D/psi.	1.20	1.02
Drawdown at 240 B/D	200 psi.	235 psi.
Percent Drawdown	16%	21%

SHELL EXHIBIT F

CASE NO. 1698

No. 23-59

DOCKET: EXAMINER HEARING JUNE 24, 1959

OIL CONSERVATION COMMISSION - 1120 CERRILLOS ROAD, HIGHWAY DEPARTMENT AUDITORIUM, 8 a.m., SANTA FE, NEW MEXICO

The following cases will be heard before Elvis A. Utz, Examiner, or A. L. Porter, Jr., Secretary-Director.

CONTINUED CASE

CASE 1666: Application of Sunray Mid-Continent Oil Company for approval of a unit agreement. Applicant, in the above-styled cause, seeks an order approving its Central Bisti-Lower Gallup Sand Unit embracing approximately 7389 acres of federal, state, and allotted Indian lands in the Bisti-Lower Gallup Oil Pool, San Juan County, New Mexico.

NEW CASES

CASE 1692: Application of Continental Oil Company for the establishment of a non-standard gas proration unit in the Tubb Gas Pool. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas proration unit in the Tubb Gas Pool consisting of lot 15, the N/2 SE/4 and the SE/4 SE/4 of Section 3, Township 21 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to applicant's Hawk B-3 Well No. 2-T, located 1650 feet from the South and East lines of said Section 3.

CASE 1693: Application of Amerada Petroleum Corporation for three non-standard oil proration units. Applicant, in the above-styled cause, seeks an order establishing three 43.7 acre non-standard oil proration units for Mississippian production in the SE/4 of Section 11, Township 13 South, Range 38 East, Lea County, New Mexico. Applicant further seeks approval of one unorthodox oil well location.

CASE 1694: Application of Texas Crude Oil Company for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing it to dually complete its Big Eddy Unit 1-30 Well, located in the SE/4 SE/4 of Section 30, Township 20 South, Range 31 East, Eddy County, New Mexico, in such a manner as to produce oil from an undesignated Tansil pool and to produce oil from an undesignated Delaware pool through parallel strings of tubing.

CASE 1695: Application of Texaco, Inc. for a triple completion, for permission to commingle the production from three separate pools, and for the establishment of two non-standard gas proration units, Applicant, in the above-styled cause, seeks an order authorizing it to triple complete its A. H. Blinebry NCT-4 Well No. 1, located in the SE/4 SE/4 of Section 31, Township 22 South, Range 38 East, Lea County, New Mexico, in such a manner as to permit production from the Blinebry formation, production of gas from the Tubb Gas Pool, and production of oil from the Drinkard Pool through tubing, the annulus via cross-over, and tubing respectively. Applicant further seeks the establishment of a 160-acre non-standard gas proration unit in both the Tubb Gas Pool and Blinebry Gas Pool each consisting of the S/2 S/2 of said Section 31. Applicant further seeks permission to commingle the liquid production from the Blinebry, Tubb, and Drinkard formations underlying said acreage.

June 24th
-2- hearing

No. 23-59

CASE 1696: Application of Caulkins Oil Company for a triple completion. Applicant, in the above-styled cause, seeks an order authorizing it to triple complete its Breech "F" Well No. PMD-8, located in the NE/4 NE/4 of Section 34, Township 27 North, Range 5 West, Rio Arriba County, New Mexico, in such a manner as to produce gas form the South Blanco-Pictured Cliffs Pool, gas from the Mesaverde formation, and gas from the Dakota formation through parallel strings of tubing.

CASE 1697: Application of Universal Oil Corporation for the creation of a new oil pool for Gallup production, and for an exception to Rules 104 and 107 for wells in said pool. Applicant, in the above-styled cause, seeks an order creating a new pool for Gallup production to be designated the Shiprock-Gallup Oil Pool and located in Sections 16 and 17, Township 29 North, Range 18 West, San Juan County, New Mexico. Applicant further seeks the promulgation of pool rules to permit wells in said pool to be located closer than 660 feet to the nearest producing well in exception to Rule 104, and to permit certain exceptions to the casing requirements of Rule 107 of the Commission Rules and Regulations.

CASE 1698: Application of Shell Oil Company for an exception to Rule 502 I (a). Applicant, in the above-styled cause, seeks an order which would exempt all wells in the Carson Unit Area and all other Shell wells in Township 25 North, Ranges 11 and 12 West, Bisti-lower Gallup Oil Pool, San Juan County, New Mexico, from the daily tolerance provisions of Rule 502 I (a) of the Commission Rules and Regulations.

CASE 1195: Application of Graridge Corporation for capacity allowables for certain wells in a water flood project. Applicant, in the above-styled cause, seeks an order authorizing capacity allowables for three wells in the project area of its water flood in the Caprock-Queen Pool in Lea and Chaves Counties, New Mexico.

CASE 1196: Application of Graridge Corporation for an order amending Order No. R-966. Applicant, in the above-styled cause, seeks an order amending Order No. R-966 to establish administrative procedures for development of its Artesia Water Flood Projects No. 2 and 3, Artesia Pool, Eddy County, New Mexico, and for approval of unorthodox locations for 27 wells in said projects, for authority to convert six wells in said projects to water injection, and for capacity allowables for five wells in said projects.

CASE 1185: Application of Graridge Corporation for an order amending Order No. R-952. Applicant, in the above-styled cause, seeks an order amending Order No. R-952 to establish administrative procedures for development of its Artesia Water Flood Project No. 1, Artesia Pool, Eddy County, New Mexico, and for approval of unorthodox locations for fifteen wells in said project, and for capacity allowables for five wells in said project.

CASE 1699: Application of J. W. Brown for an order authorizing a pilot water flood project. Applicant, in the above-styled cause seeks an order authorizing it to institute a pilot water flood project in the Brown Pool, Chaves County, New Mexico, by the injection of water into the Queen formation through four wells located in the SE/4 NW/4 of Section 26, Township 10 South, Range 26 East, Chaves County, New Mexico.

CASE 1337: Application of Gulf Oil Corporation for an order amending Order No. R-1093-A. Applicant, in the above-styled cause, seeks an order amending Order No. R-1093-A to permit the commingling of Paddock production with the commingled Blinebry, Drinkard, and Langlie-Mattix production from its Learcy McBuffington lease consisting of the S/2 of Section 13, Township 25 South, Range 37 East, Justis Field, Lea County, New Mexico.

CASE 1700: Application of Gulf Oil Corporation for permission to commingle the production from two separate leases: Applicant, in the above-styled cause, seeks an order authorizing it to commingle the production from the East Millman Queen-Grayburg Pool from two separate non-contiguous leases in Township 19 South, Range 28 East, Eddy County, New Mexico.

CASE 1703: Application of Tidewater Oil Company to commingle the production from several separate oil pools from two separate leases. Applicant, in the above-styled cause, seeks an order authorizing it to commingle the intermediate grade crudes produced from its Coates "D" Lease comprising the SE/4 SW/4 of Section 24, Township 25 South, Range 37 East, Justis Field, Lea County, New Mexico, with the commingled production of all intermediate grade crudes produced from its Coates "C" Lease comprising the E/2, SE/4 NW/4, and the NE/4 SW/4 of said Section 24 and to pass such commingled production through its automatic custody transfer system.

CASE 1704: Application of Cities Service Oil Company for capacity allowables for nine wells in a water flood project and for establishment of administrative procedure for expansion of said project. Applicant, in the above-styled cause, seeks an order authorizing capacity allowable for nine wells in the project area of its water flood project in the Caprock-Queen Pool, Chaves County, New Mexico. Said capacity allowables would be in exception to Order R-1128-A. Applicant further seeks establishment of an administrative procedure to expand said water flood project.

CASE 1705: Application of Neville G. Penrose, Inc., for a capacity allowable for one well. Applicant, in the above-styled cause, seeks an order authorizing a capacity allowable for its Alston Well No. 2, located in the NW/4 NW/4 of Section 11, Township 14 South, Range 31 East, Caprock Queen Pool, Chaves County, New Mexico, due to a response from the adjoining Cities Service Oil Company water flood project. Said capacity allowable would be in exception to Order R-1128-A.

pj

NEW MEXICO OIL CONSERVATION COMMISSION

Docket No. 23-59-a

In addition to the cases listed on Docket No. 23-59, the following cases will also be heard June 24, 1959, before Elvis A. Utz, Examiner, or A. L. Porter, Jr., Secretary-Director:

CASE 1701: Application of Gulf Oil Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Learcy McBuffington Well No. 5, located in the NW/4 SE/4, Section 13, Township 25 South, Range 37 East, Lea County, New Mexico, in such a manner as to produce oil from an undesignated Paddock Pool and oil from the Justis-Ellenburger Pool through parallel strings of tubing.

CASE 1702: Application of Humble Oil & Refining Company for an oil-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its South Four Lakes Unit Well No. 6, located in the SW/4 SE/4, Section 2, Township 12 South, Range 34 East, Lea County, New Mexico, in such a manner as to produce oil from a Four Lakes-Pennsylvanian Pool extension and gas from a Four Lakes-Devonian Gas Pool extension through parallel strings of tubing.

CASE 1706: Application of Sunray Mid-Continent Oil Company for an order amending Order No. R-1414. Applicant, in the above-styled cause, seeks an order amending Order No. R-1414 to include the following additional acreage: NW/4 NW/4 of Section 6, Township 25 North, Range 12 West, and the SW/4 SW/4 of Section 31, Township 26 North, Range 12 West, San Juan County, New Mexico.

Place of hearing will be Highway Department Auditorium, 1120 Cerrillos Road, Santa Fe, New Mexico.

Time of hearing will be 8:00 o'clock a.m.

ig/

BEFORE THE OIL CONSERVATION COMMISSION

OF THE STATE OF NEW MEXICO

In the Matter of the Application of SHELL OIL COMPANY for the Assignment of Monthly Allowables to Wells in Certain Areas in San Juan County, New Mexico, Such Allowable to be the Same as the Regular Daily Unit Allowable in the Pool Concerned, Multiplied by the Number of Days in the Month, This Monthly Allowable to be Produced at any Time during the Calendar Month.	No. _____

PETITION

Comes now Shell Oil Company and petitions the Commission for an exception to Rule No. 502, and to permit the wells presently located or hereafter drilled on the lands hereinafter described to be given a month allowable which shall be the daily unit allowable applicable to the pool, multiplied by the number of days in the month, which monthly allowable may be produced at any time during the calendar month.

The production from the wells on the lands hereinafter described under a daily allowable results in a peak production of gas and of oil during the early afternoon, with a low during the early morning hours. A uniform and economic rate of flow could be achieved if a monthly allowable was granted. Proper scheduling of wells under a monthly allowable to produce at certain periods throughout the month would permit the most uniform rate of flow with no adverse effects.

The petitioner respectfully requests that such monthly allowables be granted to include all land and leases which have been committed to the Carson Unit Agreement or which may hereafter be

Mailed 6-12-59

committed to such Unit Agreement. This Unit Agreement covers the following described land:

New Mexico Principal Meridian
Township 25 North, Range 11 West
All of Sections 5 to 8, inclusive;
17 to 20, inclusive; and 29 to 32,
inclusive.

Township 25 North, Range 12 West
All Section 1; All Section 2; All
Sections 11 through 14, inclusive;
All Sections 23 through 26, inclusive;
All Section 35; All Section 36,
containing 15,366 acres, more or less.

Petitioner further requests that its petition likewise cover the following described lands and leases:

1. United States Oil and Gas Lease Santa Fe 036254, dated February 1, 1948, covering the following described lands:

Township 25 North, Range 12 West, N.M.P.M.
Section 4: Lots 1, 2, $S\frac{1}{2}$ $NE\frac{1}{4}$
Section 9: $N\frac{1}{2}$
Section 10: $SW\frac{1}{4}$, $E\frac{1}{2}$
Section 15: All
Section 22: $N\frac{1}{2}$, $SE\frac{1}{4}$
Section 27: $W\frac{1}{2}$

2. United States Oil and Gas Lease Santa Fe 036252, dated February 1, 1948, covering the following described lands:

Township 25 North, Range 11 West, N.M.P.M.
Section 26: $W\frac{1}{2}$
Section 27: $S\frac{1}{2}$
Section 34: All

3. United States Oil and Gas Lease Santa Fe 036253, dated February 1, 1948, covering the following described lands:

Township 25 North, Range 11 West, N.M.P.M.
Section 4: $SW\frac{1}{4}$
Section 9: $W\frac{1}{2}$
Section 16: All

4. United States Oil and Gas Lease New Mexico 036256, dated February 1, 1948, covering the following described lands:

Township 25 North, Range 12 West, N.M.P.M.
Section 29: $S\frac{1}{2}$ $NE\frac{1}{4}$, $S\frac{1}{2}$ $SE\frac{1}{4}$

5. United States Oil and Gas Lease Santa Fe 078065, dated February 1, 1948, covering the following described lands:

Township 25 North, Range 12 West, N.M.P.M.
Section 21: All
Section 28: All
Section 33: All
Section 34: All

6. United States Oil and Gas Lease Santa Fe 078228, dated February 1, 1948, covering the following described lands:

Township 25 North, Range 11 West, N.M.P.M.
Section 9: $SE\frac{1}{4}$

7. United States Oil and Gas Lease New Mexico 021530, dated May 1, 1956, covering the following described lands:

Township 25 North, Range 11 West, N.M.P.M.
Section 22: $NW\frac{1}{4}$

8. United States Oil and Gas Lease New Mexico 036255, dated February 1, 1948, covering the following described lands:

Township 25 North, Range 12 West, N.MP. M.
Section 3: Lots 1, 2, $S\frac{1}{2}$ $NW\frac{1}{4}$, $N\frac{1}{2}$ $SE\frac{1}{4}$

A map is attached to this petition, showing the location of the lands which are the subject hereof.

Petitioner further requests that this matter be set down for hearing in accordance with the rules of the Commission.

Respectfully submitted,

SHELL OIL COMPANY

By Leslie Kell-or
Leslie Kell

SETH, MONTGOMERY, FEDERICI & ANDREWS

By Oliver Seth
Oliver Seth
Its Attorneys.