CASE 6739: MOBIL OIL CORPORATION FOR DOWNHOLE COMMINGLING, RIO ARRIBA COUNTY, NEW MEXICO

Case No.

6739

Application

Transcripts.

Small Exhibits

ETC.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

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January 10, 1980

Mr. James E. Sperling
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Attorneys at Law
P. O. Box 2168
Albuquerque, New Mexico 87103

Re: CASE NO. 6739
ORDER NO. R-6229

Applicant:

Mobil Oil Corporation

Dear Sir:

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

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD x

Other _____

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

CASE NO. 6739
Order No. R-6229

APPLICATION OF MOBIL OIL CORPORATION
FOR DOWNHOLE COMMINGLING, RIO ARRIBA
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on November 28, 1979, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 9th day of January, 1980, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Mobil Oil Corporation, is the owner and operator of the Jicarilla D Well No. 1, located in Unit N of Section 24, Township 26 North, Range 3 West, NMPM, Rio Arriba County, New Mexico.

(3) That the applicant seeks authority to commingle Gavilan-Pictured Cliffs and Blanco Mesaverde production within the wellbore of the above-described well.

(4) That from the Gavilan-Pictured Cliffs zone, the subject well is capable of low marginal production only.

(5) That from the Blanco Mesaverde zone, the subject well is capable of low marginal production only.

(6) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(7) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(8) That to afford the Division the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Aztec district office of the Division any time the subject well is shut-in for 7 consecutive days.

(9) That in order to allocate the commingled production to each of the commingled zones in the subject well, 70 percent of the commingled gas production should be allocated to the Gavilan-Pictured Cliffs zone, and 30 percent of the commingled gas production and all of the water production to the Blanco Mesaverde zone.

(10) That the applicant further seeks the establishment of an administrative procedure for approval of downhole commingling of the aforesaid pools in others of its wells in Sections 7, 8, 17, 18, and 19, Township 26 North, Range 2 West, Sections 1, 2, 11 through 14, 23, and 24, Township 26 North, Range 3 West, and Sections 11 through 15, 22 through 27, 35, and 36, Township 27 North, Range 3 West.

(11) That the proposed downhole commingling of the Pictured Cliffs and Mesaverde zones in applicant's wells in said sections may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights provided that no great dissimilitude exists between the productive capacities, bottom hole pressures, liquids production, and ownership between the zones and provided each of the zones is capable of no more than marginal production.

(12) That the Division Director should be authorized to administratively approve the downhole commingling of the Pictured Cliffs and Mesaverde zones for applicant's wells in the sections set out in Finding No. (10) above upon a proper showing of the data set out in Finding No. (11).

IT IS THEREFORE ORDERED:

(1) That the applicant, Mobil Oil Corporation, is hereby authorized to commingle Gavilan-Pictured Cliffs and Blanco Mesaverde production within the wellbore of its Jicarilla D Well No. 1, located in Unit N of Section 24, Township 26 North, Range 3 West, NMPM, Rio Arriba County, New Mexico.

(2) That 70 percent of the commingled gas production shall be allocated to the Gavilan-Pictured Cliffs zone and 30 percent of the commingled gas production and all of the water production shall be allocated to the Blanco Mesaverde zone.

(3) That the operator of the subject well shall immediately notify the Division's Aztec district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Division, a plan for remedial action.

IT IS FURTHER ORDERED:

(1) That an administrative procedure is hereby established whereby the Director of the Oil Conservation Division may administratively authorize downhole commingling of the Pictured Cliffs and Mesaverde zones in applicant's wells in Sections 7, 8, 17, 18, and 19, Township 26 North, Range 2 West, Sections 1, 2, 11 through 14, 23, and 24, Township 26 North, Range 3 West, and Sections 11 through 15, 22 through 27, 35, and 36, Township 27 North, Range 3 West.

(2) That qualification and application for and approval of requests for downhole commingling shall be made in accordance with the following rules:

Rule 1. Wells shall qualify for approval for downhole commingling under this order provided that:

(a) neither zone produces more than 200 MCF of gas per day;

(b) neither zone produces more than 10 barrels of fluid per day;

(c) the bottom hole pressure of the lower pressure zone is not less than 50 percent of the bottom hole pressure of the higher pressure zone adjusted to a common datum; and,

(d) the ownership of the two zones is common (including working interest, royalty interest, and overriding royalty).

Rule 2. Applications for administrative approval of downhole commingling under this order shall include:

(a) Name and address of the operator.

(b) Lease name, well number, well location.

(c) A current (within 30 days) 24-hour productivity test showing the amount of gas, condensate, and water produced from each zone.

(d) A production decline curve for both zones showing that for a period of at least one year a steady rate of decline has been established for each zone which will permit a reasonable allocation of the commingled production to each zone for statistical purposes. (This requirement may be dispensed with in the case of a newly completed or recently completed well which has little or no production history. However, a complete resume of the well's completion history including description of treating, testing, etc., of each zone, and a prognostication of future production from each zone shall be submitted.)

(e) Actual or calculated bottom-hole pressure for each zone. A current (within 30 days) bottom-hole pressure for any newly completed zone.

(f) A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the wellbore.

(g) A statement that the ownership of the two zones is common (including working interest, royalty interest, and overriding royalty).

(h) A statement that all offset operators, the Division's district office at Aztec, and, in the case of a well on Federal land, the United States Geological Survey, have been notified in writing of the proposed commingling.

Rule 3. The Division Director may approve the proposed downhole commingling in the absence of a valid objection within 20 days after the receipt of the application if, in his opinion,

there is no disqualifying disparity of bottomhole pressures of other reservoir characteristics, waste will not result thereby, and correlative rights will not be violated. The 20-day waiting period may be dispensed with upon receipt of waivers of objection from all parties mentioned in Section 2, paragraph (i).

(3) Upon such approval, the well shall be operated in accordance with the provisions of the administrative order which authorized the commingling, and allocation of the commingled production from the well to each of the producing zones shall be in accordance with the allocation formula set forth in the order.

(4) The Division Director may rescind authority to commingle production in the wellbore and require both zones to be produced separately, if, in his opinion, waste or reservoir damage is resulting thereby or if any change of conditions renders the installation no longer eligible for downhole commingling.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY
Director

S E A L

fd/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
28 November 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Mobil Oil Corporation for downhole commingling, Rio Arriba County, New Mexico. CASE 6739

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel for the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: James E. Sperling, Esq.
MODRALL, SPERLING, ROEHL, HARRIS & SISK
Albuquerque, New Mexico

I N D E X

E X H I B I T S

MR. STAMETS: We'll call now Case 6739.

MR. PADILLA: Application of Mobil Oil Corporation for downhole commingling, Rio Arriba County, New Mexico.

MR. STAMETS: Call for appearances in this case.

MR. SPERLING: James E. Sperling, of Modrall, Sperling, Roehl, Harris and Sisk, Albuquerque, appearing for the applicant, Mobil Oil Corporation. We have one witness.

MR. STAMETS: I'd like to have the witness stand and be sworn, please.

(Witness sworn.)

W. F. WEAVER

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

DIRECT EXAMINATION

BY MR. SPERLING:

Q. Please state your name and place of residence.

A. My name is H. F. Weaver from Houston, Texas.

Q. By whom are you employed and in what

capacity?

A. I work for Mobil Oil Corporation. I'm an Associate Regulatory Engineer in the Environmental and Regulatory Section.

Q. Have you on any prior occasion testified before the Division so that your qualifications are a matter of record?

A. I have not.

Q. Would you in that event then give the Examiner and the record a resume of your educational background and experience background with respect to activities in the petroleum industry?

A. I attended Texas A&M University and received my degree in petroleum engineering in 1950. After that I went to work for another major oil corporation and worked as an engineer in the field for about three years. Then I joined an independent oil operator whose home office was in Dallas and became their chief drilling and production engineer, which also dealt with reservoir, until 1963, at which time I joined Mobil Oil Corporation as a petroleum engineer. I have worked in operations engineering, production engineering, and drilling engineering and now in regulatory engineering with Mobil Oil Corporation.

Q. Are you familiar with the matters which are the subject of the application before the Division at this time?

A. Yes, sir.

MR. SPERLING: We offer the witness as qualified.

MR. STAMETS: The witness is considered qualified.

Q. Mr. Weaver, will you explain what it is that Mobil seeks in the filing of this application?

A. Well, Mobil requests approval to downhole commingle the hydrocarbons in the Jicarilla "D" Well No. 1, and this well is located in Unit N, Section 24, Township 26 North, Range 3 West, in Rio Arriba County, New Mexico.

The well is completed as a dual in the Blanco-Mesaverde and the Gavilan-Pictured Cliffs Pools and was authorized to complete by the New Mexico Oil Conservation Division Order No. DC-346.

Tests of present production during October, 1979, resulted in 36 Mcf per day and zero barrels of water per day from the Gavilan-Pictured Cliffs and 17 Mcf per day and a half a barrel of water from the Blanco-Mesaverde Pool.

The condensate from each pool was too small to measure.

Q. What disposition is made of the small quantity of water that is produced?

A. Water production that is produced is disposed of into an unlined pit which has the required approval

permits.

Q. You have stated that it's Mobil's objective to obtain approval for downhole commingling from the two pools that you've identified. Is there an economic reason for such a request?

A. Yes, sir, there is.

Q. How is the well classified from the standpoint of its productive capacity?

A. Well, it's classified right now as a gas stripper well from each one of the zones, or combined, makes it a stripper well. Also it's a marginal well in both zones with regard to New Mexico Oil Conservation Division's classification, and I'd like to say something about the shut-in wellhead pressure, if I could.

Q. Please do.

A. The Mesaverde zone experienced an abnormal shut-in wellhead pressure decline between 1976 and 1977. This decline is probably due to a buildup of fluids in the well. By combining the flow of the gas from the two zones to one string of tubing we think will aid in unloading the well and should prolong the flowing life of the well. Now when the well ceases to flow, installation of pumping -- of a pumping system will be considered for the well to unload it.

Q. How would you describe the capacity, the producing capacities of the wells in the area?

A. Well, the wells in this area are low volume wells and some are borderline economically. We believe that there's a need for a future method of obtaining downhole commingling approval without having a hearing.

Q. Now would you please refer to what's been marked for identification as Exhibits One and Two for the purposes of this hearing, and explain what those exhibits are and what they're designed to illustrate?

A. Well, we have Exhibit Number One and Exhibit Number Two. These are struture maps. Exhibit Number One is a structure map of the Blanco-Mesaverde Pool. It shows all the wells in the area that we'll have a request for in the future. It also shows the Jicarilla "D" Well No. 1, the subject well which we're discussing at this time.

Q. And that well is indicated at the bottom portion of the exhibit?

A. Yes, sir, it is.

Q. Would you describe Exhibit Two?

A. Exhibit Number Two is a plat showing the same wells but it shows the Pictured Cliffs structure. Also, I'd like to point out that there are two wells in the southwest corner, in the southwest part of this plat that are classified in a different reservoir. They're sleeper Pictured Cliffs wells.

Q. Would you now refer to what's been marked

as Exhibits Three A and Three B and describe those exhibits and what they are designed to indicate?

A. Well, this Three A and Three B are production history of the Jicarilla "D" Well No. 1. We have monthly production, the gas production, and it's also broken down on a daily basis, for the Mesaverde. And that monthly production is from July, 1976, through June of 1979.

On that same exhibit we have the production on a yearly basis from 1969 through 1979, that is, to the current time, 1979.

And Three B follows the same procedure timewise and so forth on the same well, but from the Pictured Cliffs, the Gavilan-Pictured Cliffs zone.

Q. Do those exhibits indicate in addition to gas production liquid production?

A. Yes, sir. A little bit of water is shown. The last five or six months of the year, or about the last five or six periods, that are shown on this exhibit.

It shows some water production. I'd like to explain that, if I could. We're really not making that much water from the well. It's my understanding that -- that as a result or method of our reporting from the field and it finally gets into the computer and a change of personnel, this water production has increased on our computer printout, and I took this from the computer printout, so it's

a fluke of the computer method and the computer printout.

Q. Are you saying that the figures reflected there with respect to water production are not true representations of actual water production?

A. That's correct. Our water production is a little bit less than this, yes.

As the wellhead pressure of each one of the zones, this was taken from the 3-day shut-in pressure test to determine whether we had a packer leakage problem. In 1976 and 1977 we had a marked decrease in the Blanco-Mesaverde zone. We think that that is a result of fluid build-up in the well.

Q. Well, from the information presented on Exhibit Five, have you reached a conclusion as to whether or not there is a substantial pressure differential as between the two zones?

A. Well, there's some pressure differential, yes, sir, about 500 pounds, I would say, at the present time if this fluid -- if this indeed is fluid, and removed, we would have about 500 pounds.

Q. Do you anticipate as a result of pressure differential that there may be some cross flow or not?

A. Well, we do not anticipate cross flow between the reservoirs, and it could only occur, if it did, when the well was shut-in, and even then we do not believe it would

occur because of the small pressure differential between the two zones, the tight permeability characteristics of the reservoir. For instance, area core data in the area indicated less than 1 milledarcy permeability in the Pictured Cliffs and 9 milledarcy in the Mesaverde. The Blanco-Mesaverde zone is a zone -- a zone allowable is classified marginal, as well as I mentioned before, the Pictured Cliffs zone. The well should not have an extended shut-in period. In fact, the only shut-in period to this well is to obtain a New Mexico Oil Conservation Division annual 3-day shut-in pressure test, and to obtain deliverability tests. And by downhole commingling we would eliminate both of those.

Q. Do you consider that the gas from these two reservoirs is compatible with respect to composition?

A. Yes, sir, we do. There's no indication -- we've never had any indication from surface commingling of any mineral or scale incompatibility.

Q. Would you now refer to what's been marked as Exhibit Number Six and describe this data?

A. Exhibit Number Six is to determine whether or not we would have a loss of revenue by downhole commingling the hydrocarbons. We have taken the price, the selling price per Mcf of gas plus the BTU's per Mcf, taken all things into consideration, and we found that by downhole commingling, it's hard to understand why, but we come up with a three cent

per day increase.

Q. The converse of that being that there would be no revenue decrease as you go to downhole commingling.

A. No loss, correct.

Q. Can you tell us whether or not the ownership in the respective zones sought to be commingled is common?

A. It is. Mobil owns all the working interest and the Jicarilla Tribe all of the royalty.

Q. What do you feel will be the result of the granting of the application for downhole commingling with respect to costs of operation and maintenance?

A. We believe it will reduce the operating cost and the maintenance in this wellbore and as a result of an extended production life of each zone, which will result in additional hydrocarbon recovery, which prevents waste and will not violate any correlative rights.

Q. It is your opinion, then, that both economic and physical waste will be diminished as a result of the granting of the application?

A. Yes, sir.

Q. Your application as filed, Mr. Weaver, asks for administrative approval with respect to downhole commingling of gas wells, which I assume are depicted on Exhibits One and Two.

A. Yes, sir.

Q. What do you have to say with respect to that application? For administrative approval of further downhole commingling?

A. Well, I made a request that the New Mexico Oil Conservation Division establish a procedure for administrative approval for downhole commingling of gas wells in the Blanco-Mesaverde, Gavilan-Pictured Cliffs Pools, in Sections 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 35, and 36, in Township 27 North, Range 3 West, and also Sections 1, 2, 11, 12, 13, 14, 23, and 24 in Township 26 North,3 West, and also Sections 7, 8, 17, 18, and 19 in 26 North, 2 West.

Q. How would you propose, or would Mobil propose to allocate commingled production as between the two zones?

A. Well, on the Jicarilla "D" No. 1 we would recommend that allocation be based on production during the first six months of 1979, and that calculates 70 percent to Pictured Cliffs and 30 percent Mesaverde, and we would also recommend that liquid hydrocarbons, if any, be allocated on the same percentage.

Q. Do you have anything else to add at this time?

A. I'd like to mention that there are wells that have been approved for downhole commingling in the near vicinity of the well that we're requesting at this time.

In Section 20, Township 26 North, 2 West, there are two wells that offset Mobil's leases, the Merrion and Bayless Lambirth Com No. 1-A and the Lambirth No. 1, and the order numbers on those are R-5703 and R-4967, respectively.

Also, to the west approximately two locations, two sections, in Section 21, Township 26 North, 3 West Well No. 1-TAW, or Dugan Jicarilla "E", has been granted approval to downhole commingle by Order 5357. And then just immediately south of that one mile in Section 28, Northwest's Jicarilla 117-E has been granted permission to downhole commingle by Order No. 6004.

Q. Thank you. Were Exhibits One through Six, which have been identified by you, prepared at your direction or under your supervision?

A. Yes, sir, they were.

MR. SPERLING: We'd offer at this time Exhibits One through Six, Mr. Examiner.

MR. STAMETS: These exhibits will be admitted.

Q. Do you have anything further, Mr. Weaver?

A. I may be mistaken, but I don't believe we talked about Four-A and Four-B.

Q. Would you identify Exhibits Four-A and Four-B, now that they're --

A. Well, this is simply a production history

from 1962 through mid-1979, showing graphically what each one of these zones, the Blanco-Mesaverde and also for the Pictured Cliffs.

Q. So Exhibits Four-A and Four-B show in graphic form the same information that's contained in Exhibits Three-A and Three-B.

A. Yes, sir.

Q. Okay.

MR. SPERLING: That's all we have, Mr. Examiner.

CROSS EXAMINATION

BY MR. STAMETS:

Q. We were looking at those two exhibits. It seems as though there have been a lot of changes in production from this well since, oh, 1973, '74. Like on the Mesaverde it was way down for the period '75, '76, and then it's come back up to its early producing level. What's the explanation for that?

A. I asked the same question of the field people and the only explanation I could get was that it had probably loaded up and they finally found it and they blew it to the air to get some of the fluid out of it, and it began to produce at a better rate.

Q. Looking at Exhibits Three-A and Three-B,

at your daily rates of gas production, these are really quite low.

A. Yes, sir.

Q. Stripper would be the appropriate term that described them.

A. Yes, sir.

Q. The pressure differential appears to be, oh, just perhaps just a shade above 200 percent. It looks like maybe 380 pounds versus 870, or some such thing as that, from your Exhibit Number Five.

A. Yes, sir.

Q. And in the past 200 percent has just been about the crossover point. Anything beyond that we haven't normally allowed to be downhole commingled. What sort of line pressures do you have in this area?

A. It is, of course, less than 300 because we were putting gas into the line back in 1970 and in 1978 at -- when we had a wellhead pressure of -- a shut-in wellhead pressure of about 300 on the Pictured Cliffs, so when you're on line, both your Mesaverde and your Pictured Cliffs will be producing into the line, of course, at the same wellhead pressure, and the -- I feel that there will be no cross flow during production because the pressures in the well from bottom to top will be the same.

Q. With the relatively low productivity you

would not expect that there would be much pressure there during production.

A. Correct. There's hardly any back pressure or any friction on the tubing as you produce the well, correct.

Q. And the Pictured Cliffs does not make any water.

A. That's correct.

Q. So the only water that you would have an opportunity to have a cross flow would be the Mesaverde.

A. Right.

Q. Which is the lower zone.

A. Right.

Q. Have you run any fluid levels in there to see where that fluid stands?

A. No, sir, we have not.

Q. Do you think it's well below the Pictured Cliffs?

A. I think so, yes.

Q. Perforations?

A. Yes. Generally they try to keep this cleaned out. They find one that's built up a little bit, they will go out and blow the well to the atmosphere or it it needs swabbing, they'll swab it, to get the fluid off of it.

Q. You've indicated you'd like to have this areawide authority. In similar instances we have limited

downhole commingling to your stripper wells or wells with very low productivity, we have prohibited downhole commingling of any zone which was completed, which is not completed now, with relatively high productivity, with a relatively low productivity zone, and we've had this 200 percent limitation on the pressure differential between the two zones.

Would those sorts of limits be acceptable to Mobil in this case?

A. I'd like to think about that just a moment, if I might, and I could I get you to repeat those conditions again?

Q. With any luck. Well, I'm looking at the exhibit and it does not appear that every 160-acre tract has both zones producing from it. Some appear to be Pictured Cliffs only; some appear to be Mesaverde only, and some appear to be both.

A. Yes, sir.

Q. Naturally, with those where you've got both zones producing you'd have some production history and it would be easy to tell whether or not you had a stripper well or a good well.

A. Right.

Q. Whether or not they should be downhole commingled. But on those where you only have one zone, it's conceivable that when you got in there and perforated the

other zone you might get a barn burner by comparison, and we have not permitted downhole commingling of barn burners with --

A. I see.

Q. -- sorry zones.

A. I see.

Q. Or you might find a zone with much higher pressure in there, and we have tended not to permit downhole commingling where the pressure differential was greater than 200 percent.

A. I see. You're talking about shut-in pressure now or are you talking about flowing pressure?

Q. I've been talking about shut-in pressures.

A. Shut-in pressure.

Q. As opposed to flowing pressures.

A. I think in terms -- can I just toss this out? I think in terms of these wells being so low and all the wells in the immediate area are going to have low volumes, and the pressure in any well that we might drill in this area that we're asking for administrative approval for downhole commingling in the future, the pressure there has depleted to such a point that when the wells are flowing there would be no conceivable way that cross flow could occur, and especially since your lower pressure well has the smaller permeability. In other words, you have just 1 milledarcy of permeability in the Pictured Cliffs, which is a smaller

pressure, and you have 9 milledarcies permeability in the Mesaverde, which is the higher pressure zone, and it just stands to reason that the pressure from the Mesaverde is not likely to get into that 1 milledarcy of permeability in the Pictured Cliffs, and you're not about to put anything from the Pictured Cliffs into the Mesaverde, because the Mesaverde has a higher pressure.

Q. Do you anticipate that the wells would be commingled with all of these stripper wells?

A. Stripper wells in the classification of the NGPA?

Q. Yes.

A. Rather than marginal for --

Q. Right.

A. Yes, sir, we probably would not consider downhole commingling unless they did reach that qualification. We have several in there right now that meet that qualification.

We wouldn't like to have that restriction placed on us.

Q. Is this area served by a single pipeline or do you have tie-ins --

A. Yes, sir, Northwest.

Q. So you just have one pressure pipeline in the area?

A. Yes, sir.

Q. So all of the wells would be bucking the same pressure on either zone?

A. Yes, sir, and essentially they would be on line 365 days a year unless we were working on the well for some reason,and we seldom ever because of the marginal production that they make.

Q. Nonetheless, you would not be seeking to commingle a comparatively high pressure zone, or high productivity zone, with a low pressure, or low productivity zone.

A. We wouldn't want to do that. If you had any concern that it would, you know, cross flow, we would not consider it.

Q. So reasonable restrictions would be acceptable.

A. Yes, sir. Yes, sir.

MR. STAMETS: Any other questions of this witness? Oh, one other.

Q. Mr. Weaver, how will you complete this well that you've asked to be downhole commingled here?

A. There are several ways it can be done. You can pull the string of tubing out that now serves the Pictured Cliffs and pull the packer out of the well and have just one string of tubing in there to produce all the gas; that's one method.

Probably that would be the most expensive

method of preparation.

Another method would be to leave the equipment in the hole as it is, and run a tool in the tubing, in the Mesaverde tubing, and perforate the tubing immediately above the packer, and then that would automatically allow both zones to enter the long string of tubing; just shut-in your upper string and then if you had to ever enter the well, you could pull out that string of tubing that is no longer useful or in service.

Q. Would this allow the Pictured Cliffs production to assist in unloading the Mesaverde?

A. Yes, sir.

Q. What's the vertical differential between the two zones?

A. I don't have that right at the tip -- I want to say 2000 feet. 1600 feet, roughly; 1600 feet.

Q. So it's conceivable you could have 1600 feet of fluid in on top of the Mesaverde perforations?

A. Before your -- before your Pictured Cliffs would cease to produce.

Q. Or before the Pictured Cliffs would help lift the liquids off the Mesaverde.

A. If your perforation was at the same elevation as your perforations are, your perforations in the tubing was at the same elevation as your perforations in the well.

Q. So your packer may be set much lower --

A. Much lower, yes, sir. In fact, I have a sketch here, at the present time the packer is set at 5494. Perforations on the Pictured Cliffs at about 3800. Mesaverde perforations are about 5500.

Q. Okay, so the packer is immediately above and you would really achieve the same thing no matter which way you went, either taking the tubing loose or perforating it.

A. Correct, yes, sir.

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

Anything further in this case?

The case will be taken under advisement.

(Hearing concluded.)

SALLY WALTON BOYD
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Santa Fe, New Mexico 87501

REPORTER'S CERTIFICATE

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

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

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6739 heard by me on 11-28 19 79.

Richard L. Stamets, Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
28 November 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Mobil Oil Corporation for downhole commingling, Rio Arriba County, New Mexico. CASE 6739

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel for the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: James E. Sperling, Esq.
MODRALL, SPERLING, ROEHL, HARRIS & SISK
Albuquerque, New Mexico

I N D E X

H. F. WEAVER

E X H I B I T S

MR. STAMETS: We'll call now Case 6739.

MR. PADILLA: Application of Mobil Oil Corporation for downhole commingling, Rio Arriba County, New Mexico.

MR. STAMETS: Call for appearances in this case.

MR. SPERLING: James E. Sperling, of Modrall, Sperling, Roehl, Harris and Sisk, Albuquerque, appearing for the applicant, Mobil Oil Corporation. We have one witness.

MR. STAMETS: I'd like to have the witness stand and be sworn, please.

(Witness sworn.)

W. F. WEAVER

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

DIRECT EXAMINATION

BY MR. SPERLING:

Q. Please state your name and place of residence.

A. My name is W. F. Weaver from Houston, Texas.

Q. By whom are you employed and in what

capacity?

A. I work for Mobil Oil Corporation. I'm an Associate Regulatory Engineer in the Environmental and Regulatory Section.

Q. Have you on any prior occasion testified before the Division so that your qualifications are a matter of record?

A. I have not.

Q. Would you in that event then give the Examiner and the record a resume of your educational background and experience background with respect to activities in the petroleum industry?

A. I attended Texas A&M University and received my degree in petroleum engineering in 1959. After that I went to work for another major oil corporation and worked as an engineer in the field for about three years. Then I joined an independent oil operator whose home office was in Dallas and became their chief drilling and production engineer, which also dealt with reservoir, until 1963, at which time I joined Mobil Oil Corporation as a petroleum engineer. I have worked in operations engineering, production engineering, and drilling engineering and now in regulatory engineering with Mobil Oil Corporation.

Q. Are you familiar with the matters which are the subject of the application before the Division at this time?

A. Yes, sir.

MR. SPERLING: We offer the witness as qualified.

MR. STAMETS: The witness is considered qualified.

Q. Mr. Weaver, will you explain what it is that Mobil seeks in the filing of this application?

A. Well, Mobil requests approval to downhole commingle the hydrocarbons in the Jicarilla "D" Well No. 1, and this well is located in Unit N, Section 24, Township 26 North, Range 3 West, in Rio Arriba County, New Mexico.

The well is completed as a dual in the Blanco-Mesaverde and the Gavilan-Pictured Cliffs Pools and was authorized to complete by the New Mexico Oil Conservation Division Order No. DC-346.

Tests of present production during October, 1979, resulted in 36 Mcf per day and zero barrels of water per day from the Gavilan-Pictured Cliffs and 17 Mcf per day and a half a barrel of water from the Blanco-Mesaverde Pool.

The condensate from each pool was too small to measure.

Q. What disposition is made of the small quantity of water that is produced?

A. Water production that is produced is disposed of into an unlined pit which has the required approval

permits.

Q. You have stated that it's Mobil's objective to obtain approval for downhole commingling from the two pools that you've identified. Is there an economic reason for such a request?

A. Yes, sir, there is.

Q. How is the well classified from the standpoint of its productive capacity?

A. Well, it's classified right now as a gas stripper well from each one of the zones, or combined, makes it a stripper well. Also it's a marginal well in both zones with regard to New Mexico Oil Conservation Division's classification, and I'd like to say something about the shut-in wellhead pressure, if I could.

Q. Please do.

A. The Mesaverde zone experienced an abnormal shut-in wellhead pressure decline between 1976 and 1977. This decline is probably due to a buildup of fluids in the well. By combining the flow of the gas from the two zones to one string of tubing we think will aid in unloading the well and should prolong the flowing life of the well. Now when the well ceases to flow, installation of pumping -- of a pumping system will be considered for the well to unload it.

Q. How would you describe the capacity, the producing capacities of the wells in the area?

A. Well, the wells in this area are low volume wells and some are borderline economically. We believe that there's a need for a future method of obtaining downhole commingling approval without having a hearing.

Q. Now would you please refer to what's been marked for identification as Exhibits One and Two for the purposes of this hearing, and explain what those exhibits are and what they're designed to illustrate?

A. Well, we have Exhibit Number One and Exhibit Number Two. These are struture maps. Exhibit Number One is a structure map of the Blanco-Mesaverde Pool. It shows all the wells in the area that we'll have a request for in the future. It also shows the Jicarilla "D" Well No. 1, the subject well which we're discussing at this time.

Q. And that well is indicated at the bottom portion of the exhibit?

A. Yes, sir, it is.

Q. Would you describe Exhibit Two?

A. Exhibit Number Two is a plat showing the same wells but it shows the Pictured Cliffs structure. Also, I'd like to point out that there are two wells in the southwest corner, in the southwest part of this plat that are classified in a different reservoir. They're sleeper Pictured Cliffs wells.

Q. Would you now refer to what's been marked

as Exhibits Three A and Three B and describe those exhibits and what they are designed to indicate?

A. Well, this Three A and Three B are production history of the Jicarilla "B" Well No. 1. We have monthly production, the gas production, and it's also broken down on a daily basis, for the Mesaverde. And that monthly production is from July, 1976, through June of 1979.

On that same exhibit we have the production on a yearly basis from 1969 through 1979, that is, to the current time, 1979.

And Three B follows the same procedure timewise and so forth on the same well, but from the Pictured Cliffs, the Gavilan-Pictured Cliffs zone.

Q. Do those exhibits indicate in addition to gas production liquid production?

A. Yes, sir. A little bit of water is shown. The last five or six months of the year, or about the last five or six periods, that are shown on this exhibit.

It shows some water production. I'd like to explain that, if I could. We're really not making that much water from the well. It's my understanding that -- that as a result or method of our reporting from the field and it finally gets into the computer and a change of personnel, this water production has increased on our computer printout, and I took this from the computer printout, so it's

a fluke of the computer rolled and the computer printout.

Q. Are you saying that the figures reflected there with respect to water production are not true representations of actual water production?

A. That's correct. Our water production is a little bit less than this, yes.

As the wellhead pressure of each one of the zones, this was taken from the 3-day shut-in pressure test to determine whether we had a packer leakage problem. In 1976 and 1977 we had a marked decrease in the Blanco-Mesaverde zone. We think that that is a result of fluid build-up in the well.

Q. Well, from the information presented on Exhibit Five, have you reached a conclusion as to whether or not there is a substantial pressure differential as between the two zones?

A. Well, there's some pressure differential, yes, sir, about 500 pounds, I would say, at the present time if this fluid -- if this indeed is fluid, and removed, we would have about 500 pounds.

Q. Do you anticipate as a result of pressure differential that there may be some cross flow or not?

A. Well, we do not anticipate cross flow between the reservoirs, and it could only occur, if it did, when the well was shut-in, and even then we do not believe it would

occur because of the small pressure differential between the two zones, the tight permeability characteristics of the reservoir. For instance, area core data in the area indicated less than 1 milledarcy permeability in the Pictured Cliffs and 9 milledarcy in the Mesaverde. The Blanco-Mesaverde zone is a zone -- a zone allowable is classified marginal, as well as I mentioned before, the Pictured Cliffs zone. The well should not have an extended shut-in period. In fact, the only shut-in period to this well is to obtain a New Mexico Oil Conservation Division annual 3-day shut-in pressure test, and to obtain deliverability tests. And by downhole commingling we would eliminate both of those.

Q. Do you consider that the gas from these two reservoirs is compatible with respect to composition?

A. Yes, sir, we do. There's no indication -- we've never had any indication from surface commingling of any mineral or scale incompatibility.

Q. Would you now refer to what's been marked as Exhibit Number Six and describe this data?

A. Exhibit Number Six is to determine whether or not we would have a loss of revenue by downhole commingling the hydrocarbons. We have taken the price, the selling price per Mcf of gas plus the BTU's per Mcf, taken all things into consideration, and we found that by downhole commingling, it's hard to understand why, but we come up with a three cent

per day increase.

Q. The converse of that being that there would be no revenue decrease as you go to downhole commingling.

A. No loss, correct.

Q. Can you tell us whether or not the ownership in the respective zones sought to be commingled is common?

A. It is. Mobil owns all the working interest and the Jicarilla Tribe all of the royalty.

Q. What do you feel will be the result of the granting of the application for downhole commingling with respect to costs of operation and maintenance?

A. We believe it will reduce the operating cost and the maintenance in this wellbore and as a result of an extended production life of each zone, which will result in additional hydrocarbon recovery, which prevents waste and will not violate any correlative rights.

Q. It is your opinion, then, that both economic and physical waste will be diminished as a result of the granting of the application?

A. Yes, sir.

Q. Your application as filed, Mr. Weaver, asks for administrative approval with respect to downhole commingling of gas wells, which I assume are depicted on Exhibits One and Two.

A. Yes, sir.

Q What do you have to say with respect to that application? For administrative approval of further downhole commingling?

A Well, I made a request that the New Mexico Oil Conservation Division establish a procedure for administrative approval for downhole commingling of gas wells in the Blanco-Mesaverde, Gavilan-Pictured Cliffs Pools, in Sections 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 35, and 36, in Township 27 North, Range 3 West, and also Sections 1, 2, 11, 12, 13, 14, 23, and 24 in Township 26 North,3 West, and also Sections 7, 8, 17, 18, and 19 in 26 North, 2 West.

Q How would you propose, or would Mobil propose to allocate commingled production as between the two zones?

A Well, on the Jicarilla "D" No. 1 we would recommend that allocation be based on production during the first six months of 1979, and that calculates 70 percent to Pictured Cliffs and 30 percent Mesaverde, and we would also recommend that liquid hydrocarbons, if any, be allocated on the same percentage.

Q Do you have anything else to add at this time?

A I'd like to mention that there are wells that have been approved for downhole commingling in the near vicinity of the well that we're requesting at this time.

In Section 20, Township 26 North, 2 West, there are two wells that offset Mobil's leases, the Merrion and Bayless Lambirth Com No. 1-A and the Lambirth No. 1, and the order numbers on those are R-5703 and R-4967, respectively.

Also, to the west approximately two locations, two sections, in Section 21, Township 26 North, 3 West, Well No. 1-TAW, or Dugan Jicarilla "E", has been granted approval to downhole commingle by Order 5357. And then just immediately south of that one mile in Section 28, Northwest's Jicarilla 117-E has been granted permission to downhole commingle by Order No. 6004.

Q. Thank you. Were Exhibits One through Six, which have been identified by you, prepared at your direction or under your supervision?

A. Yes, sir, they were.

MR. SPERLING: We'd offer at this time Exhibits One through Six, Mr. Examiner.

MR. STAMETS: These exhibits will be admitted.

Q. Do you have anything further, Mr. Weaver?

A. I may be mistaken, but I don't believe we talked about Four-A and Four-B.

Q. Would you identify Exhibits Four-A and Four-B, now that they're --

A. Well, this is simply a production history

from 1962 through mid-1979, showing graphically what each one of these zones, the Blanco-Mesaverde and also for the Pictured Cliffs.

Q. So Exhibits Four-A and Four-B show in graphic form the same information that's contained in Exhibits Three-A and Three-B.

A. Yes, sir.

Q. Okay.

MR. SPERLING: That's all we have, Mr. Examiner.

CROSS EXAMINATION

BY MR. STAMETS:

Q. We were looking at those two exhibits. It seems as though there have been a lot of changes in production from this well since, oh, 1973, '74. Like on the Mesaverde it was way down for the period '75, '76, and then it's come back up to its early producing level. What's the explanation for that?

A. I asked the same question of the field people and the only explanation I could get was that it had probably loaded up and they finally found it and they blew it to the air to get some of the fluid out of it, and it began to produce at a better rate.

Q. Looking at Exhibits Three-A and Three-B,

at your daily rates of gas production, these are really quite low.

A. Yes, sir.

Q. Stripper would be the appropriate term that described them.

A. Yes, sir.

Q. The pressure differential appears to be, oh, just perhaps just a shade above 200 percent. It looks like maybe 380 pounds versus 870, or some such thing as that, from your Exhibit Number Five.

A. Yes, sir.

Q. And in the past 200 percent has just been about the crossover point. Anything beyond that we haven't normally allowed to be downhole commingled. What sort of line pressures do you have in this area?

A. It is, of course, less than 300 because we were putting gas into the line back in 1970 and in 1978 at -- when we had a wellhead pressure of -- a shut-in wellhead pressure of about 300 on the Pictured Cliffs, so when you're on line, both your Mesaverde and your Pictured Cliffs will be producing into the line, of course, at the same wellhead pressure, and the -- I feel that there will be no cross flow during production because the pressures in the well from bottom to top will be the same.

Q. With the relatively low productivity you

would not expect that there would be much pressure there during production.

A. Correct. There's hardly any back pressure or any friction on the tubing as you produce the well, correct.

Q. And the Pictured Cliffs does not make any water.

A. That's correct.

Q. So the only water that you would have an opportunity to have a cross flow would be the Mesaverde.

A. Right.

Q. Which is the lower zone.

A. Right.

Q. Have you run any fluid levels in there to see where that fluid stands?

A. No, sir, we have not.

Q. Do you think it's well below the Pictured Cliffs?

A. I think so, yes.

Q. Perforations?

A. Yes. Generally they try to keep this cleaned out. They find one that's built up a little bit, they will go out and blow the well to the atmosphere or it it needs swabbing, they'll swab it, to get the fluid off of it.

Q. You've indicated you'd like to have this areawide authority. In similar instances we have limited

downhole commingling to your stripper wells or wells with very low productivity, we have prohibited downhole commingling of any zone which was completed, which is not completed now, with relatively high productivity, with a relatively low productivity zone, and we've had this 200 percent limitation on the pressure differential between the two zones.

Would those sorts of limits be acceptable to Mobil in this case?

A. I'd like to think about that just a moment, if I might, and I could I get you to repeat those conditions again?

Q. With any luck. Well, I'm looking at the exhibit and it does not appear that every 160-acre tract has both zones producing from it. Some appear to be Pictured Cliffs only; some appear to be Mesaverde only, and some appear to be both.

A. Yes, sir.

Q. Naturally, with those where you've got both zones producing you'd have some production history and it would be easy to tell whether or not you had a stripper well or a good well.

A. Right.

Q. Whether or not they should be downhole commingled. But on those where you only have one zone, it's conceivable that when you got in there and perforated the

other zone you might get a barn burner by comparison, and we have not permitted downhole commingling of barn burners with --

A. I see.

Q. -- sorry zones.

A. I see.

Q. Or you might find a zone with much higher pressure in there, and we have tended not to permit downhole commingling where the pressure differential was greater than 200 percent.

A. I see. You're talking about shut-in pressure now or are you talking about flowing pressure?

Q. I've been talking about shut-in pressures.

A. Shut-in pressure.

Q. As opposed to flowing pressures.

A. I think in terms -- can I just toss this out? I think in terms of these wells being so low and all the wells in the immediate area are going to have low volumes, and the pressure in any well that we might drill in this area that we're asking for administrative approval for downhole commingling in the future, the pressure there has depleted to such a point that when the wells are flowing there would be no conceivable way that cross flow could occur, and especially since your lower pressure well has the smaller permeability. In other words, you have just 1 milledarcy of permeability in the Pictured Cliffs, which is a smaller

pressure, and you have 9 milledarcies permeability in the Mesaverde, which is the higher pressure zone, and it just stands to reason that the pressure from the Mesaverde is not likely to get into that 1 milledarcy of permeability in the Pictured Cliffs, and you're not about to put anything from the Pictured Cliffs into the Mesaverde, because the Mesaverde has a higher pressure.

Q. Do you anticipate that the wells would be commingled with all of these stripper wells?

A. Stripper wells in the classification of the NGPA?

Q. Yes.

A. Rather than marginal for --

Q. Right.

A. Yes, sir, we probably would not consider downhole commingling unless they did reach that qualification. We have several in there right now that meet that qualification.

We wouldn't like to have that restriction placed on us.

Q. Is this area served by a single pipeline or do you have tie-ins --

A. Yes, sir, Northwest.

Q. So you just have one pressure pipeline in the area?

A. Yes, sir.

Q. So all of the wells would be bucking the same pressure on either zone?

A. Yes, sir, and essentially they would be on line 365 days a year unless we were working on the well for some reason, and we seldom ever because of the marginal production that they make.

Q. Nonetheless, you would not be seeking to commingle a comparatively high pressure zone, or high productivity zone, with a low pressure, or low productivity zone.

A. We wouldn't want to do that. If you had any concern that it would, you know, cross flow, we would not consider it.

Q. So reasonable restrictions would be acceptable.

A. Yes, sir. Yes, sir.

MR. STAMETS: Any other questions of this witness? Oh, one other.

Q. Mr. Weaver, how will you complete this well that you've asked to be downhole commingled here?

A. There are several ways it can be done. You can pull the string of tubing out that now serves the Pictured Cliffs and pull the packer out of the well and have just one string of tubing in there to produce all the gas; that's one method.

Probably that would be the most expensive

method of preparation.

Another method would be to leave the equipment in the hole as it is, and run a tool in the tubing, in the Mesaverde tubing, and perforate the tubing immediately above the packer, and then that would automatically allow both zones to enter the long string of tubing; just shut-in your upper string and then if you had to ever enter the well, you could pull out that string of tubing that is no longer useful or in service.

Q. Would this allow the Pictured Cliffs production to assist in unloading the Mesaverde?

A. Yes, sir.

Q. What's the vertical differential between the two zones?

A. I don't have that right at the tip -- I want to say 2000 feet. 1600 feet, roughly; 1600 feet.

Q. So it's conceivable you could have 1600 feet of fluid in on top of the Mesaverde perforations?

A. Before your -- before your Pictured Cliffs would cease to produce.

Q. Or before the Pictured Cliffs would help lift the liquids off the Mesaverde.

A. If your perforation was at the same elevation as your perforations are, your perforations in the tubing was at the same elevation as your perforations in the well.

Q. So your packer may be set much lower --

A. Much lower, yes, sir. In fact, I have a sketch here, at the present time the packer is set at 5494. Perforations on the Pictured Cliffs at about 3800. Mesaverde perforations are about 5500.

Q. Okay, so the packer is immediately above and you would really achieve the same thing no matter which way you went, either taking the tubing loose or perforating it.

A. Correct, yes, sir.

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

Anything further in this case?

The case will be taken under advisement.

(Hearing concluded.)

REPORTER'S CERTIFICATE

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

Sally W. Boyd, C.S.R.

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

_____, Examiner
Oil Conservation Division

TESTIMONY FOR APPLICATION
TO DOWNHOLE COMMINGLE
THE GAVILAN PICTURED CLIFFS AND BLANCO MESAVERDE POOLS
IN JICARILLA "D", WELL NO. 1
RIO ARRIBA COUNTY, NEW MEXICO

TESTIMONY FOR APPLICATION
TO DOWNHOLE COMMINGLE
THE GAVILAN PICTURED CLIFFS AND BLANCO MESAVERDE POOLS
IN JICARILLA "D", WELL NO. 1
RIO ARRIBA COUNTY, NEW MEXICO

Mobil Oil Corporation, Nine Greenway Plaza, Suite 2700, Houston, Texas, 77046, requests approval to downhole commingle the hydrocarbons in the Jicarilla "D", Well No. 1. This well is located in Unit N, Section 24, T-26-N, R-3-W, Rio Arriba County, New Mexico. The well is completed as a dual in the Blanco Mesaverde and Gavilan Pictured Cliffs Pools and was authorized to dually complete by the New Mexico Oil Conservation Division Order Number DC-346. Tests of present production during October 1979 resulted in 36 MCFPD and 0 BWPD from the Gavilan Pictured Cliffs and 17 MCFPD and 1/2 BWPD from the Blanco Mesaverde Pools. Condensate from each pool was too small to measure.

Water production is disposed of into an unlined pit which has the required approval permits.

Mobil Oil Corporation is seeking approval to downhole commingle production from the Mesaverde and Pictured Cliffs zones on the subject well because of present and future economic considerations to prevent waste.

This well is classified as a gas stripper and the combined volume of gas from the proposed commingled zones will not exceed stripper classification. The Mesaverde Zone experienced abnormal Shut-in Well Head Pressure decline between 1976 and 1977. This decline is probably due to a build up of fluids in the well. Combining the flow of gas from the two zones to one string of

tubing will aid in unloading the well and should prolong the flowing life of the well. When the well ceases to flow, installation of a pumping system will be considered to unload the fluid.

The wells in this area are low volume wells and some are borderline economically. There is a need for a future method of obtaining downhole commingling approval without having a hearing.

Mobil presents formation structure plats of Blanco Mesaverde & Gavilan & Sleeper Pictured Cliffs Pools as Exhibit Nos. 1 & 2 respectively.
Exhibit Nos. 3A & 3B show the annual gas production of the Jicarilla "D" #1 for each Pool from 1969 through June 1979, it also shows the monthly and average daily gas and water production from July 1976 through June 1979. Production curves from 1962 for this well are presented as Exhibit Nos. 4A & 4B. Exhibit No. 5 is a plot of the surface shut-in pressures for each pool. These pressures were derived from the Northwest New Mexico Packer leakage test.

No cross flow should occur between the reservoirs when the well is shut-in because of the small pressure differential between the two zones and the tight permeability characteristics of the reservoirs. Area core data indicate <1 md permeability in the Pictured Cliffs and 9 md in the Mesaverde. The Blanco Mesaverde zone allowable is classified marginal and the Gavilan Pictured Cliffs zone is not prorated and is also a marginal producer. This well should not have an extended shut-in period, in fact the only shut-in time to this well is to obtain the New Mexico Oil Conservation Division annual three day shut-in Packer leakage test, and to obtain deliverability tests.

The gas from these reservoirs is compatible. There is no indication from surface commingling of any mineral or scale incompatibility.
Exhibit No. 6 is a tabulation of calculated values of individual and commingled well streams which illustrates that no loss of revenue will occur due to commingling.

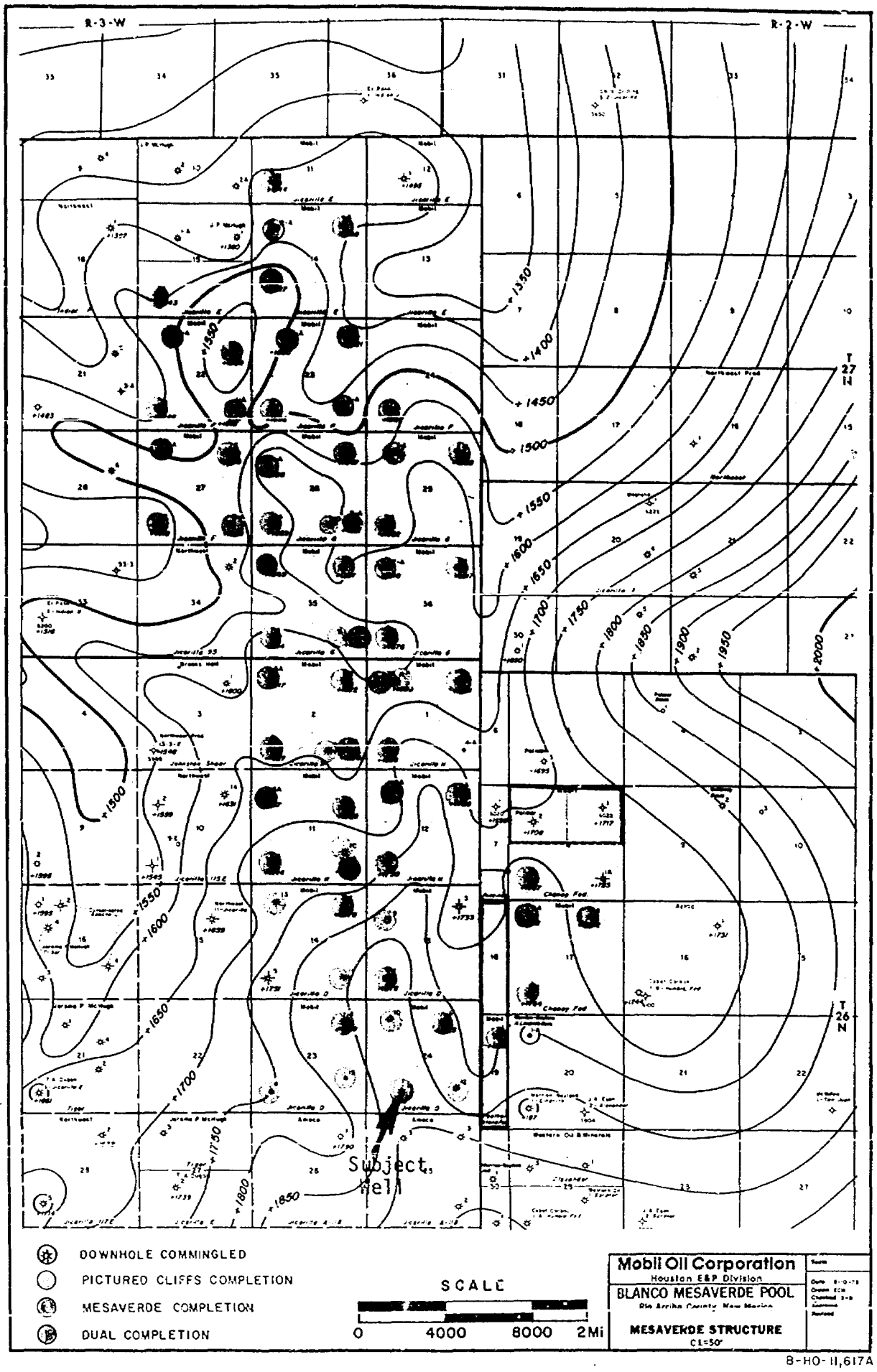
Ownership in the proposed zones to be commingled is common.

Downhole commingling of the Blanco Mesaverde and Gavilan Pictured Cliffs Pools will reduce the operating and maintenance cost of this wellbore. It will therefore extend the production life of each zone and result in additional hydrcarbon recovery therefore preventing waste and will not violate correlative rights.

Mobil Oil Corporation respectfully requests the approval of the New Mexico Oil Conservation Division to downhole commingle the Blanco Mesaverde and Gavilan Pictured Cliffs Pools in the Jicarilla "D", Well No. 1. Additionally, Mobil requests that the production allocation for the well be based on the well's average gas production from the 1st six months of 1979, with seventy percent Pictured Cliffs and thirty percent Mesaverde, and liquid hydrocarbons should be allocated on the same percentage.

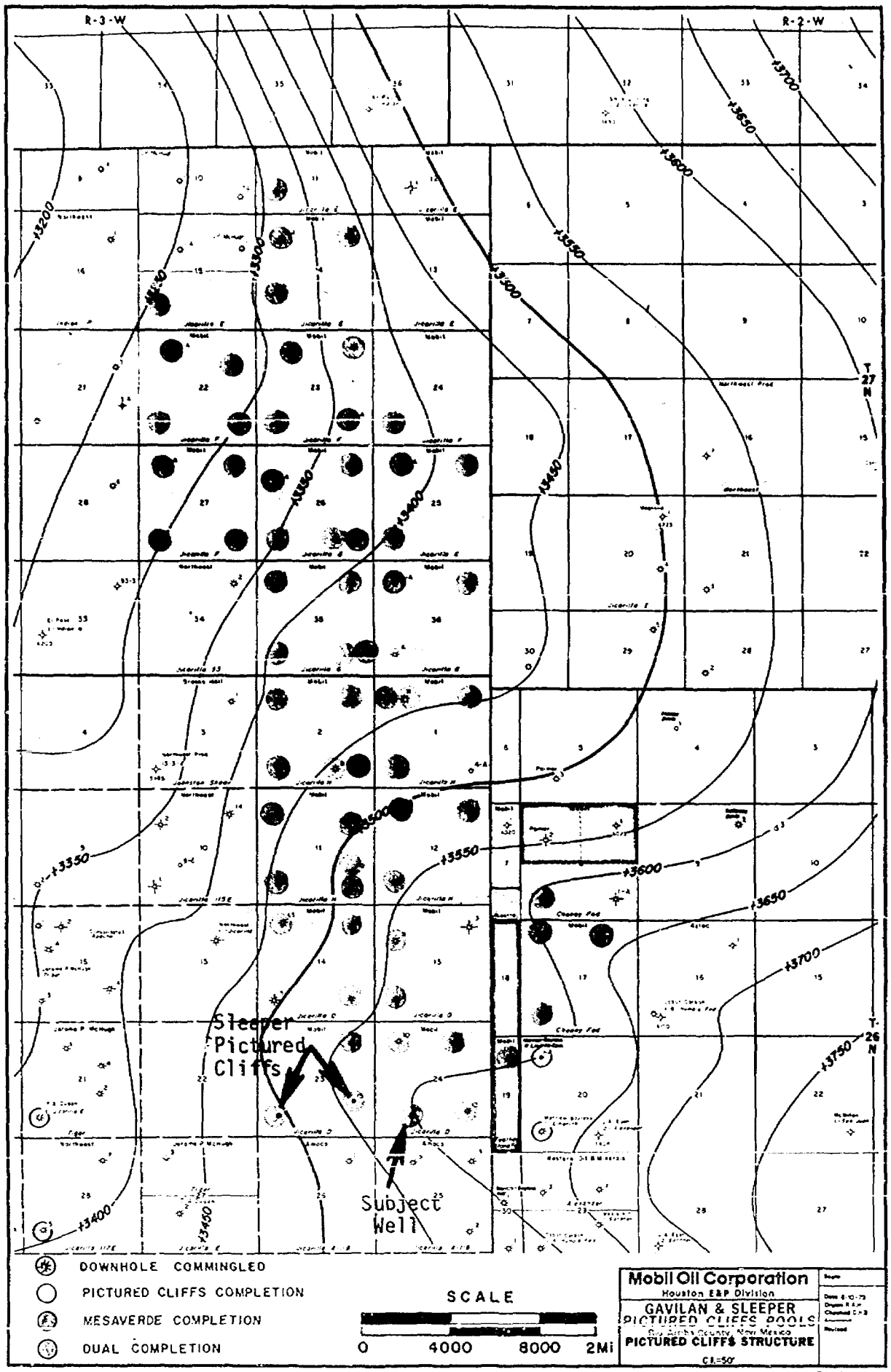
Mobil Oil Corporation also requests that the New Mexico Oil Conservation Division establish a procedure for administrative approval for downhole commingling of gas wells in the Blanco Mesaverde, Gavilan Pictured Cliffs Pools in sections 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 35 and 36 in T27N-3W also sections 1, 2, 11, 12, 13, 14, 23 and 24 in T26N-3W and also sections 7, 8, 17, 18 and 19 in T26N-2W.

EXHIBIT NO. 1



8-HO-11,617A

EXHIBIT NO. 2



B-HO-11,617

BLANCO MESAVERDE POOL
JICARILLA "D" WELL #1
GAS PRODUCTION - MONTHLY & DAILY AVERAGE

MONTH	YEAR	WATER (BBL) MO.	WATER (BBL) DAY	GAS (MCF) MO.	GAS (MCF) DAY
6	1979	0	0	360	12
5	1979	23	1	317	10
4	1979	26	1	361	12
3	1979	13	0	670	22
2	1979	4	0	237	8
1	1979	15	0	218	7
12	1978	57	2	485	16
11	1978	14	0	217	7
10	1978	9	0	147	5
9	1978	0	0	113	4
8	1978	0	0	85	3
7	1978	0	0	305	10
6	1978	0	0	608	20
5	1978	0	0	683	22
4	1978	0	0	701	23
3	1978	0	0	261	8
2	1978	0	0	760	27
1	1978	0	0	830	27
12	1977	0	0	796	26
11	1977	0	0	1067	36
10	1977	0	0	286	9
9	1977	0	0	471	16
8	1977	0	0	95	3
7	1977	0	0	25	1
6	1977	0	0	38	1
5	1977	0	0	47	2
4	1977	0	0	22	1
3	1977	0	0	39	1
2	1977	0	0	26	1
1	1977	0	0	19	1
12	1976	0	0	3	0
11	1976	0	0	31	1
10	1976	0	0	122	4
9	1976	0	0	84	3
8	1976	0	0	2	0
7	1976	0	0	74	2

BLANCO MESAVERDE POOL
JICARILLA "D" WELL #1
ANNUAL PRODUCTION DATA

YEAR	WATER (BBL)	GAS (MCF)
1979	81	2163
1978	80	5195
1977	0	2931
1976	0	551
1975	0	815
1974	0	4595
1973	0	7076
1972	0	7440
1971	0	7601
1970	0	8634
1969	0	7211

EXHIBIT No. 3A

GAVALIN PICTURED CLIFFS POOL
JICARILLA "D" WELL NO. 1
GAS PRODUCTION - MONTHLY & DAILY AVERAGE

MONTH	YEAR	WATER (BBL) MO.	WATER (BBL) DAY	GAS (MCF) MO.	GAS (MCF) DAY
6	1979	0	0	798	27
5	1979	0	0	786	25
4	1979	0	0	745	25
3	1979	0	0	1419	46
2	1979	0	0	763	27
1	1979	0	0	628	20
12	1978	0	0	1360	44
11	1978	0	0	0	0
10	1978	0	0	0	0
9	1978	0	0	303	10
8	1978	0	0	165	5
7	1978	0	0	239	8
6	1978	0	0	420	14
5	1978	0	0	23	1
4	1978	0	0	304	10
3	1978	0	0	320	10
2	1978	0	0	1345	48
1	1978	0	0	659	21
12	1977	0	0	595	19
11	1977	0	0	275	9
10	1977	0	0	0	0
9	1977	0	0	10	0
8	1977	0	0	989	32
7	1977	0	0	1019	33
6	1977	0	0	1672	56
5	1977	0	0	1056	34
4	1977	0	0	812	27
3	1977	0	0	1316	42
2	1977	0	0	1108	40
1	1977	0	0	1539	50
12	1976	0	0	0	0
11	1976	0	0	2114	70
10	1976	0	0	2690	87
9	1976	0	0	835	28
8	1976	0	0	88	3
7	1976	0	0	477	15

GAVALIN PICTURED CLIFFS POOL
JICARILLA "D" WELL NO. 1
ANNUAL PRODUCTION DATA

YEAR	WATER (BBL)	GAS (MCF)
1979	0	5139
1978	0	5138
1977	0	10391
1976	0	14302
1975	0	20351
1974	0	28449
1973	0	31734
1972	0	27336
1971	0	30401
1970	0	42160
1969	0	33988

EXHIBIT NO. 3 B

Mobil Oil Corporation

Jicarilla "D" #1

Blanco Mesaverde

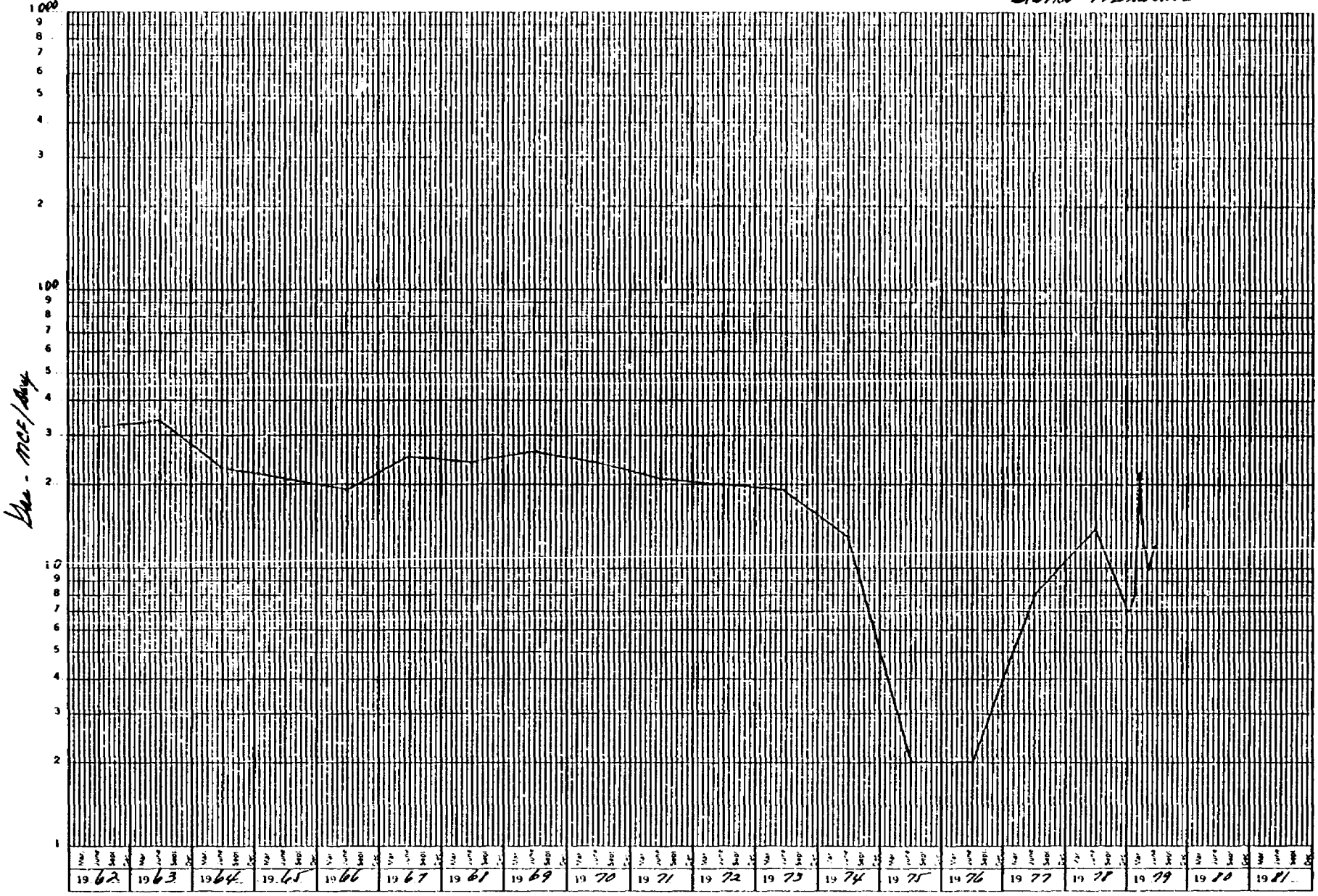


EXHIBIT NO. 4A

4a

47 6840

K+E 10 YEARS BY MONTHS X 3 LOG CYCLES
KEUFFEL & ESSER CO

Mobil Oil Corporation

Jicarilla "D" #1

Basin - Pictured Cliffs

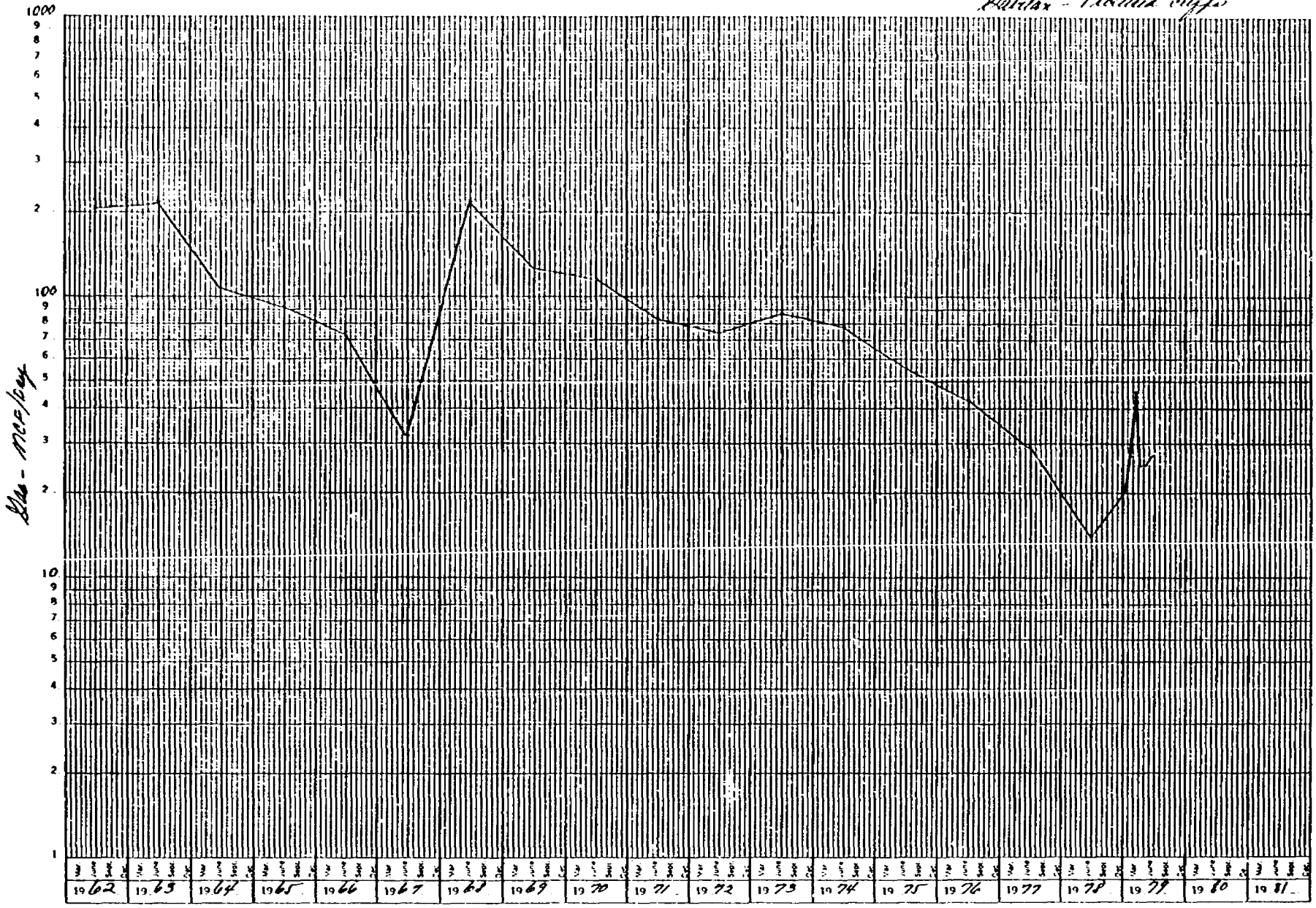


EXHIBIT NO. 4B

1

Mobil Oil Corporation
Houston E & P Division

THREE DAY S.I. W.H.P.
JICARILLIA "D" NO. 1
BLANCO MESA VERDE POOL
GAVILAN PICTURED CLIFF POOL
Rio Arriba County, New Mexico
By: H.F.W. Date: 8/23/79

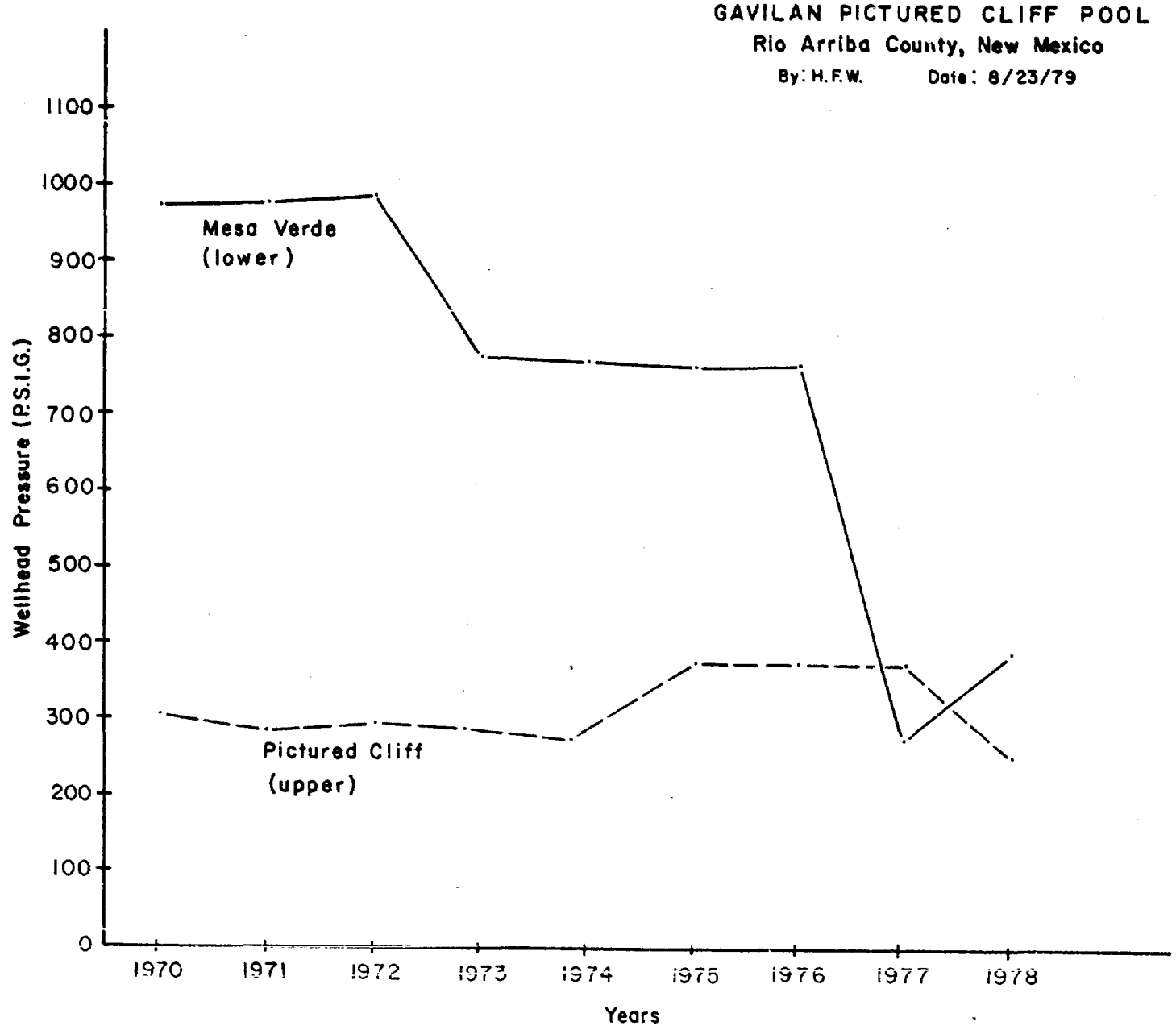


EXHIBIT NO. 5

MOBIL OIL CORPORATION

COMPUTATION OF RELATIVE
VALUES OF THE HYDROCARBON
PRODUCTIVE BEFORE AND
AFTER DOWNHOLE COMMINGLING
(STATEWIDE RULE 303-C-2-H)

LEASE AND WELL NUMBER Jicarilla "D" Well #1

	UPPER POOL	LOWER POOL	COMMINGLED
POOL NAME	Gavilan Pictured Cliffs	Blanco Mesaverde	
BTU/MCF	1213	1231	1219
SELLING PRICE/1000BTU	$2.45	2.45	2.45
DAILY PRODUCTION/MCF	36	17	53
DAILY INCOME	$106.99	$51.27	$158.29

TOTAL DAILY INCOME (POOLS SEPARATED) $ 158.26

Net difference realized from downhole commingling based on current well test = $ 0.02 /day---gain

REMARKS: The oil production from each zone is negligible, i.e. cummulative oil from the Pictured Cliffs to 7/1/79 is 2760 bbls produced with 1,217,800 MCF gas - during the same period from the Mesaverde cummulative oil is 2962 bbls produced with 178,233 MCF gas.

Oil is commingled on the surface and purchase is based on the commingled quantity. Therefore no change in value of oil will result with downhole commingling.

EXIBIT NO. 6

By

TESTIMONY FOR APPLICATION
TO DOWNHOLE COMMINGLE
THE GAVILAN PICTURED CLIFFS AND BLANCO MESAVERDE POOLS
IN JICARILLA "D", WELL NO. 1
RIO ARRIBA COUNTY, NEW MEXICO

TESTIMONY FOR APPLICATION
TO DOWNHOLE COMMINGLE
THE GAVILAN PICTURED CLIFFS AND BLANCO MESAVERDE POOLS
IN JICARILLA "D", WELL NO. 1
RIO ARRIBA COUNTY, NEW MEXICO

Mobil Oil Corporation, Nine Greenway Plaza, Suite 2700, Houston, Texas, 77046, requests approval to downhole commingle the hydrocarbons in the Jicarilla "D", Well No. 1. This well is located in Unit N, Section 24, T-26-N, R-3-W, Rio Arriba County, New Mexico. The well is completed as a dual in the Blanco Mesaverde and Gavilan Pictured Cliffs Pools and was authorized to dually complete by the New Mexico Oil Conservation Division Order Number DC-346. Tests of present production during October 1979 resulted in 36 MCFPD and 0 BWPD from the Gavilan Pictured Cliffs and 17 MCFPD and 1/2 BWPD from the Blanco Mesaverde Pools. Condensate from each pool was too small to measure.

Water production is disposed of into an unlined pit which has the required approval permits.

Mobil Oil Corporation is seeking approval to downhole commingle production from the Mesaverde and Pictured Cliffs zones on the subject well because of present and future economic considerations to prevent waste.

This well is classified as a gas stripper and the combined volume of gas from the proposed commingled zones will not exceed stripper classification. The Mesaverde Zone experienced abnormal Shut-in Well Head Pressure decline between 1976 and 1977. This decline is probably due to a build up of fluids in the well. Combining the flow of gas from the two zones to one string of

tubing will aid in unloading the well and should prolong the flowing life of the well. When the well ceases to flow, installation of a pumping system will be considered to unload the fluid.

The wells in this area are low volume wells and some are borderline economically. There is a need for a future method of obtaining downhole commingling approval without having a hearing.

Mobil presents formation structure plats of Blanco Mesaverde & Gavilan & Sleeper Pictured Cliffs Pools as Exhibit Nos. 1 & 2 respectively.
Exhibit Nos. 3A & 3B show the annual gas production of the Jicarilla "D" #1 for each Pool from 1969 through June 1979, it also shows the monthly and average daily gas and water production from July 1976 through June 1979. Production curves from 1962 for this well are presented as Exhibit Nos. 4A & 4B. Exhibit No. 5 is a plot of the surface shut-in pressures for each pool. These pressures were derived from the Northwest New Mexico Packer leakage test.

No cross flow should occur between the reservoirs when the well is shut-in because of the small pressure differential between the two zones and the tight permeability characteristics of the reservoirs. Area core data indicate <1 md permeability in the Pictured Cliffs and 9 md in the Mesaverde. The Blanco Mesaverde zone allowable is classified marginal and the Gavilan Pictured Cliffs zone is not prorated and is also a marginal producer. This well should not have an extended shut-in period, in fact the only shut-in time to this well is to obtain the New Mexico Oil Conservation Division annual three day shut-in Packer leakage test, and to obtain deliverability tests.

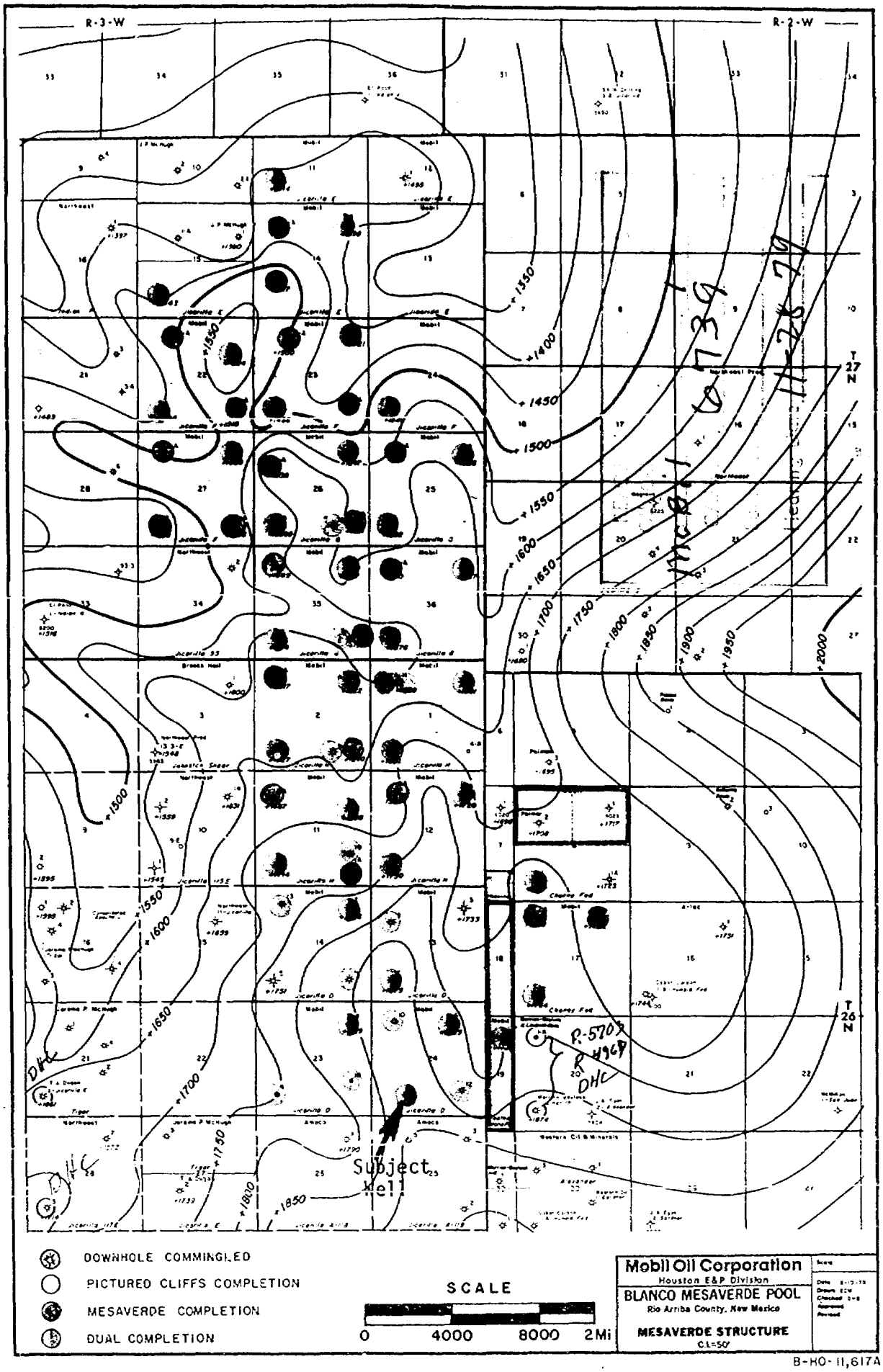
The gas from these reservoirs is compatible. There is no indication from surface commingling of any mineral or scale incompatibility.
Exhibit No. 6 is a tabulation of calculated values of individual and commingled well streams which illustrates that no loss of revenue will occur due to commingling.

Ownership in the proposed zones to be commingled is common.

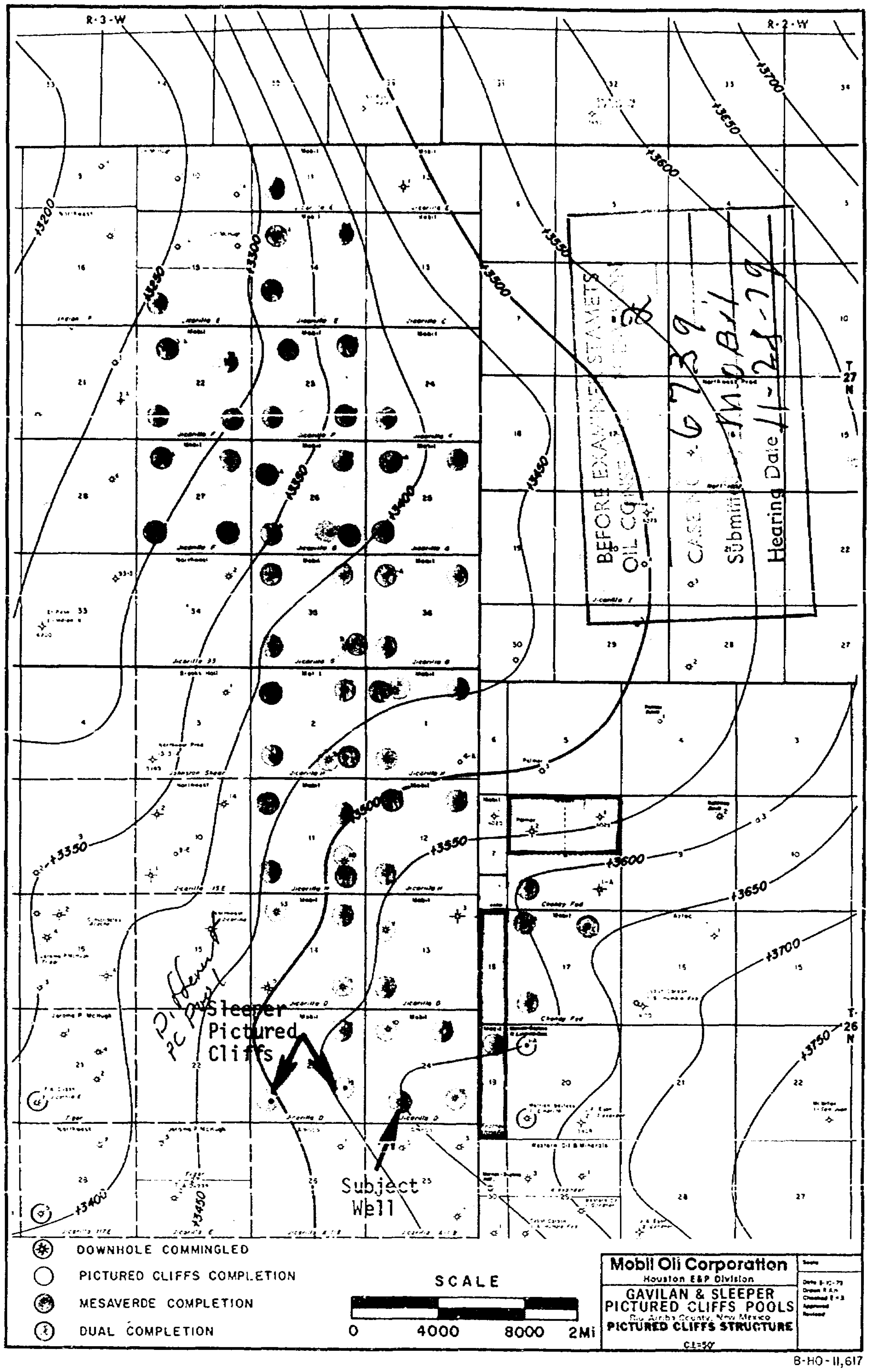
Downhole commingling of the Blanco Mesaverde and Gavilan Pictured Cliffs Pools will reduce the operating and maintenance cost of this wellbore. It will therefore extend the production life of each zone and result in additional hydrcarbon recovery therefore preventing waste and will not violate correlative rights.

Mobil Oil Corporation respectfully requests the approval of the New Mexico Oil Conservation Division to downhole commingle the Blanco Mesaverde and Gavilan Pictured Cliffs Pools in the Jicarilla "D", Well No. 1. Additionally, Mobil requests that the production allocation for the well be based on the well's average gas production from the 1st six months of 1979, with seventy percent Pictured Cliffs and thirty percent Mesaverde, and liquid hydrocarbons should be allocated on the same percentage.

Mobil Oil Corporation also requests that the New Mexico Oil Conservation Division establish a procedure for administrative approval for downhole commingling of gas wells in the Blanco Mesaverde, Gavilan Pictured Cliffs Pools in sections 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 35 and 36 in T27N-3W also sections 1, 2, 11, 12, 13, 14, 23 and 24 in T26N-3W and also sections 7, 8, 17, 18 and 19 in T26N-2W.


R-3-W
R-2-W
T 27 N
T 26 N
+1350
+1400
+1450
+1500
+1550
+1600
+1650
+1700
+1750
+1800
+1850
+1900
+1950
+2000
DHC
R-5703
DHC
Subject well
DOWNHOLE COMMINGLED
PICTURED CLIFFS COMPLETION
MESAVERDE COMPLETION
DUAL COMPLETION
SCALE
0 4000 8000 2Mi
Mobil Oil Corporation
Houston E&P Division
BLANCO MESAVERDE POOL
Rio Arriba County, New Mexico
MESAVERDE STRUCTURE
CI=50'

B-HO-11,617A


R-3-W
R-2-W
T-27-N
T-26-N
BEFORE EXAMINER STAMETS
Submitted by
Hearing Date
Sleeper Pictured Cliffs
Subject Well
+3200
+3250
+3300
+3350
+3400
+3450
+3500
+3550
+3600
+3650
+3700
+3750
DOWNHOLE COMMINGLED
PICTURED CLIFFS COMPLETION
MESAVERDE COMPLETION
DUAL COMPLETION
SCALE
0 4000 8000 2Mi
Mobil Oil Corporation
Houston E&P Division
GAVILAN & SLEEPER
PICTURED CLIFFS POOLS
Rio Arriba County, New Mexico
PICTURED CLIFFS STRUCTURE
C.I.=50'

B-HO-11,617

BLANCO MESAVERDE POOL
JICARILLA "D" WELL #1
GAS PRODUCTION - MONTHLY & DAILY AVERAGE

MONTH	YEAR	WATER (BBL) MO.	WATER (BBL) DAY	GAS (MCF) MO.	GAS (MCF) DAY
6	1979	0	0	360	12
5	1979	23	1	317	10
4	1979	26	1	361	12
3	1979	13	0	670	22
2	1979	4	0	237	8
1	1979	15	0	218	7
12	1978	57	2	485	16
11	1978	14	0	217	7
10	1978	9	0	147	5
9	1978	0	0	113	4
8	1978	0	0	85	3
7	1978	0	0	305	10
6	1978	0	0	608	20
5	1978	0	0	683	22
4	1978	0	0	701	23
3	1978	0	0	261	8
2	1978	0	0	760	27
1	1978	0	0	830	27
12	1977	0	0	796	26
11	1977	0	0	1067	36
10	1977	0	0	286	9
9	1977	0	0	471	16
8	1977	0	0	95	3
7	1977	0	0	25	1
6	1977	0	0	38	1
5	1977	0	0	47	2
4	1977	0	0	22	1
3	1977	0	0	39	1
2	1977	0	0	26	1
1	1977	0	0	19	1
12	1976	0	0	3	0
11	1976	0	0	31	1
10	1976	0	0	122	4
9	1976	0	0	84	3
8	1976	0	0	2	0
7	1976	0	0	74	2

BLANCO MESAVERDE POOL
JICARILLA "D" WELL #1
ANNUAL PRODUCTION DATA

YEAR	WATER (BBL)	GAS (MCF)
1979	81	2163
1978	80	5195
1977	0	2931
1976	0	551
1975	0	815
1974	0	4595
1973	0	7076
1972	0	7440
1971	0	7601
1970	0	8634
1969	0	7211

BEFORE EXAMINER STAMETS
OIL CON[illegible] DIVISION
MOBIL EX 3A
CASE 6739
Submitted by
Hearing Date 11-28-79

GAVALIN PICTURED CLIFFS POOL
JICARILLA "D" WELL NO. 1
GAS PRODUCTION - MONTHLY & DAILY AVERAGE

MONTH	YEAR	WATER (BBL) MO.	WATER (BBL) DAY	GAS (MCF) MO.	GAS (MCF) DAY
6	1979	0	0	798	27
5	1979	0	0	786	25
4	1979	0	0	745	25
3	1979	0	0	1419	46
2	1979	0	0	763	27
1	1979	0	0	628	20
12	1978	0	0	1360	44
11	1978	0	0	0	0
10	1978	0	0	0	0
9	1978	0	0	303	10
8	1978	0	0	165	5
7	1978	0	0	239	8
6	1978	0	0	420	14
5	1978	0	0	23	1
4	1978	0	0	304	10
3	1978	0	0	320	10
2	1978	0	0	1345	48
1	1978	0	0	659	21
12	1977	0	0	595	19
11	1977	0	0	275	9
10	1977	0	0	0	0
9	1977	0	0	10	0
8	1977	0	0	989	32
7	1977	0	0	1019	33
6	1977	0	0	1672	56
5	1977	0	0	1056	34
4	1977	0	0	812	27
3	1977	0	0	1316	42
2	1977	0	0	1108	40
1	1977	0	0	1539	50
12	1976	0	0	0	0
11	1976	0	0	2114	70
10	1976	0	0	2690	87
9	1976	0	0	835	28
8	1976	0	0	88	3
7	1976	0	0	477	15

GAVALIN PICTURED CLIFFS POOL
JICARILLA "D" WELL NO. 1
ANNUAL PRODUCTION DATA

YEAR	WATER (BBL)	GAS (MCF)
1979	0	5139
1978	0	5138
1977	0	10391
1976	0	14302
1975	0	20351
1974	0	28449
1973	0	31734
1972	0	27336
1971	0	30401
1970	0	42160
1969	0	33988

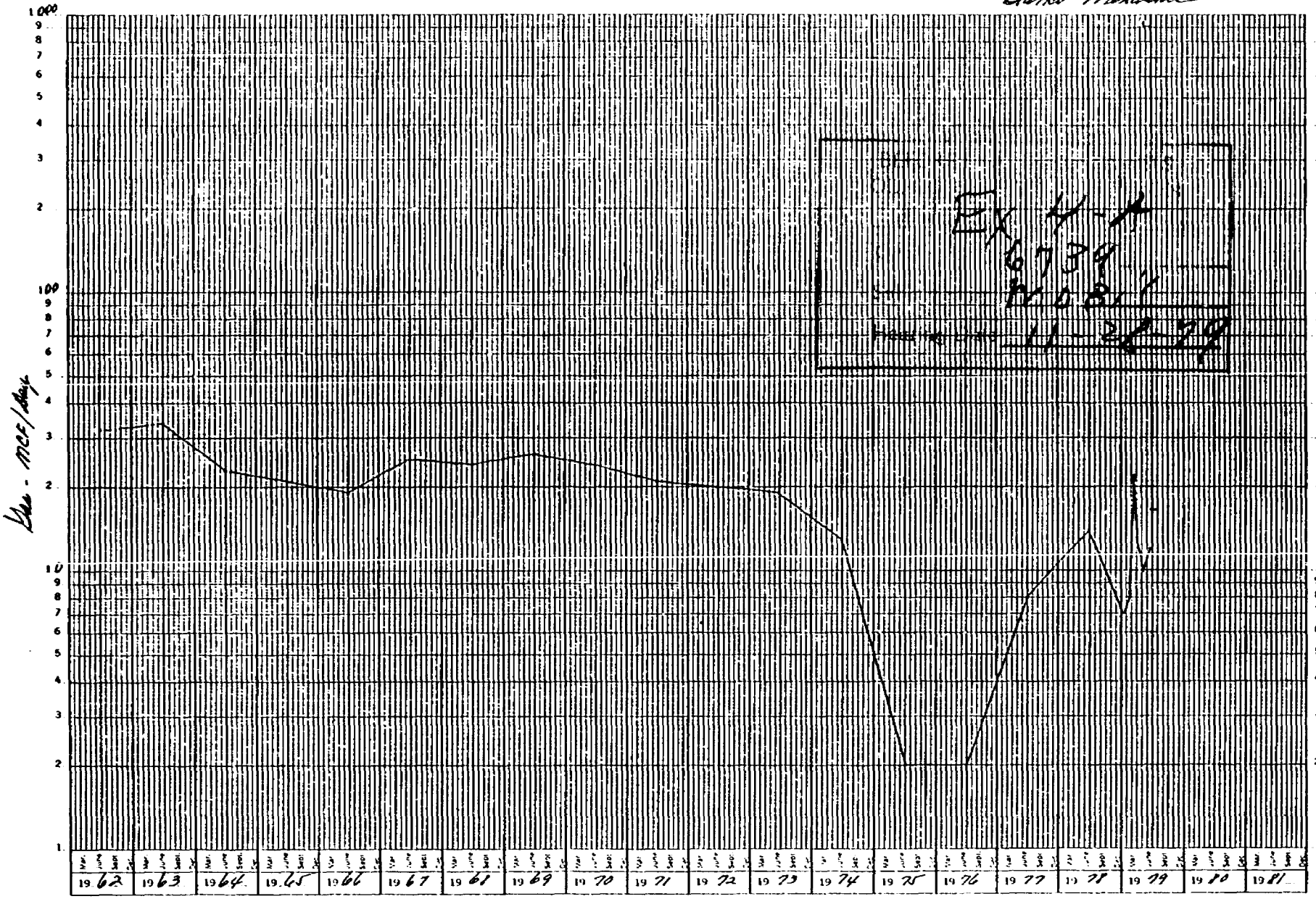
BEFORE EXAMINER STAMETS
OIL CON[illegible]IVISION
3B
CASE 6739
Submitted MOBIL
Hearing Date 11-28-79

Mobil Oil Corporation

Jicarilla "D" #1

Blanco Mesaverde

4a



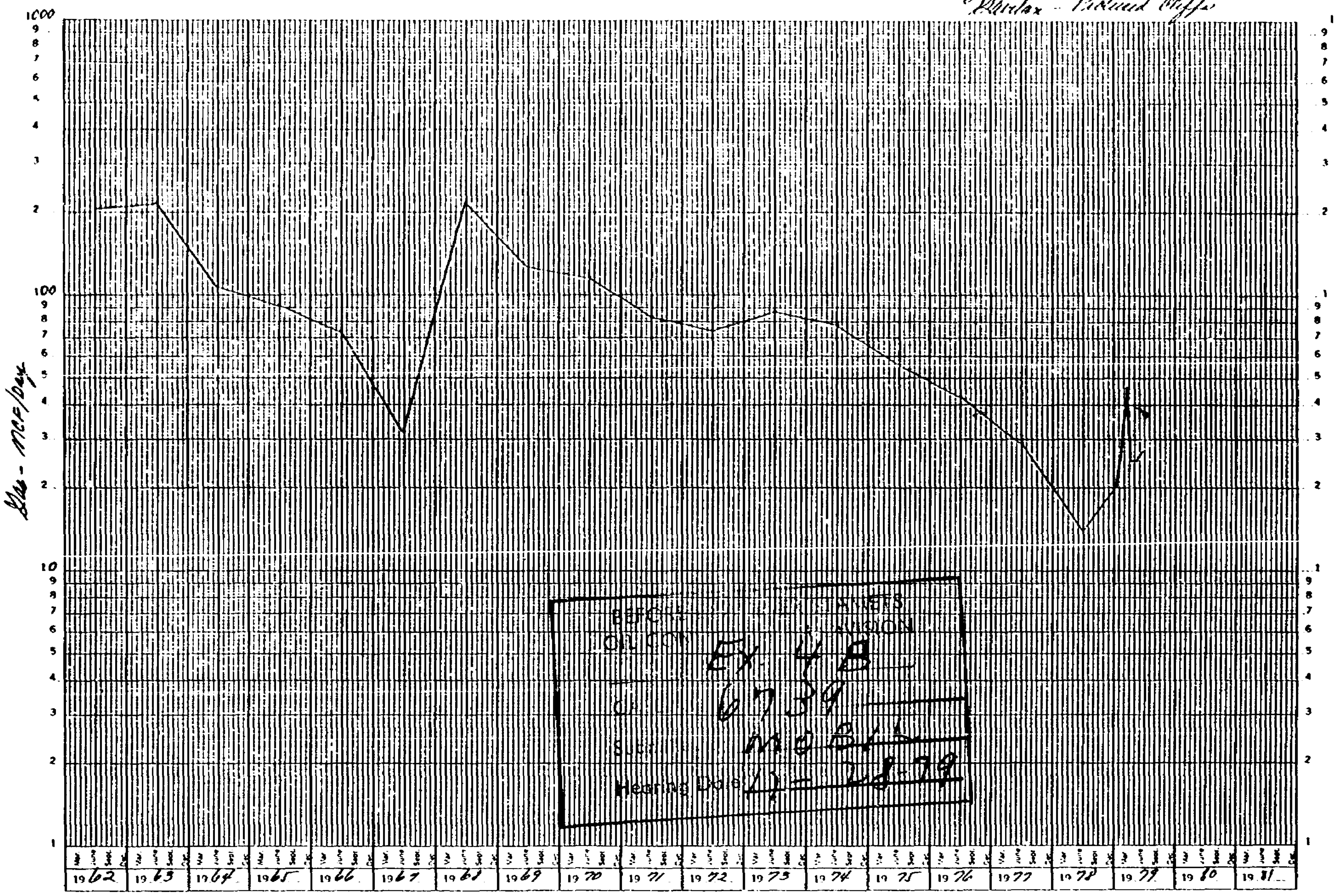
47 6840

K&E 10 YEARS BY MONTHS X 2 LOG CYCLES
KEUFFEL & ESSER CO

Mobil Oil Corporation

Ocarrolla "D" #1

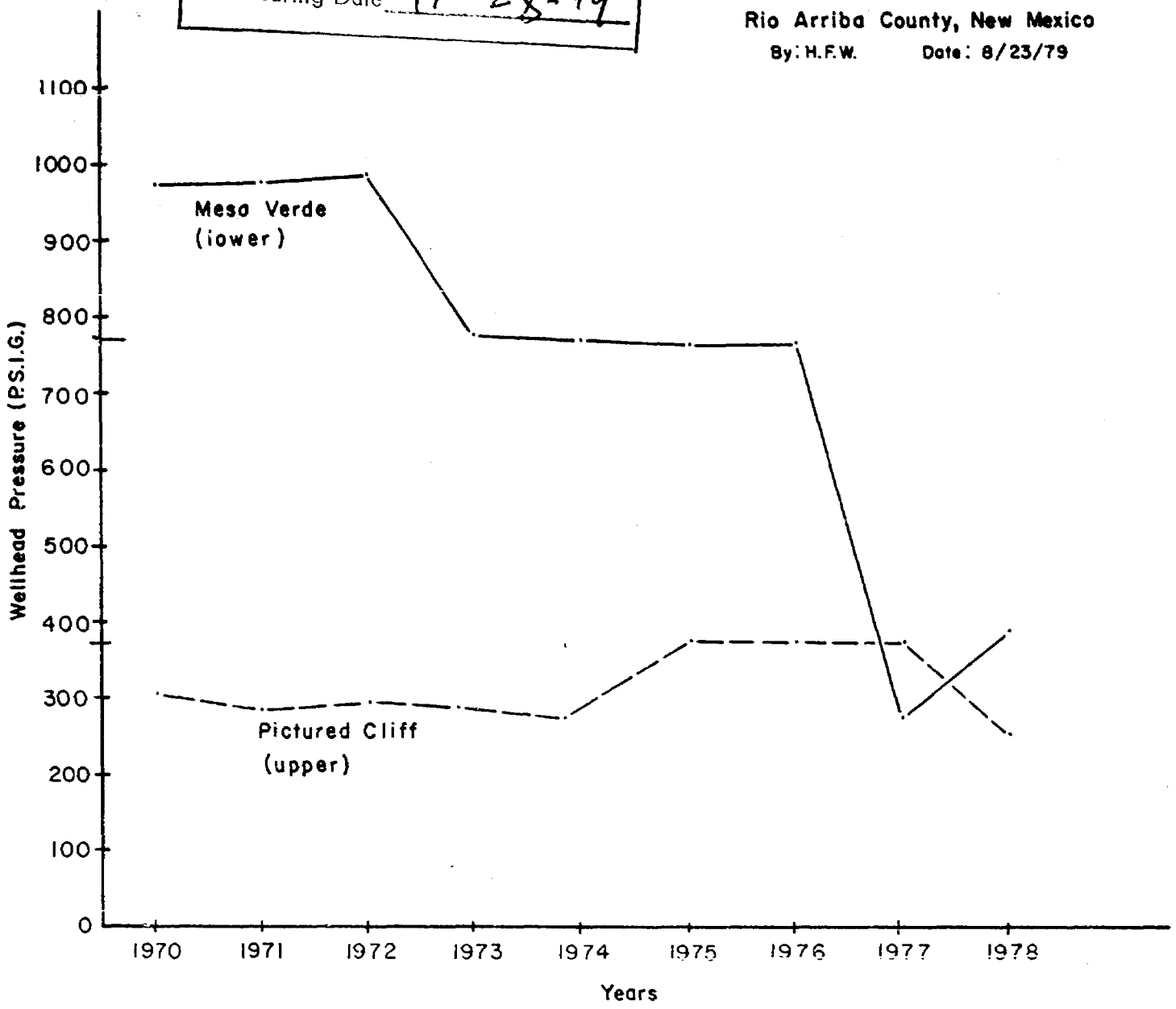
Mesilax - Pictured Cliffs



BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
CASE EX 5
6739
Submitted by MOBIL
Hearing Date 11-28-79

Mobil Oil Corporation
Houston E & P Division

THREE DAY S.I. W.H.P.
JICARILLIA "D" NO. 1
BLANCO MESA VERDE POOL
GAVILAN PICTURED CLIFF POOL
Rio Arriba County, New Mexico
By: H.F.W. Date: 8/23/79



MOBIL OIL CORPORATION

COMPUTATION OF RELATIVE
VALUES OF THE HYDROCARBON
PRODUCTIVE BEFORE AND
AFTER DOWNHOLE COMMINGLING
(STATEWIDE RULE 303-C-2-H)

LEASE AND WELL NUMBER Jicarilla "D" Well #1

	UPPER POOL	LOWER POOL	COMMINGLED
POOL NAME	Gavilan Pictured Cliffs	Blanco Mesaverde	
BTU/MCF	1213	1231	1219
SELLING PRICE/1000BTU	$2.45	2.45	2.45
DAILY PRODUCTION/MCF	36	17	53
DAILY INCOME	$106.99	$51.27	$158.29

TOTAL DAILY INCOME (POOLS SEPARATED) $ 158.26

Net difference realized from downhole commingling based on current well test = $ 0.02 /day---gain

REMARKS: The oil production from each zone is negligible, i.e. cummulative oil from the Pictured Cliffs to 7/1/79 is 2760 bbls produced with 1,217,800 MCF gas - during the same period from the Mesaverde cummulative oil is 2962 bbls produced with 178,233 MCF gas.

Oil is commingled on the surface and purchase is based on the commingled quantity. Therefore no change in value of oil will result with downhole commingling.

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EX 6
CASE 6739
Submitted by MOBIL
Hearing Date 11-28-79

By

CASE 6736: Application of Doyle Hartman for compulsory pooling and a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Jalmat Gas Pool to form a 360-acre non-standard gas proration unit comprising the S/2 SE/4 of Section 36, Township 24 South, Range 36 East; SW/4 of Section 31, Township 24 South, Range 37 East; and the N/2 NW/4 and NW/4 NE/4 of Section 6, Township 25 South, Range 37 East, to be dedicated to a well to be drilled 660 feet from the South line and 990 feet from the West line of said Section 31. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 6707: (Continued from November 14, 1979, Examiner Hearing)

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

CASE 6737: Application of Gulf Oil Corporation for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the W/2 of Section 4, Township 19 South, Range 32 East, North Lusk-Morrow Gas Pool, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 6739: Application of Mobil Oil Corporation for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Gavilan-Pictured Cliffs and Blanco Mesaverde production in the wellbore of its Jicarilla D Well No. 1 located in Unit N of Section 24, Township 26 North, Range 3 West. Applicant further seeks the establishment of an administrative procedure for approval of downhole commingling of the aforesaid pools in others of its wells in Sections 7, 8, 17, 18, and 19, Township 26 North, Range 2 West, Sections 1, 2, 11 thru 14, 23, and 24, Township 26 North, Range 3 West, and Sections 11 thru 15, 22 thru 27, 35, and 36, Township 27 North, Range 3 West.

CASE 6740: Application of Hondo Oil and Gas Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a Pennsylvanian test well to be drilled 1550 feet from the North line and 660 feet from the West line of Section 10, Township 18 South, Range 28 East, the N/2 of said Section 10 to be dedicated to the well.

CASE 6741: Application of ARCO Oil and Gas Company for an amendment to Order No. R-6054, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-6054 to amend the findings in said order to make said findings more specific as to the necessity for the drilling of infill wells in the Empire Abo Unit in order to recover additional gas pursuant to the Natural Gas Policy Act of 1978; further to amend said order to make such findings applicable to present and future drilling operations including the drilling of horizontal drainholes.

CASE 6720: (Continued from November 14, 1979, Examiner Hearing)

Application of ARCO Oil and Gas Company to drill a horizontal drainhole, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval to drill and complete its Empire Abo Unit Well No. J-213, located in Unit E of Section 6, Township 18 South, Range 28 East, Empire-Abo Pool, with a single horizontal drainhole of about 200 feet in length in the Abo formation.

CASE 6742: Application of ARCO Oil and Gas Company for an administrative procedure, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of an administrative procedure for approval of the drilling of horizontal drainholes in the Empire Abo Unit, Empire-Abo Pool.

CASE 6743: (This case will be dismissed.)

Application of Exxon Corporation for an exception to Order No. R-3221, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221 to permit disposal of produced brine in several unlined surface pits located on its Laguna Grande Unit Area in Sections 16, 21, 28, 29, 32, and 33, Township 23 South, Range 29 East.

CASE 6744: Application of Texas Oil & Gas Corporation for special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Riverside-Morrow Gas Pool to provide for 320-acre spacing rather than 160 acres. In the absence of objection, this pool will be placed on the standard 320-acre spacing for Pennsylvanian gas pools rather than the present 160-acre spacing.

JAMES E. SPERLING
JOSEPH E. ROEHL
GEORGE T. HARRIS, JR.
DANIEL A. SISK
LELAND S. SEDBERRY, JR.
ALLEN C. DEWEY, JR.
FRANK H. ALLEN, JR.
JAMES A. PARKER
JOHN R. COONEY
KENNETH L. HARRIGAN
PETER J. ADANG
DALE W. ESK
DENNIS J. FALK
JOE R. G. FULCHER
ARTHUR D. MELENDRES
JAMES P. HOUGHTON

LAW OFFICES

MODRALL, SPERLING, ROEHL, HARRIS & SISK

PUBLIC SERVICE BUILDING

P. O. BOX 2168

ALBUQUERQUE, NEW MEXICO 87103

505-243-4511

JOHN F. SIMMS (1885-1954)
J. R. MODRALL (1902-1977)
AUGUSTUS T. SEYMOUR (1907-1965)

JUDY A. FRY
PAUL M. FISH
MARK B. THOMPSON III
GEORGE J. HOPKINS
JEFFREY W. LOUBET
RUTH M. SCHIFANI
THOMAS L. JOHNSON
LYNN H. SLADE
ALAN KONRAD
ZACHARY L. McCORMICK
THURMAN W. MOORE III
CLIFFORD K. ATKINSON
DOUGLAS A. BAKER
DEBORAH J. HERZBERG
SUSAN R. STOCKSTILL

November 14, 1979

Mr. Joe D. Ramey
Secretary-Director
Department of Energy & Minerals
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Mobil Oil Corporation's Application for Approval of Downhole Hydrocarbon Commingling in the Gavilan Pictured Cliffs and Blanco Mesa Verde Pools, Rio Arriba County, New Mexico

Dear Mr. Ramey:

Enclosed herewith, please find original and two copies of Mob il Oil Corporation's application for hearing concerning the above-captioned matter.

It would be appreciated if this matter can be scheduled for hearing before an examiner at the hearing to be held on November 28, 1979.

Very truly yours,

James E. Sperling

/jev
Enclosures

cc: J. A. Morris, w/encl. (attn: H. F. Weaver)

NEW MEXICO DEPARTMENT OF ENERGY & MINERALS

OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION OF MOBIL OIL CORPORATION FOR APPROVAL OF DOWNHOLE HYDROCARBON COMMINGLING IN THE GAVILAN PICTURED CLIFFS AND BLANCO MESA VERDE POOLS, RIO ARRIBA COUNTY, NEW MEXICO.

Case No. 6739

A P P L I C A T I O N

Mobil Oil Corporation, whose address is 9 Greenway Plaza, Suite 2700, Houston, Texas 77046, hereby makes application for authority and approval to downhole commingle the hydrocarbons in the Jicarilla "D", Well No. 1 located in Unit N, Section 24, Township 26 North, Range 3 West, N.M.P.M., Rio Arriba County, New Mexico. The well is completed as a dual completion in the Blanco Mesa Verde and Gavilan Pictured Cliffs Pools and was authorized to so dually complete by Oil Conservation Division Order No. DC-346.

Tests conducted during October 1979 indicate present production of 36 MCFPD and 0 BWPD from the Gavilan Pictured Cliffs and 17 MCFPD and 1/2 BWPD from the Blanco Mesa Verde Pools. Condensate production from the respective zones is too small to measure. The minimal water production is disposed of into an unlined pit which has the required permit approval.

Production decline curves for each zone are attached showing that for a period of at least one year a steady production decline has been established.

The well is classified as a gas stripper and the combined volume of gas from the proposed commingled zones will not exceed stripper classification. The Mesa Verde zone experienced abnormal shut-in wellhead pressure decline during the years

1976 and 1977 (see attached graph of shut-in wellhead pressures). Applicant believes that the decline may be due to an increase in fluids in the well bore. The combining of the flow of gas from the two zones in one string of tubing will aid in unloading the well and should prolong the flowing life of the well. Wells in the area are low volume and borderline economically. The gas from these reservoirs is compatible and there is no indication based upon surface commingling of any mineral or scale incompatibility. The ownership in the zones proposed to be commingled is common. Attached is a tabulation of calculated values of individual and commingled well streams which demonstrates that the value of the commingled production will not be less than the sum of the values of the individual well streams.

The Blanco Mesa Verde zone allowable is classified marginal and the Gavilan zone is not prorated and is also a marginal producer. Downhole commingling of the Blanco Mesa Verde and the Gavilan Pictured Cliffs pools will reduce the operating and maintenance costs in this well and will extend the production life of the respective zones resulting in the recovery of additional hydrocarbons, thereby preventing waste and will not adversely affect correlative rights and will be in the interest of conservation. Applicant proposes that production allocation for the well which is the subject of this Application be based on the relative average gas production for the first six months of 1979 from the respective zones, with 70% being allocated to the Pictured Cliffs formation and 30% to the Mesa Verde formation, with liquid hydrocarbons to be allocated in the same manner.

Applicant also requests that approval be given and a procedure established for administrative approval for downhole commingling for gas wells operated by Applicant in the Blanco Mesa Verde and Gavilan Pictured Cliffs pools in Sections 11

through 15, 22 through 27, and 35 and 36, in Township 27 North, Range 3 West, N.M.P.M., and for gas wells in those pools located in Sections 1 and 2, 11 through 14, 23 and 24, in Township 26 North, Range 3 West, N.M.P.M., and for gas wells located in Sections 7, 8 and 17 through 19, in Township 26 North, Range 2 West, N.M.P.M., with the information to be provided to the Division as a basis for approval in such detail and form as the Division shall prescribe.

WHEREFORE, Applicant respectfully requests favorable action by the Division upon the matters which are the subject of this Application and that the matter be set for hearing before an examiner on November 28, 1979.

Respectfully submitted,

MOBIL OIL CORPORATION

By: MODRALL SPERLING ROEHL HARRIS & SISK

By: James E. Sperling

James E. Sperling
P. O. Box 2168
Albuquerque, New Mexico 87103
Telephone: (505) 243-4511

ATTORNEYS FOR MOBIL OIL CORPORATION

MIDLAND PRODUCING AREA
PROJECT NO. 1 PREPARED BY
EFF. DATE JUNE, 1979

PRODUCTION - INJECTION HISTORY

2225012 BLANCO MESAVERDE GAS
7562100 JICARILLA D
WELL NUMBER # 1

YEAR	PRODUCTION DATA OIL (BBL.)	WATER (BBL.)	GAS (MCF)	GOR (CF/BBL.)	ANNUAL DATA WTR CUT PCT	WATER (BBL.)	INJECTION DATA GAS (MCF)	OTHER (BBL.-MCF)	OTHER DATA WTR-DISP (BBL.)	WTR-SPY (BBL.)
1979	112	81	2163	19313	41	0	0	0	0	0
1978	170	80	5195	30559	32	0	0	0	0	0
1977	79	0	2931	37101	0	0	0	0	0	0
1976	163	0	551	3380	0	0	0	0	0	0
1975	0	0	815	0	0	0	0	0	0	0
1974	0	0	4595	0	0	0	0	0	0	0
1973	112	0	7076	63179	0	0	0	0	0	0
1972	248	0	7440	30000	0	0	0	0	0	0
1971	0	0	7601	0	0	0	0	0	0	0
1970	0	0	8634	0	0	0	0	0	0	0
1969	0	0	7211	0	0	0	0	0	0	0
CUM.	884	161	54212	61326	15	0	0	0	0	0

N.M. Commission — Gas — 176070 + 1979 2163 = Cum to 11/1/79 178233
Cum 12/31/78 — Oil — 2850 + 112 = 2962

MIDLAND PRODUCING AREA — PRODUCTION - INJECTION HISTORY — 4090011 GAVALIN PICTURED CLIFFS

PROJECT NO. 2 PREPARED BY — 7562100 JICARILLA D

EFF. DATE JUNE,1979 — WELL NUMBER 001

ANNUAL DATA

YEAR	PRODUCTION DATA OIL (BBL)	WATER (BBL)	GAS (MCF)	GOR (CF/BBL)	WTR CUT PCT	INJECTION DATA WATER (BBL)	GAS (MCF)	OTHER (BBL-MCF)	OTHER DATA WTR-DISP (BBL)	WTR-SPY (BBL)
1979	49	0	5139	104878	0	0	0	0	0	0
1978	1	0	5138	5138000	0	0	0	0	0	0
1977	290	0	10391	35831	0	0	0	0	0	0
1976	300	0	14302	47673	0	0	0	0	0	0
1975	0	0	20351	0	0	0	0	0	0	0
1974	0	0	28439	0	0	0	0	0	0	0
1973	107	0	31734	296579	0	0	0	0	0	0
1972	426	0	27336	64169	0	0	0	0	0	0
1971	0	0	30401	0	0	0	0	0	0	0
1970	0	0	42160	0	0	0	0	0	0	0
1969	0	0	33988	0	0	0	0	0	0	0
CUM.	1173	0	249379	212608	0	0	0	0	0	0

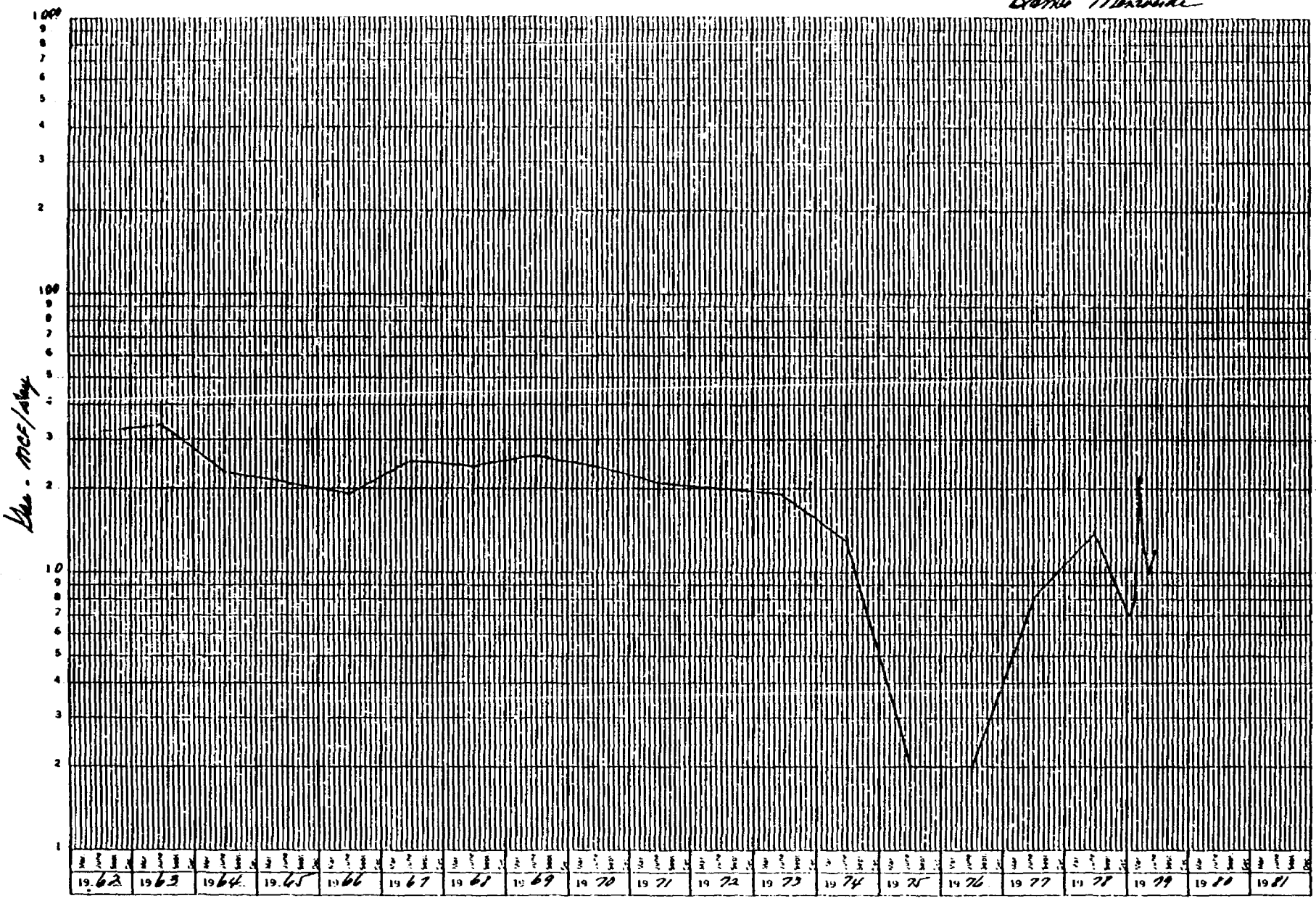
Commission [illegible]

				1979		Cum to 7/1/79
Previous Cum. 12/31/78 –	Gas –	1,212,661	+	5139	=	1,217,800
	Oil	2711	+	49	=	2760

Mobil Oil Corporation

Jicarilla "D" #1

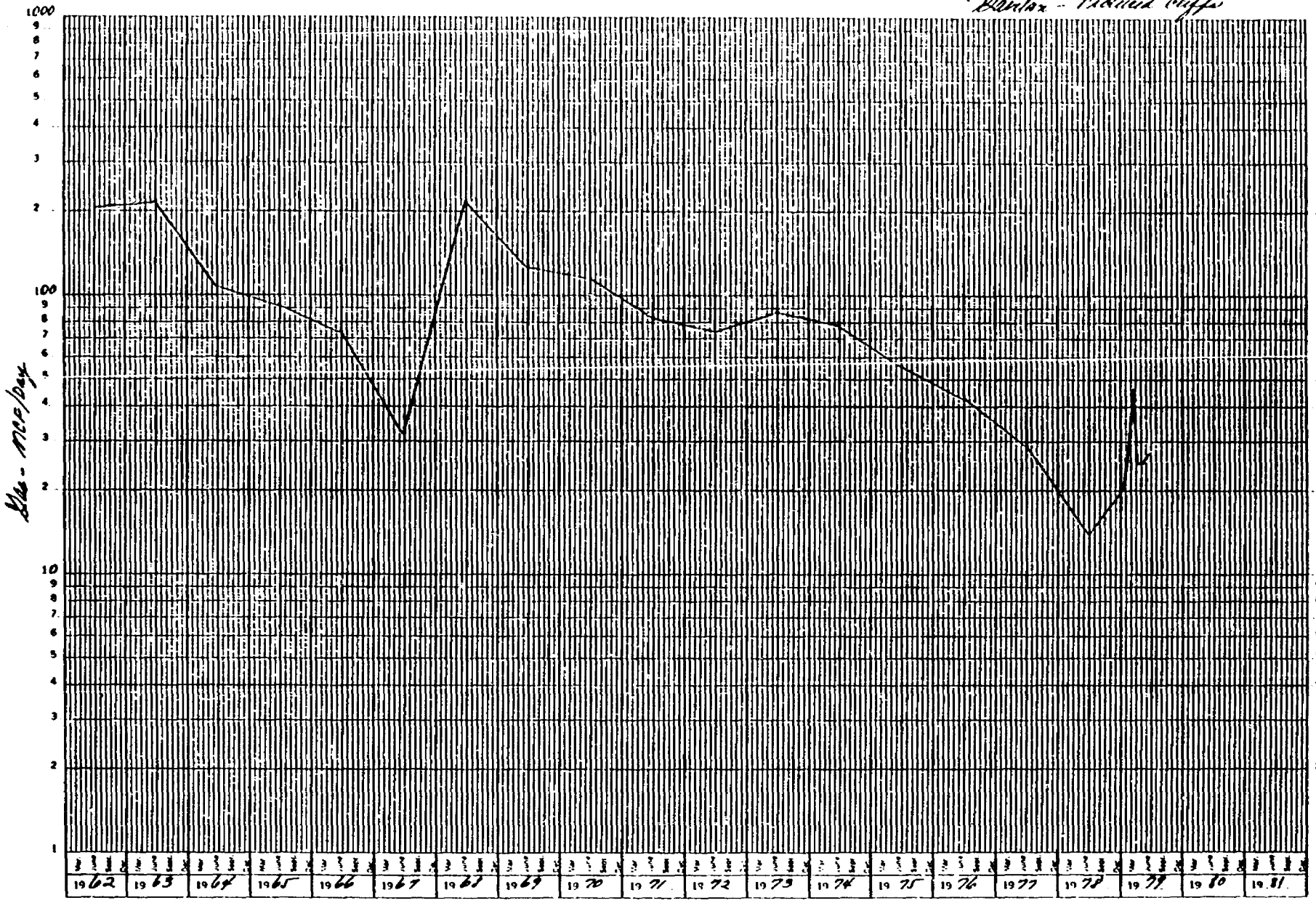
Blanco Mesaverde



Mobil Oil Corporation

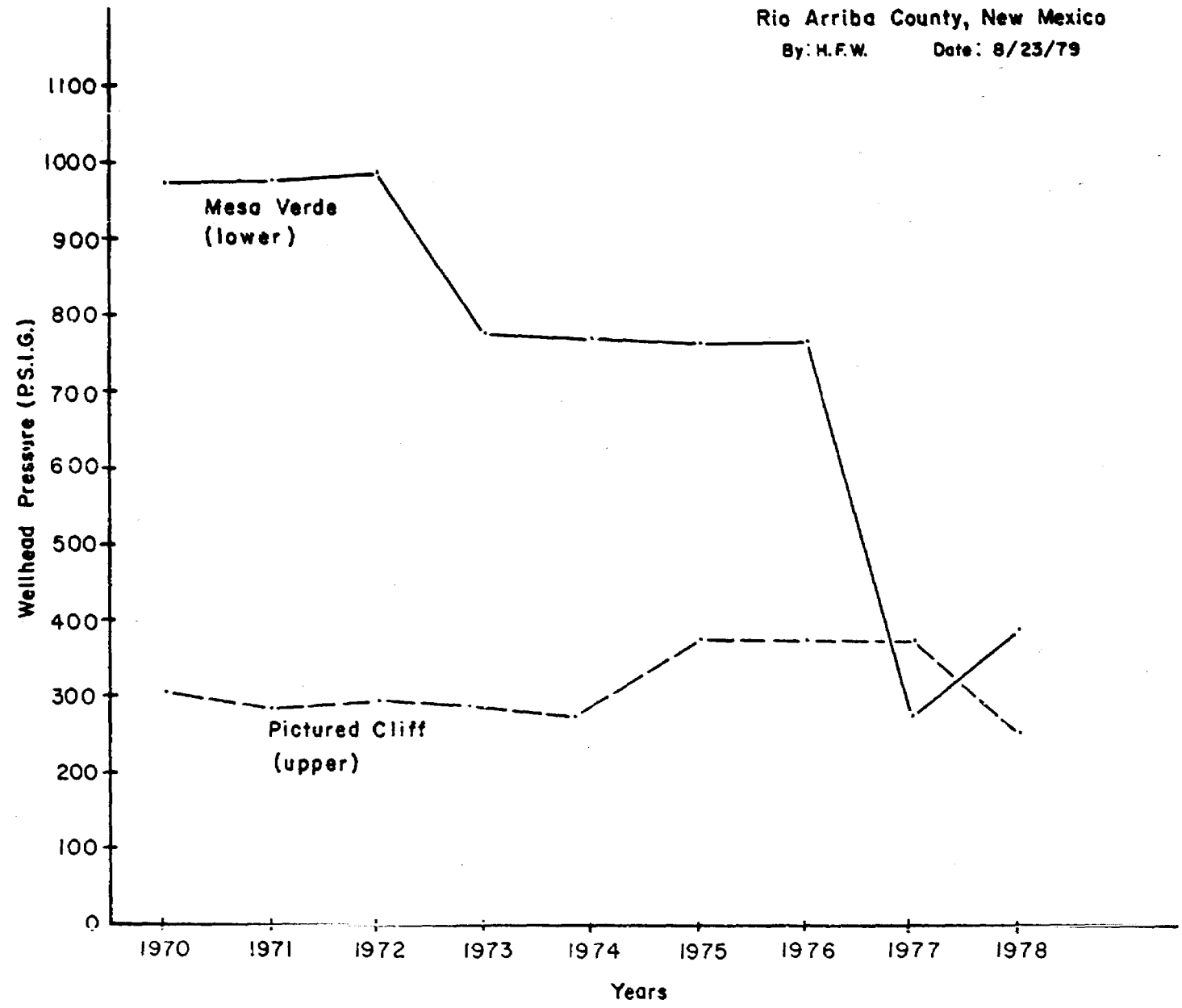
Jicarilla "D" #1

Dakota - Pictured Cliffs



Mobil Oil Corporation
Houston E & P Division

THREE DAY S.I. W.H.P.
JICARILLIA "D" NO. 1
BLANCO MESA VERDE POOL
GAVILAN PICTURED CLIFF POOL
Rio Arriba County, New Mexico
By: H.F.W. Date: 8/23/79



MOBIL OIL CORPORATION

COMPUTATION OF RELATIVE
VALUES OF THE HYDROCARBON
PRODUCTIVE BEFORE AND
AFTER DOWNHOLE COMMINGLING
(STATEWIDE RULE 303-C-2-H)

LEASE AND WELL NUMBER Jicarilla "D" Well #1

	UPPER POOL	LOWER POOL	COMMINGLED
POOL NAME	Gavilan Pictured Cliffs	Blanco Mesaverde	
BTU/MCF	1213	1231	1219
SELLING PRICE/1000BTU	$2.45	2.45	2.45
DAILY PRODUCTION/MCF	36	17	53
DAILY INCOME	$106.99	$51.27	$158.29

TOTAL DAILY INCOME (POOLS SEPARATED) $ 158.26

Net difference realized from downhole commingling based on current well test = $ 0.03 /day---gain

REMARKS: The oil production from each zone is negligible, i.e. cummulative oil from the Pictured Cliffs to 7/1/79 is 2760 bbls produced with 1,217,800 MCF gas - during the same period from the Mesaverde cummulative oil is 2962 bbls produced with 178,233 MCF gas.

Oil is commingled on the surface and purchase is based on the commingled quantity. Therefore no change in value of oil will result with downhole commingling.

By

NEW MEXICO DEPARTMENT OF ENERGY & MINERALS

OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION OF MOBIL OIL CORPORATION FOR APPROVAL OF DOWNHOLE HYDROCARBON COMMINGLING IN THE GAVILAN PICTURED CLIFFS AND BLANCO MESA VERDE POOLS, RIO ARRIBA COUNTY, NEW MEXICO.

Case No. 6739

A P P L I C A T I O N

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Production decline curves for each zone are attached showing that for a period of at least one year a steady production decline has been established.

The well is classified as a gas stripper and the combined volume of gas from the proposed commingled zones will not exceed stripper classification. The Mesa Verde zone experienced abnormal shut-in wellhead pressure decline during the years

1976 and 1977 (see attached graph of shut-in wellhead pressures). Applicant believes that the decline may be due to an increase in fluids in the well bore. The combining of the flow of gas from the two zones in one string of tubing will aid in unloading the well and should prolong the flowing life of the well. Wells in the area are low volume and borderline economically. The gas from these reservoirs is compatible and there is no indication based upon surface commingling of any mineral or scale incompatibility. The ownership in the zones proposed to be commingled is common. Attached is a tabulation of calculated values of individual and commingled well streams which demonstrates that the value of the commingled production will not be less than the sum of the values of the individual well streams.

The Blanco Mesa Verde zone allowable is classified marginal and the Gavilan zone is not prorated and is also a marginal producer. Downhole commingling of the Blanco Mesa Verde and the Gavilan Pictured Cliffs pools will reduce the operating and maintenance costs in this well and will extend the production life of the respective zones resulting in the recovery of additional hydrocarbons, thereby preventing waste and will not adversely affect correlative rights and will be in the interest of conservation. Applicant proposes that production allocation for the well which is the subject of this Application be based on the relative average gas production for the first six months of 1979 from the respective zones, with 70% being allocated to the Pictured Cliffs formation and 30% to the Mesa Verde formation, with liquid hydrocarbons to be allocated in the same manner.

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WHEREFORE, Applicant respectfully requests favorable action by the Division upon the matters which are the subject of this Application and that the matter be set for hearing before an examiner on November 28, 1979.

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MOBIL OIL CORPORATION

By: MODRALL SPERLING ROEHL HARRIS & SISK

By: Original Signed by James E. Sperling

James E. Sperling
P. O. Box 2168
Albuquerque, New Mexico 87103
Telephone: (505) 243-4511

ATTORNEYS FOR MOBIL OIL CORPORATION

MIDLAND PRODUCING AREA — PRODUCTION - INJECTION HISTORY — 2725012 BLANCO MESAVERDE GAS
PROJECT NO. 1 PREPARED BY — 7562100 JICARILLA D
EFF. DATE JUNE,1979 — WELL NUMBER # 1

ANNUAL DATA

YEAR	PRODUCTION DATA OIL (BBL.)	WATER (BBL.)	GAS (MCF)	GOR (CF/BBL.)	WTR CUT PCT	INJECTION DATA WATER (BBL)	GAS (MCF)	OTHER (BBL-MCF)	OTHER DATA WTR-DISP (BBL)	WTR-SPY (PPI)
1979	112	81	2163	19313	41	0	0	0	0	0
1978	170	80	5195	30559	32	0	0	0	0	0
1977	79	0	2931	37101	0	0	0	0	0	0
1976	163	0	551	3380	0	0	0	0	0	0
1975	0	0	815	0	0	0	0	0	0	0
1974	0	0	4595	0	0	0	0	0	0	0
1973	112	0	7076	63179	0	0	0	0	0	0
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1971	0	0	7601	0	0	0	0	0	0	0
1970	0	0	8634	0	0	0	0	0	0	0
1969	0	0	7211	0	0	0	0	0	0	0
CUM.	884	161	54213	61326	15	0	0	0	0	0

			1979	Cum to 1/1/79
N.M. Commission	Gas	176070 +	2163 =	178233
Cum. 12/31/78	Oil	2850 +	112 =	2962

L

MIDLAND PRODUCING AREA — PRODUCTION - INJECTION HISTORY — 4090011 CAVALIER PICTURED CLIFFS
PROJECT NO. 2 PREPARED BY — 7562100 JICARILLA D
EFF. DATE JUNE, 1979 — WELL NUMBER 001

ANNUAL DATA

YEAR	PRODUCTION DATA OIL (BBL)	WATER (BBL)	GAS (MCF)	GOR (CF/BBL)	WTR CUT PCT	INJECTION DATA WATER (BBL)	GAS (MCF)	OTHER (BBL-MCF)	OTHER DATA WTR-DISP (BBL)	WTR-SPY (BBL)
1979	49	0	5139	104878	0	0	0	0	0	0
1978	1	0	5138	5138000	0	0	0	0	0	0
1977	290	0	10391	35831	0	0	0	0	0	0
1976	300	0	14302	47673	0	0	0	0	0	0
1975	0	0	20351	0	0	0	0	0	0	0
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1971	0	0	30401	0	0	0	0	0	0	0
1970	0	0	42160	0	0	0	0	0	0	0
1969	0	0	33988	0	0	0	0	0	0	0
CUM.	1173	0	249389	212608	0	0	0	0	0	0

Commission Annual — 1979 — Cum to 11/1/79
Previous Cum 12/31/78 — Gas — 1,212,661 + 5139 = 1,217,800
Oil 2711 + 49 = 2760

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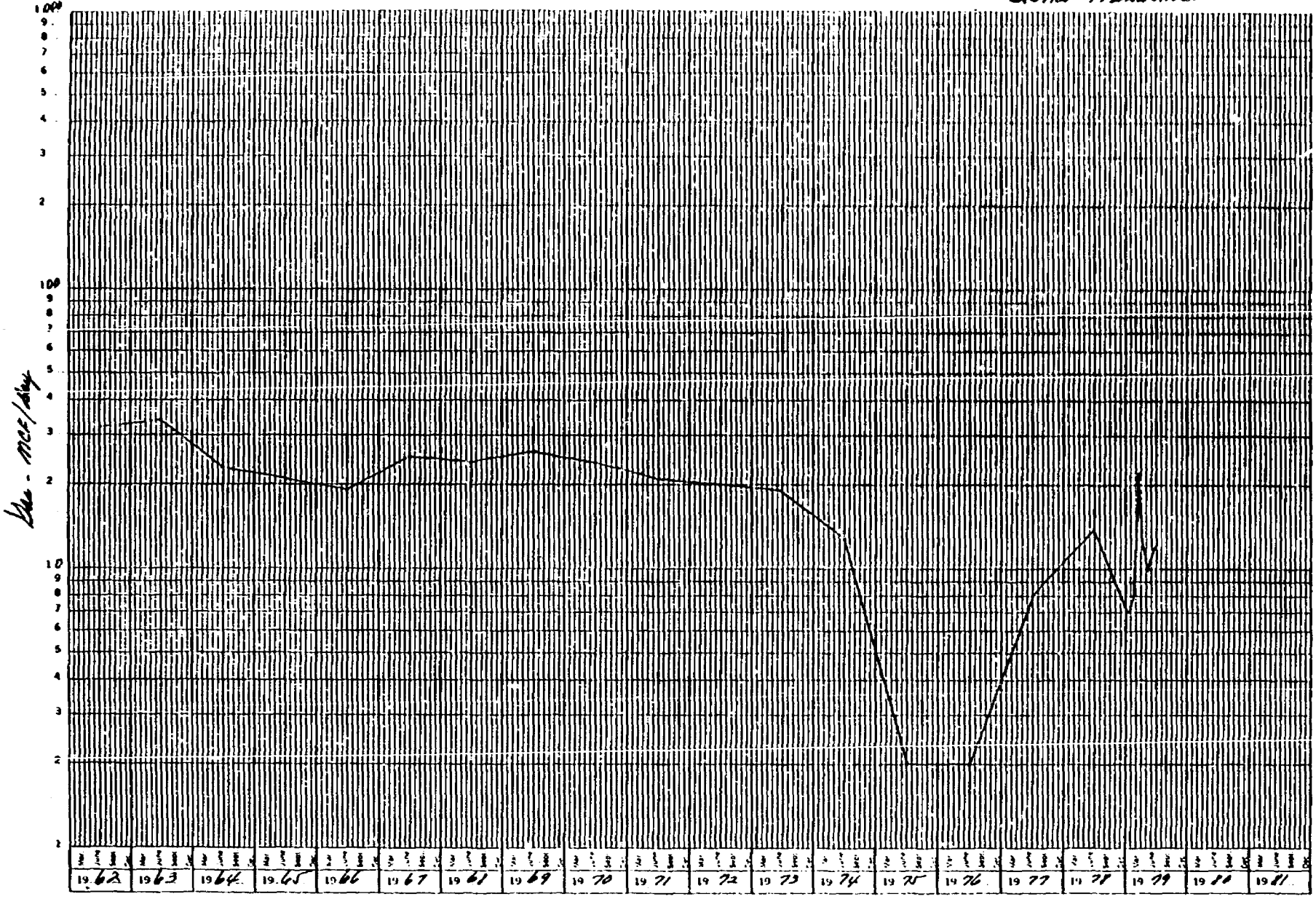
Mobil Oil Corporation

Jicarilla "D" #1

Ebano Mancos



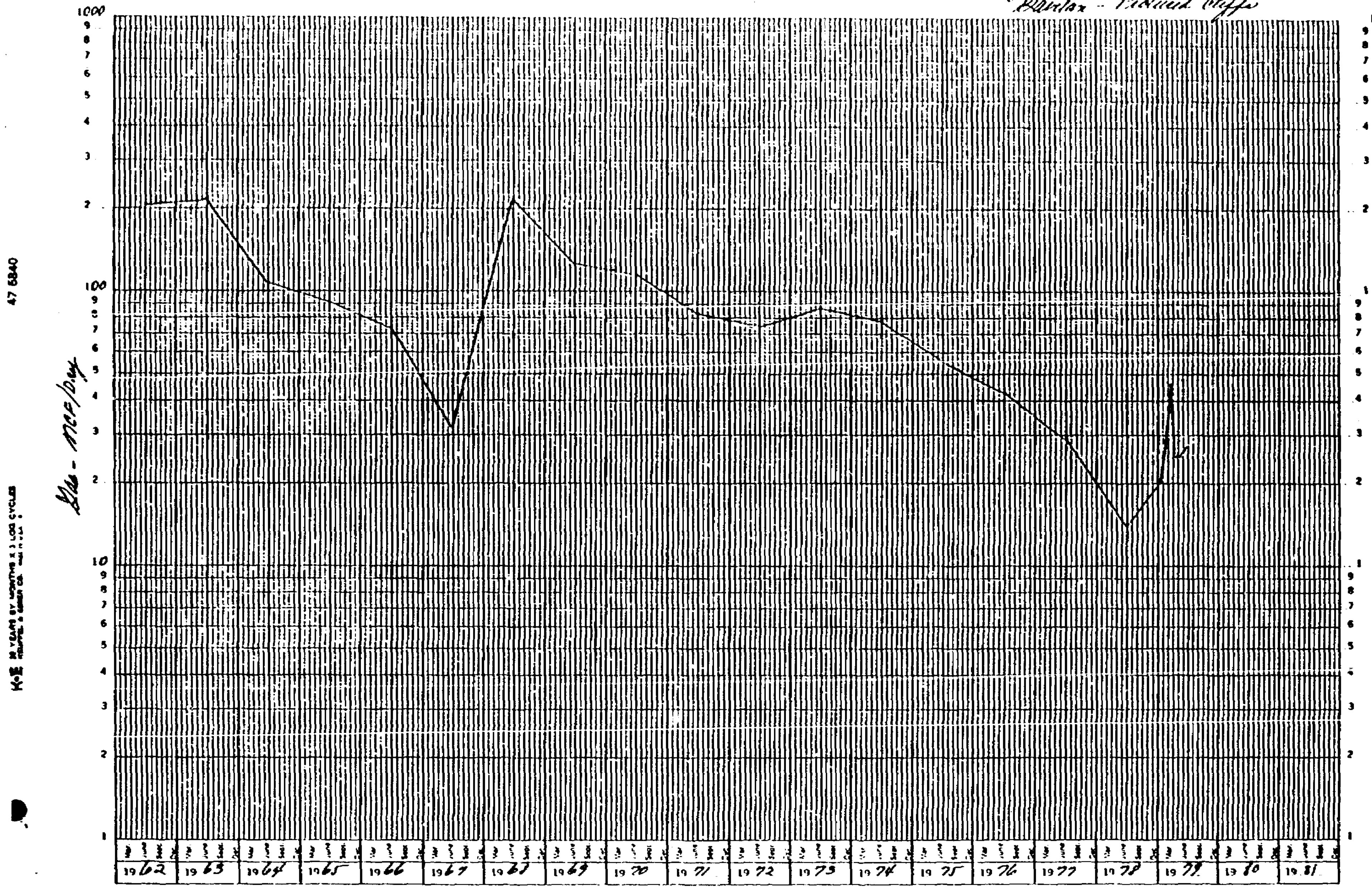
47 6840

K&E 10 X 10 TO THE INCH 5 CYCLES

Mobil Oil Corporation

Jicarilla "D" #1

[illegible] - Pictured Cliffs



Mobil Oil Corporation
Houston E & P Division

THREE DAY S.I. W.H.P.
JICARILLIA "D" NO. 1
BLANCO MESA VERDE POOL
GAVILAN PICTURED CLIFF POOL
Rio Arriba County, New Mexico
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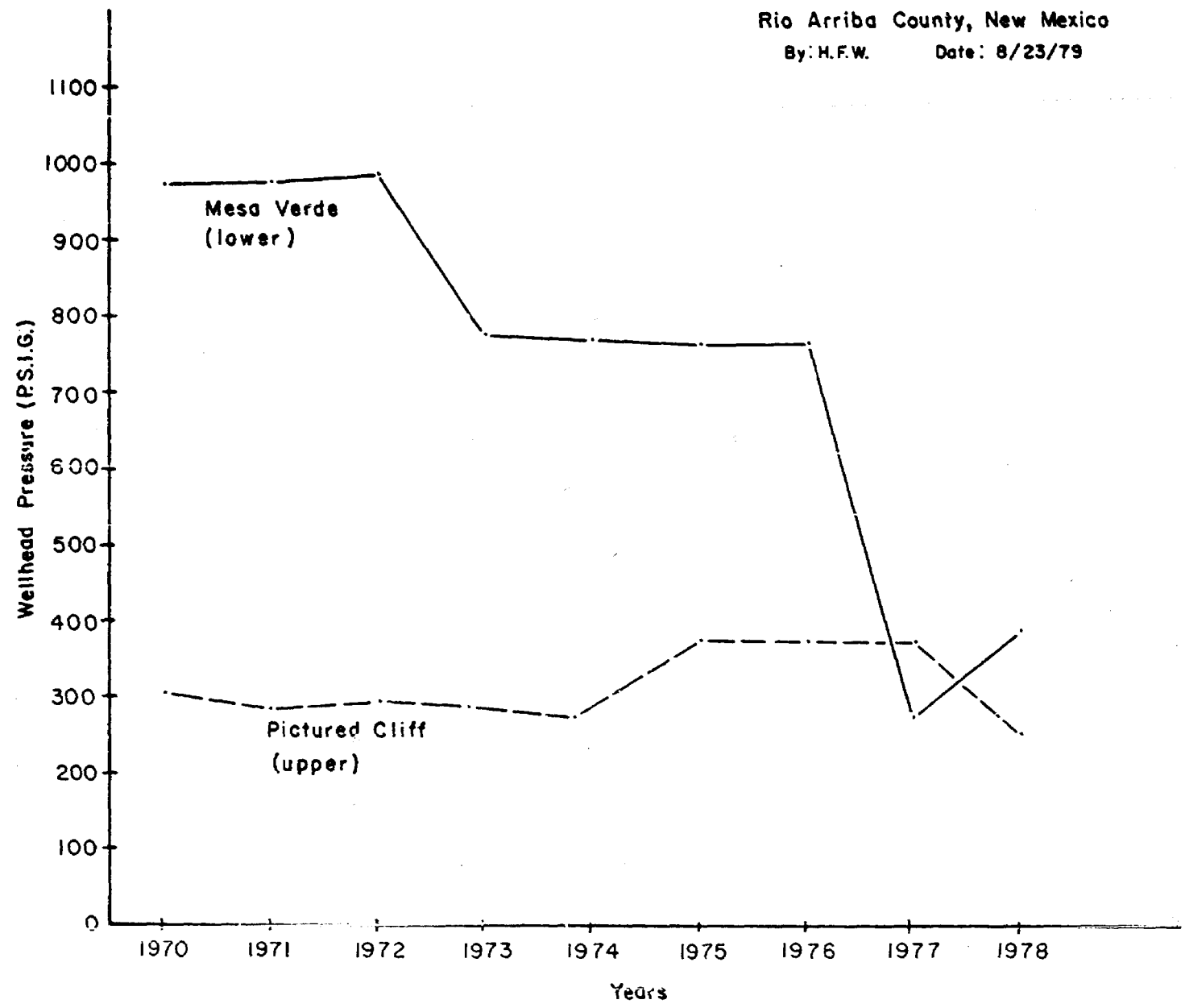

MOBIL OIL CORPORATION

COMPUTATION OF RELATIVE
VALUES OF THE HYDROCARBON
PRODUCTIVE BEFORE AND
AFTER DOWNHOLE COMMINGLING
(STATEWIDE RULE 303-C-2-H)

LEASE AND WELL NUMBER Jicarilla "D" Well #1

	UPPER POOL	LOWER POOL	COMMINGLED
POOL NAME	Gavilan Pictured Cliffs	Blanco Mesaverde	
BTU/MCF	1213	1231	1219
SELLING PRICE/1000BTU	$2.45	2.45	2.45
DAILY PRODUCTION/MCF	36	17	53
DAILY INCOME	$106.99	$51.27	$158.29

TOTAL DAILY INCOME (POOLS SEPARATED) $ 158.26

Net difference realized from downhole commingling based on current well test = $ 0.02 /day---gain

REMARKS: The oil production from each zone is negligible, i.e. cummulative oil from the Pictured Cliffs to 7/1/79 is 2760 bbls produced with 1,217,800 MCF gas - during the same period from the Mesaverde cummulative oil is 2962 bbls produced with 178,233 MCF gas.

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OIL CONSERVATION DIVISION

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ATTORNEYS FOR MOBIL OIL CORPORATION

MIDLAND PRODUCING AREA — PRODUCTION - INJECTION HISTORY — 2225012 BLANCO MESAVERDE GAS
PROJECT NO. 1 PREPARED BY — 7562100 JICARILLA D
EFF. DATE JUNE,1979 — WELL NUMBER # 1

ANNUAL DATA

YEAR	PRODUCTION DATA OIL (BBL.)	WATER (BBL.)	GAS (MCF)	GOR (CF/BBL.)	WTR CUT PCT	INJECTION DATA WATER (BBL.)	GAS (MCF)	OTHER (BBL.-MCF)	OTHER DATA WTR-DISP (BBL.)	WTR-SPY (BBL.)
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1974	0	0	4595	0	0	0	0	0	0	0
1973	112	0	7076	63179	0	0	0	0	0	0
1972	248	0	7440	30000	0	0	0	0	0	0
1971	0	0	7601	0	0	0	0	0	0	0
1970	0	0	8634	0	0	0	0	0	0	0
1969	0	0	7711	0	0	0	0	0	0	0
CUM.	884	161	56212	63326	15	0	0	0	0	0

				1979	Cum to 11/78
N.M. Commission	Gas	-176070	+	2163	= 178233
Cum 12/31/78	Oil	2850	+	112	= 2962

MIDLAND PRODUCING AREA
PROJECT NO. 2 PREPARED BY
EFF. DATE JUNE, 1979

PRODUCTION - INJECTION HISTORY

4090011 GAVILAN PICTURED CLIFFS
7562100 JICARILLA D
WELL NUMBER 001

YEAR	PRODUCTION DATA OIL (BBL.)	WATER (BBL.)	GAS (MCF)	GOR (CF/BBL.)	ANNUAL DATA WTR CUT PCT	WATER (BBL.)	INJECTION DATA GAS (MCF)	OTHER (BBL-MCF)	OTHER DATA WTR-DISP (BBL.)	WTR-SPY (BBL.)
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1970	0	0	42160	0	0	0	0	0	0	0
1969	0	0	33988	0	0	0	0	0	0	0
CUM.	1173	0	244184	212608	0	0	0	0	0	0

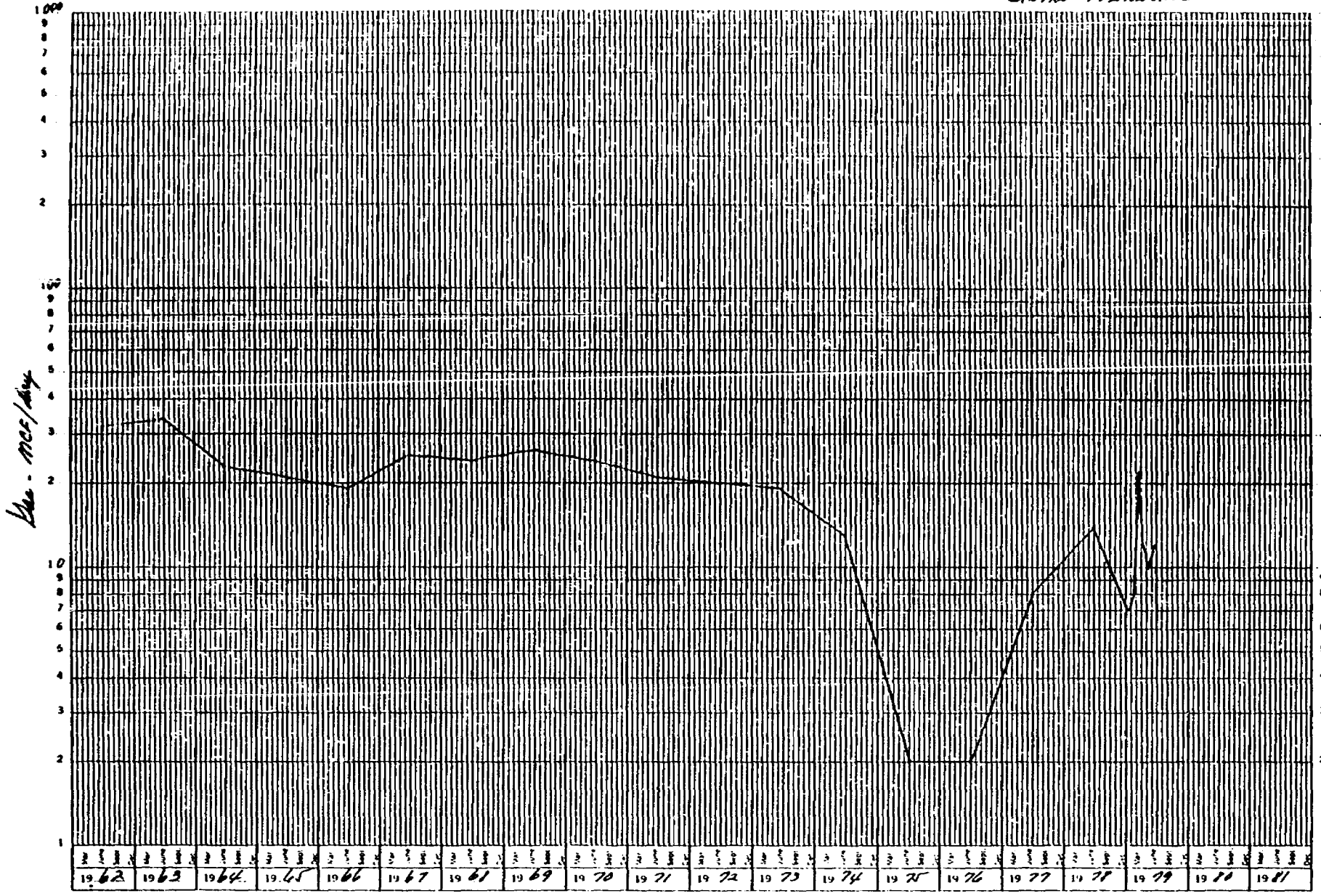
Commission Annual Report Cum. 12/31/78 — Gas — 1,212,661 + 1978 5139 = Cum to 11/1/79 1,217,800
Oil 2711 + 49 = 2760

Mobil Oil Corporation

Jicarilla "D" #1

Blanco Mesaverde

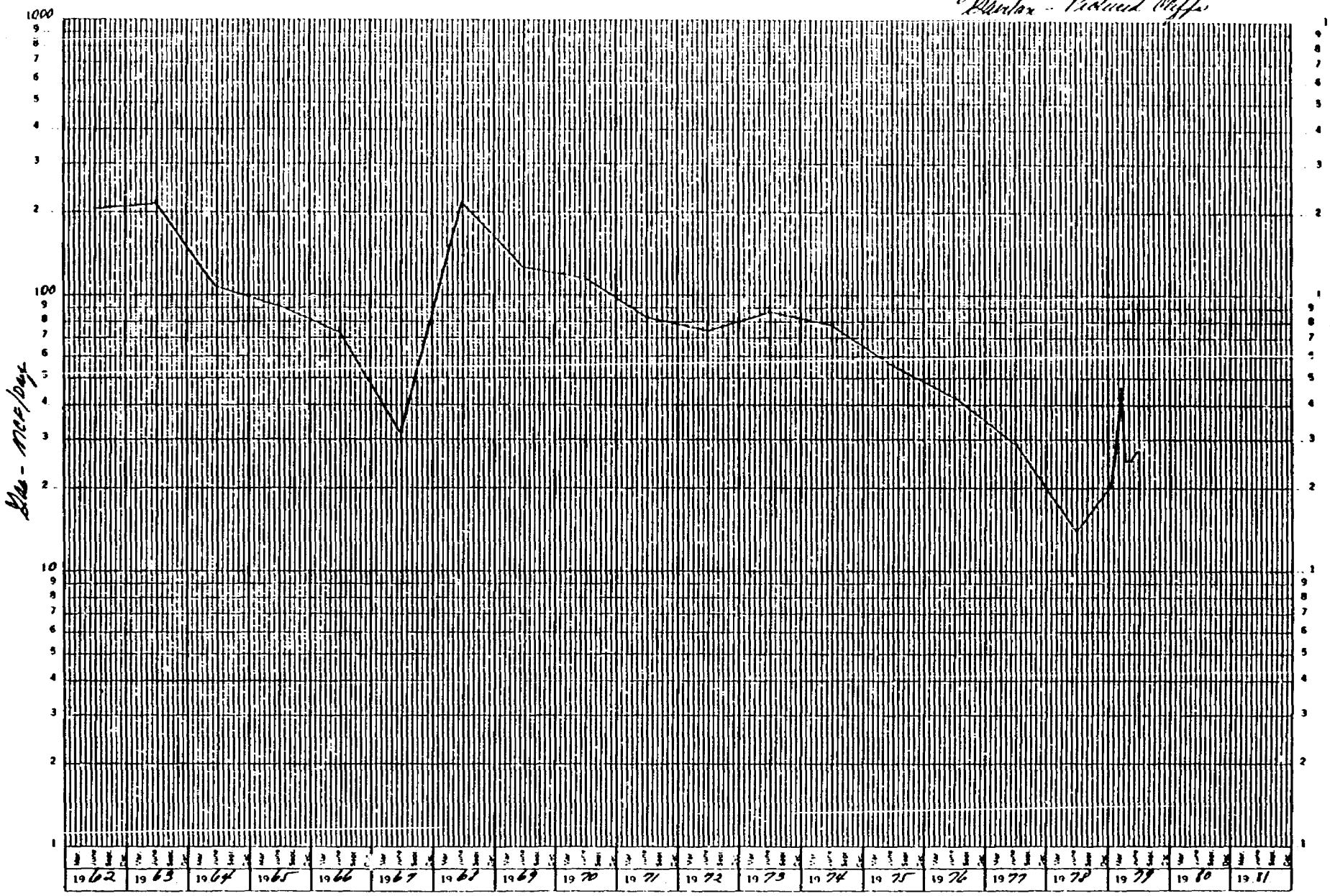
4a



Mobil Oil Corporation

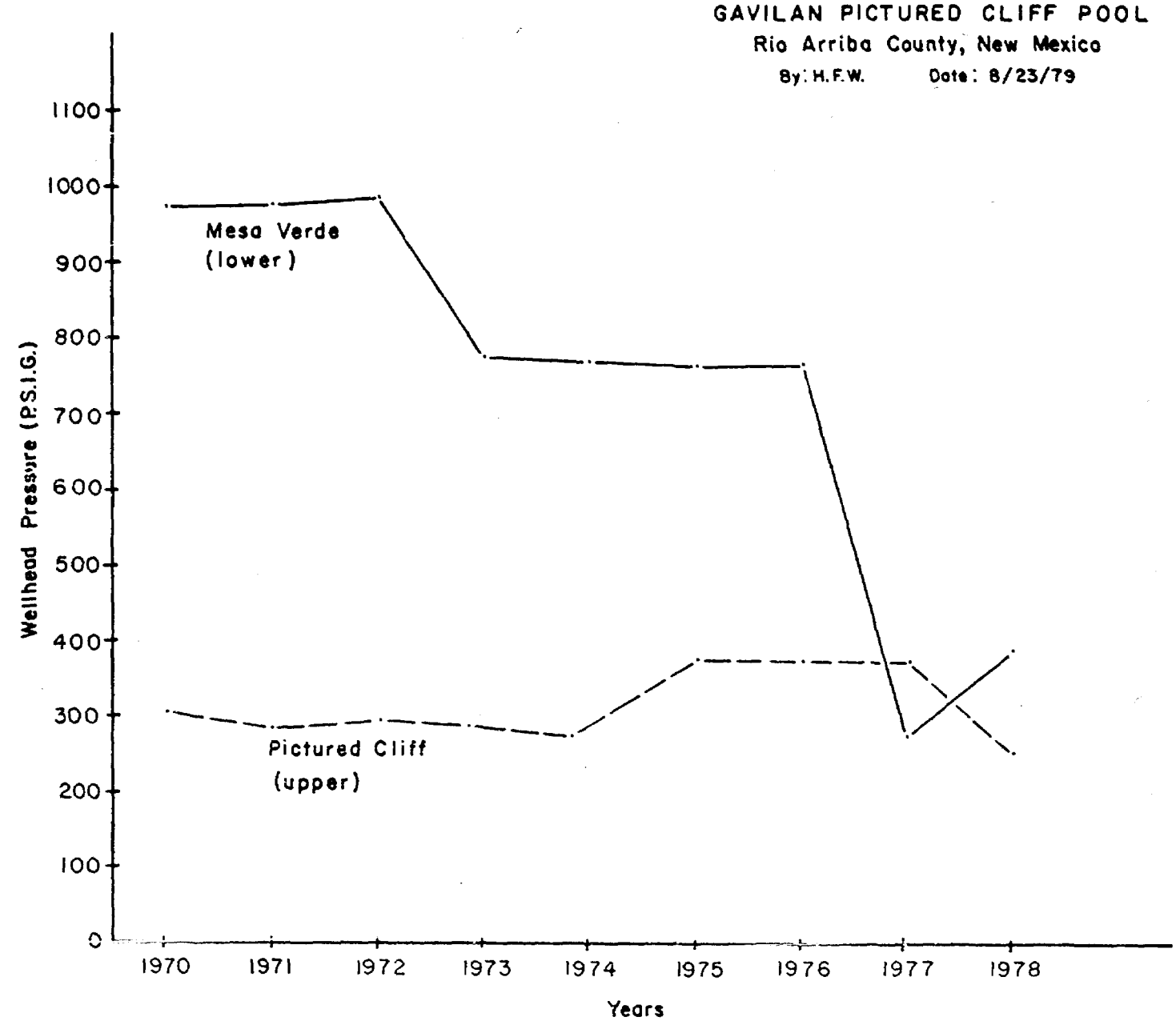
Jicarilla "D" #1

Dunton - Pictured Cliffs



Mobil Oil Corporation
Houston E & P Division

THREE DAY S.I. W.H.P.
JICARILLIA "D" NO. 1
BLANCO MESA VERDE POOL
GAVILAN PICTURED CLIFF POOL
Rio Arriba County, New Mexico
By: H.F.W. Date: 8/23/79



MOBIL OIL CORPORATION

COMPUTATION OF RELATIVE
VALUES OF THE HYDROCARBON
PRODUCTIVE BEFORE AND
AFTER DOWNHOLE COMMINGLING
(STATEWIDE RULE 303-C-2-H)

LEASE AND WELL NUMBER Jicarilla "D" Well #1

	UPPER POOL	LOWER POOL	COMMINGLED
POOL NAME	Gavilan Pictured Cliffs	Blanco Mesaverde	
BTU/MCF	1213	1231	1219
SELLING PRICE/1000BTU	$2.45	2.45	2.45
DAILY PRODUCTION/MCF	36	17	53
DAILY INCOME	$106.99	$51.27	$158.29

TOTAL DAILY INCOME (POOLS SEPARATED) $ 158.26

Net difference realized from downhole commingling based on current well test = $ 0.03 /day---gain

REMARKS: The oil production from each zone is negligible, i.e. cummulative oil from the Pictured Cliffs to 7/1/79 is 2760 bbls produced with 1,217,800 MCF gas - during the same period from the Mesaverde cummulative oil is 2962 bbls produced with 178,233 MCF gas.

Oil is commingled on the surface and purchase is based on the commingled quantity. Therefore no change in value of oil will result with downhole commingling.

By

Jim Sperling 3:20 11/5/79
Hap Weaver nov. 28 Mobil Oil Corp.

Amended commingling Rio Arriba

Gavilan-PC
Blanco MV

Jicarilla D Well # 1
N-24-26N-3W
Rio Arriba

admin procedure
add'l wells
11-12-13-14-15
22 thru 27
35 & 36 } 27-3

1, 2, 11 thru 14
23 24 } 26-3

7, 8, 17, 18, 19 } 26-2

7 and 8 and 17 thru 19 T26 R2
1 and 2, and 11 thru 14 and 23 and 24
11 thru 15, 22 thru 27 and 35 and 36 T27, R3.

Sections 7, 8 and 17 thru 19, T 26 N, R2W
Sections 1, 2, 11 thru 14, 23 and 24, T26N, R3W
Sections 11 thru 15, 22 thru 27, 35 and 36, T27N R3W

November 28, 1979

CASE_____ NSP: SF
Espanola

Application of Mobil Oil Corporation for downhole commingling, Rio Arriba County, New Mexico.

Applicant, in the above-styled cause, seeks approval for the downhole commingling of Gavilan-Pictured Cliffs and Blanco Mesaverde production in the wellbore of its Jicarilla D Well No. 1 located in Unit N of Section 24, Township 26 North, Range 3 West. applicant further seeks the establishment of an administrative procedure for approval of downhole commingling of the aforesaid pools in others of its wells in Sections 7, 8, and 17 thru 19, Township 26 North, Range 2 West, Sections 1, 2, 11 thru 14, 23, and 24, Township 26 North, Range 3 West, and Sections 11 thru 15, 22 thru 27, 35, and 36, Township 27 North, Range 3 West.

dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

CASE NO. 6739

Order No. R-6229

APPLICATION OF MOBIL OIL CORPORATION FOR DOWNHOLE COMMINGLING, RIO ARRIBA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on November 28, 1979, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

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

FINDS:

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

(2) That the applicant, Mobil Oil Corporation, is the owner and operator of the Jicarilla D Well No. 1, located in Unit N of Section 24, Township 26 North, Range 3 West, NMPM, Rio Arriba County, New Mexico.

(3) That the applicant seeks authority to commingle Gavilan-Pictured Cliffs and Blanco Mesaverde production within the wellbore of the above-described well.

(4) That from the Gavilan-Pictured Cliffs zone, the subject well is capable of low marginal production only.

(5) That from the Blanco Mesaverde zone, the subject well is capable of low marginal production only.

(6) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(7) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(8) That to afford the Division the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Aztec district office of the Division any time the subject well is shut-in for 7 consecutive days.

(9) That in order to allocate the commingled production to each of the commingled zones in the subject well, 70 percent of the commingled gas production should be allocated to the Gavilan-Pictured Cliffs zone, and 30 percent of the commingled gas production and all of the water produced to the Blanco Mesaverde zone.

(10) That the applicant further seeks the establishment of an administrative procedure for approval of downhole commingling of the aforesaid pools in others of its wells in Sections 7, 8, 17, 18, and 19, Township 26 North, Range 2 West, Sections 1, 2, 11 through 14, 23, and 24, Township 26 North, Range 3 West, and Sections 11 through 15, 22 through 27, 35, and 36, Township 27 North, Range 3 West.

thereby preventing waste, and will not violate correlative rights

(11) That the proposed down hole commingling of the Pictured Cliffs and Mesaverde zones in applicant's wells in said sections may ~~serve to~~ result in the recovery of additional hydrocarbons from each of the subject pools provided that no great dissimilitude exists between the productive capacities, bottom hole pressures, liquids production, and ownership between the zones and provided each of the zones is capable of no more than marginal production.

(12) That the Division Director should be authorized to administratively approve the down hole commingling of the Pictured Cliffs and Mesaverde zones for applicant's wells in the sections set out in ~~Finding~~ Finding No (10) above upon a proper showing of the data set out ~~required~~ in Finding No (11).

IT IS THEREFORE ORDERED:

(1) That the applicant, Mobil Oil Corporation, is hereby authorized to commingle Gavilan-Pictured Cliffs and Blanco Mesaverde production within the wellbore of its Jicarilla D Well No. 1, located in Unit N of Section 24, Township 26 North, Range 3 West, NMPM, Rio Arriba County, New Mexico.

(2) ~~(3)~~ That 70 percent of the commingled gas production shall be allocated to the Gavilan-Pictured Cliffs zone and 30 percent of the commingled gas production and all of the water production shall be allocated to the Blanco Mesaverde zone.

(3) ~~(4)~~ That the operator of the subject well shall immediately notify the Division's Aztec district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Division, a plan for remedial action.

IT IS FURTHER ORDERED:

(1) That an administrative procedure is hereby established whereby the ~~Director~~ Director of the Oil Conservation Division may administratively authorize downhole commingling of the Pictured Cliffs and Mesaverde ~~zones~~ in applicant's wells in Sections 7, 8, 17, 18 and 19, Township 26 North, Range 2 West, Sections 1, 2, 11 through 14, 23, and 24, Township 26 North, Range 3 West, and Sections 11 through 15, 22 through 27, 35, and 36, Township 27 North, Range 3 West.

(2) That qualification ~~for~~ and application for and approval of requests for downhole commingling shall be made in accordance with the following rules:

Rule 1. Wells shall qualify for approval for downhole commingling under this order provided that:

(a) neither zone produces more ~~than~~ than 200 MCF of gas per day;

(b) neither zone produces more than 10 barrels of fluid per day;

(c) ~~that~~ the bottom hole pressure of the lower pressure zone is not less than 50 percent of the bottom hole pressure of the higher pressure zone adjusted to a common datum; ~~and~~ and,

(d) the ownership of the two zones is common (including working interest, royalty interest, and overriding royalty).

Rule 2. Applications for administrative approval of downhole commingling under this order shall include:

(a) Name and address of the operator.

(b) Lease name, well number, well location.

~~(c) Names of the pools the well is completed in and the Division order number which authorized the dual completion.~~

(c) (3) A current (within 30 days) 24-hour productivity test ~~on Division Form C-116~~ showing the amount of oil, gas, and water produced from each zone.

(d) (4) A production decline curve for both zones showing that for a period of at least one year a steady rate of decline has been established for each zone which will permit a reasonable allocation of the commingled production to each zone for statistical purposes. (This requirement may be dispensed with in the case of a newly completed or recently completed well which has little or no production history. However, a complete resume of the well's completion history including description of treating, testing, etc., of each zone, and a prognostication of future production from each zone shall be submitted.)

(e) (5) ~~Estimated~~ Actual or calculated bottom-hole pressure for each ~~artificially lifted~~ zone. A current (within 30 days) ~~measured~~ bottom-hole pressure for ~~each zone capable of flowing~~ any newly completed zone.

(f) (6) A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the well-bore.

(g) A statement that the ownership of the two zones is common (including working interest, royalty interest, and overriding royalty).

~~(h) A computation showing that the value of the commingled production will not be less than the sum of the values of the individual streams.~~

(h) (7) A statement that all offset operators, and, in the case of a well on Federal land, the United States Geological Survey, have been notified in writing of the proposed commingling.

The Division's district office at Artesia

Rule 3. The Division Director may approve the proposed down-hole commingling in the absence of a valid objection within 20 days after the receipt of the application if, in his opinion, there is no disqualifying disparity of bottomhole pressures of other reservoir characteristics, waste will not result thereby, and correlative rights will not be violated. The 20-day waiting period may be dispensed with upon receipt of waivers of objection from all parties mentioned in Section 2, paragraph (i).

(3) Upon such approval, the well shall be operated in accordance with the provisions of the administrative order which authorized the commingling, and allocation of the commingled production from the well to each of the producing zones shall be in accordance with the allocation formula set forth in the order. ~~The production from the well shall be subject to the lower of the daily gas-oil ratio limitations applicable to the reservoirs. Wells shall be tested on a commingled basis annually, except that a well penalized for a high gas-oil ratio shall be tested semi-annually.~~

(4) The Division Director may rescind authority to commingle production in the well-bore and require both zones to be produced separately, if, in his opinion, waste or reservoir damage is resulting thereby ~~or the efficiency of any secondary recovery project is being impaired~~, or if any change of conditions renders the installation no longer eligible for down-hole commingling, ~~under the provisions of Section 1, paragraphs (2) through (7)~~.

(5) Jurisdiction