

CASE 1569: Hearing called by OCC to consider promulgation of order prohibiting flaring of casinghead gas from oil wells in 4 counties in Northwest N.M.

Case No.

1569

Application, Transcript,
Small Exhibits, Etc.

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1569

TRANSCRIPT OF HEARING

December 17, 1958

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BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
DECEMBER 17, 1958

IN THE MATTER OF:

CASE 1569 In the matter of the hearing called by the
Oil Conservation Commission on its own
motion to consider the promulgation of an
order prohibiting the flaring of casing-
head gas from oil wells in San Juan, Rio
Arriba, McKinley and Sandoval Counties,
New Mexico.

BEFORE:

Edwin L. Mechem
Murray Morgan
A. L. Porter

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

MR. PORTER: Next case on the docket, Case 1569.

MR. PAYNE: Case 1569. In the matter of the hearing
called by the Oil Conservation Commission on its own motion to con-
sider the promulgation of an order prohibiting the flaring of cas-
inghead gas from oil wells in San Juan, Rio Arriba, McKinley and
Sandoval Counties, New Mexico.

MR. COOLEY: If it please the Commission, I am William
J. Cooley, appearing on behalf of the Commission. I have one wit-
ness I would like to have sworn.

(Witness sworn)

MR. PORTER: Mr. Cooley, before we proceed with this

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witness, I would like to ask for other appearances in this case at this time.

MR. WHITE: If the Commission please, I am Charles White of Gilbert, White & Gilbert, Santa Fe, New Mexico, appearing on behalf of Sunray Mid-Continent and Skelly Oil Company. If the Commission please, at this time I would like to have permission to have associated with me in this case two Tulsa, Oklahoma attorneys, Mr. William Loar, representing Sunray Mid-Continent, and George Sellinger, one of the attorneys for Skelly.

MR. KELLAHIN: Jason Kellahin, Kellahin & Fox, Santa Fe, New Mexico, appearing on behalf of the Amerada Corporation and Phillips Petroleum Company.

MR. VERITY: George L. Verity, Farmington, appearing for Rex Moore and Vincent Montan.

MR. NEWMAN: Kirt Newman of Atwood & Malone, Roswell, New Mexico, and Guy Buell from Fort Worth, Texas, appearing for Pan American Petroleum Corporation.

MR. CLARENCE HINKLE, Roswell, New Mexico, appearing on behalf of the Humble Oil & Refining Company.

MR. SPERLING: James E. Sperling, appearing on behalf of the British American Producing Company.

MR. SETH: Oliver Seth, El Paso Natural.

MR. SPANN: Charles C. Spann, El Paso Products.

MR. PORTER: Mr. Cooley, you may proceed with your witness, please.

DAN NUTTER,

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

DIRECT EXAMINATION

BY: MR. COOLEY:

Q Will the witness state his name and position, please?

A Dan Nutter, chief engineer, Oil Conservation Commission.

Q Mr. Nutter, are you a graduate petroleum engineer?

A Yes, sir, I am.

Q Would you state from what school you received your degree and what your background is?

A I hold a degree in petroleum engineering from the New Mexico School of Mines. I received this degree in the winter of 1951. Subsequent to receiving my degree, I went to work for Phillips Petroleum Company, worked for that company until I received -- or I worked for that company in Texas, Kansas and New Mexico. I resigned and came to work for the Oil Conservation Commission September the 1st, 1954, and have been here since.

Q Are you generally familiar with conditions regarding production in northwest New Mexico?

A Yes, sir, I am.

Q Mr. Nutter, Case 1569 was called on the motion of the Oil Conservation Commission to consider the promulgation of orders prohibiting the flaring of gas in San Juan, Rio Arriba, McKinley and Sandoval Counties, New Mexico, which I will refer here to as

San Juan Basin. Have you made a study of casinghead gas in San Juan Basin?

A Yes, I have.

Q Have you been able to determine the total quantity of casinghead gas that is presently being produced in the San Juan Basin?

A Yes, I have. According to the calculations which I went through well by well, for every well in the San Juan Basin, I estimate that approximately forty million cubic feet of casinghead gas is produced per day at the present rate of allowable.

Q Mr. Nutter, how did you obtain that total of forty million?

A I used the allowable for the wells times the official gas-oil ratio as reported by the operators to the Commission during the ratio tests last summer.

Q Then, for the sake of clarity, the figure that you have come up -- the forty million, would be the amount of gas that would be produced incidental to the production of all oil wells, oil allowable?

A That's correct.

Q Was there any other method available to you, Mr. Nutter, by which you could have computed the amount of casinghead gas being produced in San Juan Basin?

A There actually isn't. Unless you have a meter on each lease measuring the output at the separator, any calculation of

produced gas has got to be based on the gas-oil ratios. We had available to us the amount of gas that is produced as reported by operators on the C-115's. However, I did not use that particular figure inasmuch as all operators have not reported casinghead gas, and it would be an incomplete figure if I were to use that.

Q Then, do you feel that a mere summarization of the amount of gas that is reported to the Commission as having been produced on Form C-115 would be an inaccurate figure?

A Yes, it would be.

Q Do you feel that the method of calculation which you have used will bring us to a more accurate figure, the most accurate figure that we could arrive at?

A Yes, I believe it is a reliable figure.

Q Mr. Nutter, I call your attention to a map placed on the bulletin board which has been marked for identification as Commission's Exhibit 1, in Case 1569, and ask you to explain the symbols, colors, circles and other matters shown thereon.

A Yes, sir. We have --

Q What is the general area first covered by the map?

A The general area covered by this Exhibit is the northernmost portion of Sandoval County, all of Rio Arriba County, and all of San Juan County. All of the oil wells that are in the basin are included in the area covered by this map with certain few exceptions which lie south of the map. The amount of gas that is produced by the pools and the wells which are not on the Exhibit is a negligible

amount of gas, and I didn't feel that it would even be worth while to clutter up the room with a big map with no more gas than would be shown by that other Exhibit. We have depicted by a colored dot all the wells which are classified by the Commission as oil wells in the San Juan Basin. The red dots indicate wells for which no -- our files do not reflect any use of the gas for those wells. I realize that in some instances a portion of this gas is used on the lease. Those are the red dots. The blue dots are wells for which we have no reported GOR. Some of them are brand new completions, and the GOR's have not been filed yet. Some of them, I think, are next to being dry holes, and the operators have never filed 116's on them. At any rate, the blue dots are not included in this calculation of estimated gas that is produced. The green dots indicate wells producing gas, which gas is marketed. We have this area here which is marked in -- which is the South Blanco Tolcito Pool. The south is compressed and put into high pressure lines in this area. Area P is the Otero Gallup Pool. The gas is compressed and put into high pressure lines. Area D which is the Gallegos Gallup area, has a few little green dots in it. This gas is put into high pressure lines and at the crossroads of four townships in the central part of the Bisti Pool we have four wells which are producing gas in the LPG pilot area. This gas is reinjected. I believe that covers all of the green dots on the map. There are also quite a number of yellow dots. All of the wells that are represented by yellow dots produce very small amounts of gas and

in most cases it was reported to the Commission as being too small to measure. The circled areas are areas which we felt could be lumped together and studied as a whole, and they are identified on the Exhibit as areas "A" through "M."

Q And to further explain the meaning of the red dots, Mr. Nutter, we must assume, for the purpose of this hearing, for the most part, that gas is presently being flared?

A I believe that is a good assumption to make.

Q Mr. Nutter, I now direct your attention to the area in the upper left hand corner of Exhibit 1 designated as area "A", and ask you to tell the Commission the common source of supply there involved and the amount of gas being produced within the red outline of that area?

A Area "A" is that area of San Juan County that has been designated by the Commission as the Verde-Gallup Pool producing from the Verde formation. The area circled in red, exclusive of the yellow dots and blue dots, is producing 822 MCF per day.

Q Now, Mr. Nutter, would you proceed to the adjacent area marked as Area "B", and tell the Commission what common source of supply that is and how much gas is being produced in that area?

A Area "B" is that pool defined by the Commission as the Horseshoe-Gallup Pool producing from the Gallup formation. The available information that we have indicates that approximately 297 MCF are being produced in the circled area.

Q Will you proceed to area "C" and tell the Commission --

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A Area "C" is a new discovery. As a matter of fact, this is on the docket for creation of this pool today. It is known as the Chimney Rock. It is producing a total of 38 MCF per day.

Q Proceed next to area "D", please.

A Area "D" is the Gallegos-Gallup area, exclusive of the blue dots and the green dots. There is a total amount of gas being produced by the red wells approximating 8,793 MCF per day.

Q Area "E" please.

A Area "E" I call the northern portion of the Bisti Pool. I broke the Bisti in four areas for this study. I call this the northern area on the Bisti Pool, and it is producing 1,906 MCF per day.

Q Area "F".

A Area "F" is the north central portion of the Bisti, and is producing 9,763 MCF per day.

Q Proceed to "G."

A "G" is south central portion of the Bisti, and produces 4,626 MCF per day,

Q Area "H".

A Area "H" is the southernmost portion of the Bisti Pool. The wells are rather scattered in that end and produce only 768 MCF per day.

Q Proceed to area "I."

A Area "I" is classified by the Commission as the Escrito-Gallup Pool and produces a total of 619 MCF per day.

Q Area "J?"

A Area "J" is an undesignated area lying approximately a mile northeast of the Otero-Gallup Pool. There are two wells in area "J", 598 MCF per day.

Q Area "K?"

A Area "K", two undesignated wells producing 69 MCF per day.

Q Area "L?"

A Undesignated area. It is in the Skelly Oil Company's area producing from the Dakota, and makes about 273 MCF per day.

Q Area M is an anomaly as far as the Pictured Cliffs formation is concerned?

A These are the two Pictured-Cliffs oil wells in the basin and produce 98 MCF per day. I mentioned "N" and "P" a while ago. They are not circled, however.

Q Mr. Nutter, in your opinion, are any of the areas "A" through "M", which you have just discussed, that produce such insignificant quantities of gas as to warrant immediate exclusion from any further consideration in this no-flare case?

A Yes, sir, they are. Before going into those areas, however, I would like to state that the areas that lie off of this map in McKinley County and southern Sandoval County, all the wells which are outside the circled areas should be immediately excluded from any further study. We have Rattle Snakes table, Mesa and

Bloomfield, plus a few wildcat wells that are just scattered here and there, which there is no practical way at the present time of gathering the gas, and they should be immediately excluded and no further attention paid to those wells. Now, the circled areas that can be excluded, I believe we can start with area "B," making 297 MCF per day. A good portion of this gas is being used on the lease. It is common knowledge that many of the operators don't have enough gas to run their pump units in area A, that 822 MCF is produced by a lot of wells, the average MCF in there, or the average GOR is very low. I see wells here that are making five, two, seven, eight, three MCF per day. This is a negligible quantity of gas. Any gathering lines in the area would be extremely expensive to build, and until such time as Verde-Gallup is producing a lot more gas than it is at the present time, I don't think we should be too concerned with the small quantity of gas that is being flared in the area.

Proceeding next to area "B," the Horseshoe-Gallup area, we have low GOR in there. There is one that has three MCF per day production. It is a top allowable well, too. Some of them are negligible quantities of gas. I believe that considering the amount of gas that is used for operation of the lease in Horseshoe as compared to the amount of gas that is produced, that it should be excluded.

Area "C" is the little Chimney area with 38 MCF. I don't think anyone would want to lay a line very far for that.

MR. PORTER: Mr. Nutter, may I interrupt just a minute? What was the total production from the Horseshoe-Gallup which you previously gave?

A 297 MCF.

MR. PORTER: Thank you.

A Skipping on down to area "K" where two wells are rather widely scattered, being about two miles apart, and producing 69 MCF, I think that this could be eliminated. Area "M" where the Pictured Cliffs wells are making 98 MCF a day, should be excluded.

Q Now, as a resume, you have recommended exclusion from consideration of areas "A," "B," "C," "K," and "M," is that correct?

A That is correct.

Q Mr. Nutter, it would appear that certain other areas such as area "I," "J," and "L" produce small quantities of gas likewise. Why are they not being excluded?

A Let's take "I" first with 619 MCF of gas per day. There is a possibility that this quantity of gas, if it were gathered and put into lines, would pay for the compression facilities and the lines. I believe that this area should be the subject of further study.

Q What is its position, the position of area "I" relative to gas gathering facilities in the area?

A It is several miles from the nearest gas gathering facilities. Not only would the gathering lines have to be laid, but a truck line to the nearest facilities would also have to be

extended.

Q Then, why was area "J" not excluded, with only two wells?

A Area "J" is producing almost 600 MCF per day and is only a mile away from existing facilities which are compressing gas. I believe that it will be economically feasible to put this gas in with the Otero-Gallup gas. However, until a cost analysis is made, I suggest that this just be continued for further study.

Q Now, is the adjacent gas gathering facilities and compressing facilities to which you referred, the green area marked "p?"

A Yes, sir, that is the Otero-Gallup Pool. These two wells are a mile from that.

Q Thank you. What about area "L?"

A Area "L" is producing 273 MCF of gas per day. It is in an area where there is high pressure gathering facilities for the gas pools up there, and this gas could be put in with a high pressure gas if compression facilities were installed. I suggest that a cost analysis be made of this area to determine the feasibility of it.

MR. PORTER: Mr. Nutter, do you have an idea of how far it is to the high pressure system that you are talking about?

A Well, there are gas wells in the immediate area. Half a mile away there is a gas well.

MR. PORTER: Within two miles?

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A Yes, sir. Of course, the lines will probably have to be enlarged to handle the additional gas, or may have to be, let's put it that way. That is the reason for the cost analysis.

Q Then to summarize, is it your opinion that areas "I," "J," and "L" as shown on Exhibit 1 should be given further detailed study to determine whether -- the feasibility of gathering the gas in that area?

A Yes, sir, I believe a thorough cost analysis should be made for those areas.

Q Mr. Nutter, is there any area shown on Exhibit 1 which, in your opinion, presently produces sufficient quantities of casing head gas to warrant the immediate construction of gas gathering facilities?

A Yes, sir. While I haven't had the facilities to make an accurate analysis of the cost of the gathering facilities and so forth, I am sure that it is economically feasible to gather the gas in the areas marked "D," "E," "F," "G," and at least a portion of "H."

Q What is the total gas produced in those five areas, Mr. Nutter?

A Total gas produced in those five areas is almost twenty-six million cubic feet per day.

Q Mr. Nutter, do you have any idea of what the going price for casinghead gas would be in that area?

A Well, it's all according to the individual contract.

At the very minimum of ten cents per MCF -- well, first let's take this twenty-six million cubic feet per day that's produced, and we'll have to exclude at least ten percent of this as lease use gas. This is a high figure for some operators; it is a low figure for other operators. I believe the ten percent figure is a pretty fair average, however, for the pool as a whole, and if we take off about twenty-six hundred MCF per day for lease use, we have remaining about twenty-three million cubic feet per day. I think that gas prices range in the Four Corners area from ten cents to twenty-one cents. If we were to convert this amount of gas that is being flared into a dollars and cents value, we come up with a figure of anywhere from twenty-three hundred dollars to forty-eight hundred dollars worth of gas per day that is being flared from these five areas.

Q Do you have any other indicia, Mr. Nutter, which would lead you to believe that it is feasible to construct gathering facilities in areas "D," "E," "F," "G" and "H?"

A Oh, I think that it is evident that it is feasible inasmuch as one of the larger gas companies in the country has made application to the F.P.C. for the authority to build these facilities. I believe the gas company would have probably made the analysis of whether the gas could be gathered economically and practicably before they put in this application.

Q In conclusion, then, Mr. Nutter, with regard to these areas, is it your opinion that the gas being flared in those areas

is preventable waste?

A I believe it is preventable waste, yes.

Q What are some of the methods by which this waste could be prevented, Mr. Nutter?

A Well, there might be three ways of doing it. You could store the gas after you produce it, but that is not a very practical solution. You could market the gas, or you could reinject the gas, store it in the ground.

Q Is there also another method of preventing this waste, Mr. Nutter?

A Yes, sir.

Q What would that be?

A That would be curtailment of the production.

Q Until such time as gathering facilities are constructed?

A Gathering facilities or compression facilities or reinjection facilities.

Q Do you have any recommendation as to what course of action, which of these alternatives the Commission should take in this regard?

A No, I haven't. I think that's the Commission's problem, and I don't feel really qualified to say which of these various alternatives would be the best.

Q Do you have anything further that you would like to present in a general way in this regard, Mr. Nutter?

A I don't believe so.

MR. COOLEY: That concludes our witness' testimony, Mr. Commissioner. I would like at this time to introduce Commission's Exhibit 1 in Case 1569, which according to the testimony of the witness, was prepared by him under his supervision.

MR. PORTER: Any objection to the admission of the Commission's Exhibit No. 1? It will be admitted. Any questions of Mr. Nutter?

MR. KELLAHIN: If the Commission please, I would like to ask the witness one question.

CROSS EXAMINATION

BY: MR. KELLAHIN:

Q In computing the amount of gas which is being produced, as I understand, you took the allowable and multiplied it times the GOR, that's the basis of your calculation?

A Yes, sir.

Q That would actually be a maximum figure, would it not?

A Yes, sir, and it might be a minimum figure too. In some instances the GOR's have increased since the GOR test was taken last summer.

Q The most recent GOR is from last summer?

A Yes, sir, in most cases.

Q But assuming that many of the wells in the area do not make their allowable, then it would not be a realistic figure to that extent?

A If the well were not producing its allowable, it would

probably be a little high, providing the GOR would be constant.

Q Any increase in the GOR would probably be counter-balanced by production of the well?

A Yes, sir. In many cases, yes, sir.

MR. VERITY: Mr. Nutter, I believe you said that part of "H" was in the area that you recommended something immediately be done about. Would you tell us about it and explain that for us, please?

A Well, there are five wells in the extreme northeast portion --

MR. COOLEY: Northeast?

A Northwest portion of "H," which if area "G" is considered -- has to be with "G." Perhaps balloon No. "G" should have extended a little further. Then there is another cluster of five wells in Sections 8, 9 and 17 of Township 24 North, 9 West. I believe that these should also be considered in the Bisti as part of the Bisti as a whole. The remaining five wells are scattered and should probably receive very serious consideration before anything is done on them.

Q I wonder if it would be possible for you, for the Commission to furnish either a description or a map that would designate descriptions in these areas that you are referring to --

A You mean these five wells --

Q -- so that we can know.

A The five wells that I just referred to that are scattered --

Q Yes, and also "F" and "G" there.

A Well, I can describe these various balloons at the points they are tied to.

Q All right, if you would, that would be fine.

A The north portion of the Bisti Pool is designated as area "E." The northernmost well, which it takes in, is a British American Well located in the SW/4 of the SE/4 of Section 13, Township 26 North, 14 West. Balloon No. "E" extends down to and includes all of the wells from there southeast, from this British American Well, southeast to the LPG pilot area. All the wells in Section 36 of 26 13 are included in "E." All of the wells in Section 1 of 25 13 are included in "E" with the exception of a well in the NE/4 of the SE/4 of Section 1. Balloon "F," takes off where balloon "E" leaves off and takes in all of the wells in the Bisti Pool west of the line which divides Township 25 North, Range 11 West into the east half and the west half. That's a hard description to follow, I grant you. "G" commences at that point in the middle of Township 25, 11, and goes down and includes all of the wells west of Section 2, and including the wells in Section 2 of Township 24 North, 10 West. Balloon "H" includes the wells in Sections 1, 12 and 13 of Township -- correction -- balloon "H" includes all the wells in Sections 1, 12 and 13 of Township 24 North, Range 10 West, and extends southeast to and including the wells located in Sections 19 and 30 of Township 24 North, 3 West.

MR. PORTER: Anyone else have a question of Mr. Nutter? I don't think he thought he would get off this light. The witness

may be excused.

(Witness excused)

MR. PORTER: Anyone else have further testimony to offer?

MR. SETH: If the Commission please, El Paso Natural Gas Company intended to make a statement from the floor in this case, but in view of the fact that the statement contains considerable amount of fact material, we thought the Commission would prefer it be given under oath.

MR. PORTER: The Commission would prefer.

MR. SETH: We would like to have Mr. Woodruff give a statement under oath. We don't intend to put in a case under any sense, but just a statement.

(Witness sworn)

F. NORMAN WOODRUFF,

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

DIRECT EXAMINATION

BY: MR. SETH:

Q Will you please state your name and by whom you are employed, Mr. Woodruff?

A My name is F. Norman Woodruff. I am employed by El Paso Natural Gas Company as their manager of gas proration operations.

Q Would you make your statement, please?

A Yes, sir. I am authorized by El Paso Natural Gas Company, which I shall refer to as El Paso, to make this statement on behalf of El Paso.

El Paso has negotiated contracts for purchase of casing-head gas from producers in the Bisti-Gallup and Gallegos-Gallup Oil Pools, jointly referred to as the "Bisti Area" and has signed 28 contracts with producers covering the major portion of casing-head gas produced from the known productive areas in these two pools. These contracts generally are conditioned upon both buyer and seller obtaining from the Federal Power Commission Certificates of Public Convenience and Necessity, in form and substance satisfactory to the respective receiving parties, permitting, in the case of El Paso, the construction, ownership and operation of the facilities necessary for El Paso to receive, process and market gas covered by the contracts and, in the case of the seller, the delivery of gas to El Paso under the provisions of the contract. If El Paso and the respective sellers have not obtained satisfactory certificates by a specified date either has the right to terminate the agreement upon thirty days notice. This date has passed as to some of these contracts and other contracts will soon be subject to termination. El Paso expects to obtain extensions of time from the producers. The contracts contemplate delivery at a pressure of 15 psig and reserve to the producer the right to use his share of residue gas for lease use and for pressure maintenance, repressuring and gas lift operations. El Paso does not

currently have information concerning the volumes which will be reserved by the several operators. The volumes used for these purposes will depend upon studies now being made.

El Paso's estimates filed with the Federal Power Commission under Docket No. G-15696 project casinghead gas production subsequent to January 1st, 1958 of 210.5 billion cubic feet from the Bisti Pool and 70.1 billion cubic feet from the Gallegos Pool. El Paso's contracts do not cover this entire quantity.

On July 29, 1958 El Paso filed with the Federal Power Commission an application under Docket No. G-15696 for a Certificate of Public Convenience and Necessity to deliver gas to Pacific Gas and Electric Company. The application sought approval for facilities necessary to commence deliveries of 100 million cubic feet per day on November 1, 1959, including 15 million cubic feet per day from the Bisti Area as a portion of the gas to be marketed. This will require construction of field gathering facilities, field transmission pipelines and expansion of the Company's Chaco Gasoline Plant and Chaco Compressor Station as well as additional compression, gathering and transmission facilities in other portions of the Company's system. Estimated cost for the entire project is \$47,270,000.00, of which the cost of facilities necessary to gather, process and compress casinghead gas for delivery into the pipeline in the Bisti Area is approximately 5 million dollars.

On November 13, 1958, pursuant to a request made by El Paso, Federal Power Commission granted temporary authority to El

El Paso to build facilities designed to take and process approximately 10 million cubic feet of casinghead gas per day from the Bisti Area at a cost of approximately 4 million dollars. So far as the Company is aware no request for temporary certificate has been made by any operator.

On November 20, 1958 Federal Power Commission advised El Paso that the Special Subcommittee on Legislative Oversight of the House Committee on Interstate and Foreign Commerce has questioned the Commission's action in issuing temporary certificates as being contrary to the provisions of the Natural Gas Act. A copy of the Federal Power Commission letter is attached to this statement. Upon receipt of this information El Paso's management determined that it should not at this time proceed with construction of facilities under a temporary certificate.

There are many questions to be answered prior to commencement of construction work for El Paso's facilities. The volumes of casinghead gas that will be available for extraction of liquids and the volumes of residue gas which will be available for the pipeline will depend upon determination as to methods of unit operations and secondary recovery projects which are now under study. The capacity and cost of the facilities to be constructed will depend upon the volumes available and the times when such volumes will be available. Faced with these uncertainties, until permanent certificates be issued, El Paso can not give firm assurance of the date when facilities will be built and ready to take casinghead

gas from the Bisti Area.

That concludes the statement on behalf of El Paso Natural Gas Company.

MR. PORTER: Anyone have a question of Mr. Woodruff concerning any portion of his statement? You may be excused.

(Witness excused)

MR. PORTER: I would like to make an observation as far as it relates to conservation of gas. Maybe this committee was well named, Legislative Oversight Committee.

Anyone else have any statement? Mr. Loar.

MR. LOAR: If the Commission please, I am William L. Loar with Sunray Mid-Continent Company. I would like to make a statement concerning the Bisti Field, if I may.

MR. PORTER: Yes.

MR. LOAR: Sunray Mid-Continent is an operator of the Bisti-Gallup Oil Pool. In July of 1957, following several operators' meetings, we filed an application to inject LPG followed by dry gas into a well drilled at the intersection of Townships 25 North, 26 North, Ranges 12 and 13 West. Pursuant to the hearing in July, the Oil Conservation Commission granted the necessary approval. In August of 1957 LPG was injected into the well followed by the injection of dry gas. Since that time Sunray Mid-Continent, as operator, has been injecting gas into that well. It should be especially noted that this project was participated in by Phillips, El Paso, British American, Shell and Sunray Mid-Continent. Many

operators donated engineering and other types of technical advice. All of the gas produced in the pilot project is being utilized in the operation of the project or injected in the reservoir. The pilot project is still being evaluated and is performing in accordance with our initial engineering project. Sunray engineering is quite pleased with the LPG gas injection. We believe this is a feasible means of recovering oil from the Bisti Lower Gallup Oil reservoir, which might not otherwise be recovered. During this same period Sunray Mid-Continent and the other operators in the Bisti Field west of the Carson Unit have been conducting engineering studies in preparation toward unitization. One of the reasons it has taken so long is that the constant development and addition of new wells during that time have made the engineers review their study periodically.

On December the 4th, 1953, early this month, a meeting was held in our office in Tulsa to discuss unitization, and the engineering report at that meeting partly agreed upon a participation formula for the area east of the township line between Ranges 12 and 13 West, and west of the Shell acreage immediately west of the Shell Carson Unit. Operation agreements are being prepared and will be submitted to the operators soon for their study and consideration. In connection with this, Sunray Mid-Continent will recommend to the operators that LPG -- that an LPG gas injection program be adopted for this unit, and it would necessarily follow that we would recommend, and the operators would utilize all the gas currently produced.

On December 10th, 1958, last week, the Oil Conservation Commission, upon the application of Sunray Mid-Continent, held a hearing at which time we requested permission to inject the gas produced on our Federal C lease consisting of approximately 2,000 acres into the Lower Gallup formation in our Federal C 18 Well. The order has not been issued yet. We have, however, constructed a gas gathering system to serve this lease, connecting, I believe, all of the tank batteries and tying them in, into what we hoped to be the approved initial injection well. The compressor to inject this gas is on order and delivery is expected sometime this month. We have done all this, of course, on the assumption that the Commission will grant the order we have requested. It was our proposal, that pending unitization of this area, that gas should be injected to conserve the gas and help maintain reservoir pressure. Now then, for the area commonly referred to as the southeast Bisti, which would encompass a portion of "F" and maybe a portion of "G" on Mr. Nutter's Exhibit No. 1, an engineering committee meeting has been called for January 9 at our office in Tulsa. Now, we have attempted to invite every operator that is within the area that the Commission has designated within the Bisti Pool in that area. The purpose of this meeting will be to continue assembling data and commencing engineering study to determine the feasibility of unitization and secondary recovery operation. It is then anticipated that the operators in the southeast Bisti area will benefit by the experience gained in the northwest Bisti area, and their efforts will proceed

rapidly. In the southeast Bisti area Sunray Mid-Continent and Sinclair, who is a working interest owner in the wells they operate there, are currently negotiating with El Paso for disposition of their gas in that area pending unitization. It should be kept in mind, we believe, that the Bisti Field is a relatively new field, and development has been going on constantly since the discovery well was completed in, I believe, 1956. Sunray Mid-Continent believes that the operators in the entire Bisti Field have been diligent in their efforts to conserve gas and to get secondary recovery operations underway. If the Commission desires any information, any additional information, we will submit it in writing, or we will make a qualified witness available.

MR. VERITY: George Verity appearing on behalf of Rex Moore. Mr. Moore is interested in the southeast Bisti area, and I would like to make a statement for him to the effect that he has signed a contract with El Paso Natural, who, as you have already heard, is endeavoring to conserve and take the casinghead gas in this area. In addition to that, at the present time he is conducting an engineering survey to inject his own seven wells and further locations that he has to be drilled, and desires and will certainly cooperate in every way with other operators in the area to work out any unitized program. But, in his behalf, I want to urge upon the Commission the fact that these studies can't be made just over night, and I am sure that Mr. Nutter of the Commission has not drawn his conclusions quickly or in a

matter of days. And I would like to point out that it takes time to collect all the data and make the proper studies and to go into these matters, and we, in his behalf, I certainly would urge upon this Commission that they not make a ruling until such time as we have an opportunity to present evidence following conclusions based upon proper engineering and factual studies.

MR. PORTER: You are moving for a continuance of the case, Mr. Verity?

MR. VERITY: Well, on behalf of Mr. Moore I am certainly moving we be given an opportunity at a later date after he can draw proper conclusions to present his conclusions on the matter, yes, sir.

MR. SELINGER: If the Commission please, George W. Selinger for Skelly Oil Company. Unless the Commission gets the erroneous idea that the meager efforts of the operators for secondary recovery and LPG insertion into the reservoir is the sole answer, I want to quickly dispel that because it is impossible to dispose of all of the huge volumes of gas by that method. The use of gas injection and lease operation use is just a small part. Eventually, a market will have to be ascertained and given for this area. It should likewise be quite obvious to this Commission, as well as the industry as a whole, that the dilemma we are in now is purely the working and machination of the FPC in its confused stage in trying to determine its own jurisdiction and authorization. I want to speak not only on behalf of the state but the industry. We know not

whither we go. Because the FPC had jurisdiction for temporary permits, it finds it is now being questioned by Congress, so that the purposes of the industry for secondary recovery projects and for unitization is only its part of trying to aid the state in trying to work out something which the state itself is powerless in view of the FPC action, so eventually we will have to be faced with a matter of finding a market and disposing of it. El Paso, as a possible market for the basin, has been magnificent in its cooperation with not only the state but the industry. We, therefore, think you cannot really, purely on the experimentation that the industry is doing now with respect to secondary recovery and gas injection, because obviously the huge volumes of gas cannot all be put back into the ground. Such a path taken by the state would actually impede the progress of the industry in its studies of such a project rather than aid it. So, I for one, would beg the Commission not to be hastily stampeded into thinking that that is the sole answer for our problem, and it isn't. Most operators, including Skelly, have signed contracts with, and dedicated their acreage with El Paso. The industry has done all it can. The state can aid up to a certain point, and then it gets beyond even your jurisdiction. So that we think that rather than hasty action, we believe, like Mr. Verity, that we should be a little cautious about how we proceed, and probably in the next three or four or five months we may get an answer as to the FPC dilemma, so we would recommend that, and I believe in the preliminary studies between El Paso and some other producers and operators, some anticipation was

made as to, or prognostication, as to a light around March. We would suggest that the Commission postpone this hearing to the March series of hearings and that the recommendation that Mr. Nutter made with respect to certain pools for further study be carried into effect now. For example, on area "L" which happens to be two Skelly wells in the Dakota, oil wells, the information he has is already outdated. The volume of gas is beyond half of the 279,000 cubic feet that his study is based on, and instead of flowing wells we have pumping wells, and I think by March we'll have sufficient information with respect to the three pools that he has recommended for further study, and we may see some gleam of light down the road as to what the FPC and Congress is going to do by March. So we would suggest to the Commission that the matter be continued to March and the efforts that Mr. Nutter referred to with respect to the various other fields be carried forward.

MR. SPERLING: If the Commission please, on behalf of British American, we have not prepared any formal statement, but we do have some information as to what British American has done and what they contemplate doing with reference to disposal of gas. I think this information will be of interest. Incidentally, the information collected, presented to me, I believe, represents more current information than that available to Mr. Nutter in the course of his study. Now, the area in which British American is primarily concerned is the area designated as "E" on the Exhibit. British American operates thirty-two wells in that area, and immediate opera-

tors, that is, offsetting operators in that area with substantial holdings which include Skelly and Phillips. Present total gas production from the British American leases in the area designated as "E" is 46,330 MCF per month, of which lease use requires 3,300 MCF leaving for disposal either by injection or sale 43,030 MCF per month. British American presently is carrying on an LPG injection pilot project, and in the course of this project is utilizing 12,300 MCF per month. That represents 29 percent of the total gas available for disposal which is presently being used in the injection system.

There is pending before the Commission an application for an injection system which it is anticipated will utilize 16,000 MCF. This volume represents 37 percent of the total gas available, and the combination of the two projects represents a utilization of 66 percent of the total gas produced from these leases. In other words, 66 percent will be produced back into the Gallup reservoir. As a part of the pending application, the Commission has been requested to expand the system administratively in the event that the studies and information which is obtained from the operation of the project warrants such an expansion. If the success of the project is notable, substantially all of the gas presently produced will be used in connection with the injection system. In addition, British American has entered into negotiations with El Paso Natural for the sale of the casinghead gas, depending, of course, upon the volumes that are available. The form of the con-

tract is substantially in its particulars as recited by Mr. Woodruff.

I certainly concur with Mr. Loar's statement to the effect that the operators in the area have been diligent in their efforts to conserve this gas. Now, presently negotiations are under way for the formation of a unit in the area designated as "E." On December the 4th a meeting was held for the purpose of discussing the initial details, and an engineering committee was formed at that time. It is anticipated that British American will be the operator of this unit, and certainly the engineering reports which come as a result of the study will be of great assistance to everyone concerned in making a wise decision concerning utilization of this gas. Thank you.

MR. BUELL: May it please the Commission, I am Guy Buell for Pan American Corporation. Pan American is the operator of five wells in the Bisti Pool, and three wells in the Gallegos Pool. Casinghead gas from these wells are consigned to El Paso. In the interest of saving time, I generally concur in the statement of Skelly.

MR. KELLAHIN: If the Commission please, I am Jason Kellahin for American Petroleum Corporation and Phillips Petroleum Company. We appreciate the concern of the Commission over the amount of gas which is being vented or flared in the two pools involved. According to Mr. Nutter's recommendations and the figures given by Mr. Nutter, they indicate that the Commission is properly concerned. However, we would like to point out that, in our opinion,

a shut-in order which would be the result of a no-flare order on the part of the Commission is far too drastic a recommendation for the Commission to consider at this time. There have already been statements made which show that the operators have been quite diligent in seeking to prevent waste of the gas in the two pools. In addition to those cases, which are pending before the Commission at the present time, which were mentioned by Mr. Loar, I would like to also mention the cases which the Commission heard, I believe it was last month, and referred to the Gallegos Pool whereby the operators were seeking an order for interrupted production of oil in order to prevent the production of excessive amounts of gas, and throughout the operation of these two pools the operators have been quite diligent in seeking to achieve a beneficial use of the gas through reinjection and through seeking markets and by other means which have already been mentioned.

Some waste, of course, is inevitable in the operation of any oil pool. The only way to prevent waste is just not to produce the oil, but at that stage it becomes a matter of degree and what is the most beneficial for the operation of the pool.

We feel that pending further study and an opportunity to secure a market, which is diligently being sought, the pool should be continued under present operations, or, at best, if the Commission feels something must be done, that perhaps restricted production, but no further than that. We do not favor restricted production, we do not think it is justified, but we certainly think that a no-

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Flare order is indicated by the Commission on these two pools. The situation is quite different from that which occurred in other areas where a shut-in order was issued, as the Commission well knows. In the first place, our production is subject to proration and the volumes of gas are held down on account of the restricted production in the pools. The industry with the consent and approval of the State Federal Regulator Bodies are continuing to seek a beneficial use of all the gas that is being produced, and Amerada Petroleum Corporation is participating with Sunray Mid-Continent in an attempt to form a unit which would take care of large volumes of gas that are being produced in that particular area. Insofar as Phillips is concerned, in the Bisti Field Phillips has leases on a thousand nine hundred twenty-one acres, and operates nine wells on three leases; in addition, have an interest of eight wells in the Carson Unit. And on October 22, 1958 Phillips made a gas sale contract with El Paso which is the most logical market in the area, and they have applied to the Federal Power Commission for certificate to sell this gas. They have done all that is possible for them to do at this stage in obtaining a market and pending the approval by the F.P.C. and the installation of gathering facilities on the part of El Paso on their receiving approval from the F.P.C.; there is nothing more that can be done in the way of obtaining a market.

We join with the suggestion which was made by Mr. Selinger that a further study be given to this matter and the case be held

open until the March hearing.

MR. HINKLE: If the Commission please, Humble Oil & Refining Company would like to endorse generally the statements which have been made here. I don't think the situation warrants any hasty action by the Commission. It's evident that it is going to take some time for the Federal Power Commission to act, and even after it is acted upon favorably, it will take some time for El Paso to build the gathering system. I would like to amend Mr. Selinger's motion that this case be continued until next June.

MR. PORTER: Anyone else have a statement?

MR. MANKIN: I am Warren Mankin representing Aztec Oil & Gas Company. Aztec generally concurs with the findings which Mr. Nutter has formulated from his study. Essentially, we, as many operators, have failed in the past to indicate the amount of gas actually produced from a lease, the amount used on a lease and the amount thus flared. We have taken care of that situation, and we understand that other operators have done so immediately, so that the Commission might have more current information to thus indicate what amount of gas is being actually flared from these oil wells. We concur in such recommendations made by Mr. Nutter that a pool like Verde-Gallup should be excepted. We, as one of the major operators in this either operate or have interest in some twenty-four wells in that particular pool, and generally we are in agreement that those ratios are low and are not economical to complete, and that these and many other pools need further study, and we concur that

this should be continued and not heard until at least the March hearing.

MR. PORTER: The Commission will deny the motion for continuance to June, but we will grant the motion for continuance to March, at which time the case will be brought up again, and our own witness will be expected to give us more current information, whatever is available at that time. The operators will be expected to review their efforts toward both securing a market and the re-injection of gas. Case is continued until March 18, 1959, which is a regular hearing date.

STATE OF NEW MEXICO)
: ss
COUNTY OF BERNALILLO)

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

WITNESS my Hand and Seal this, the 30th day of December 1958, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph A. Trujillo
NOTARY PUBLIC

My Commission Expires:
October 5, 1960

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE NO. 1569

TRANSCRIPT OF HEARING

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

March 18, 1959

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

The hearing called by the Oil Conservation Commission on its own motion to consider the promulgation of an order prohibiting the flaring of casinghead gas from oil wells in San Juan, Rio Arriba, McKinley, and Sandoval Counties, New Mexico.

CASE NO.
1569

BEFORE:

Mr. A. L. Porter, Jr.
Mr. Murray Morgan

TRANSCRIPT OF HEARING

MR. PORTER: Take up next Case 1569.

MR. PAYNE: Case 1569. In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider the promulgation of an order prohibiting the flaring of casinghead gas from oil wells in San Juan, Rio Arriba, McKinley, and Sandoval Counties, New Mexico.

Mr. Commissioner, we propose to move for a continuance of this case, but prior to doing so, I would like to call Mr. Nutter to the stand to give you his views and comments on this matter.

MR. PORTER: In all probability Mr. Nutter supports the Commission's application. Mr. Payne, the Commission will hear

Mr. Nutter before ruling on the motion for continuance. Mr. Nutter, will you come forward.

(Witness sworn.)

DANIEL S. NUTTER

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

DIRECT EXAMINATION

BY: MR. PAYNE:

Q Will the witness please state his name and position.

A Daniel S. Nutter, Chief Engineer for the Oil Conservation Commission.

Q Mr. Nutter, are you familiar with the case in question?

A Yes, I am.

Q Would you please give the Commission whatever comments and/or recommendations you might want to make at this time?

A I would like to first summarize the action that has taken place in Case 1569 prior to this date. In December, 1958, a hearing was called for the purpose of considering the promulgation of an order prohibiting the flaring of gas in the San Juan Basin. At that time we testified that approximately forty million cubic feet of casinghead gas was being produced in the Basin. We have no reason at this present time to believe that this figure was unreasonably high nor unreasonably low. The volume of gas, as a matter of fact, may be greater at this present time than it was in December. There are currently being

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taken GOR tests in the Basin. We expect to have all of the tests completed by the, and reported, by the end of May. At the December hearing we suggested that there were four alternatives which could be followed as far as the flaring of casinghead gas in the Basin is concerned. The first alternative would be to flare the gas, the second would be to store or reinject the produced gas, the third alternative would be to market the gas, and the fourth would be to curtail the production of the oil so that you won't have any gas. Now, according to the statement that we heard at the hearing, the third mentioned solution to market the gas was desirable but not immediately likely with a good share of the responsibility for this lying with the Federal Power Commission for not having granted permanent certification for gathering, transporting, processing, and marketing the casinghead gas. There were also statements to the effect that a share of the responsibility rests with the special Sub Committee on Legislative Oversight of the House Committee on Interstate and Foreign Commerce. It seems that this Oversight Committee questioned the propriety of the FPC in granting temporary certificates for marketing, processing, and storing gas.

Since the hearing in December, there have been certain changes in the situation as far as the amount of gas that is being flared is concerned. Two operators are currently operating gas injection projects, repressuring the Lower Gallup sand and the Bisti Pool. One operators has filed application for permission

to inject the gas in the Bisti Pool. This case was previously set for hearing February the 4, 1959, and was continued. It is now set for hearing on March 25. It is my understanding also that certain discussions have been under way which when concluded will result in gathering and transportation facilities being built, and operated for the issuance of any permanent certificate by the FPC. I believe that in view of the progress which has been made to date, and which undoubtedly will be made between now and the regular hearing in June, also in view of the fact that these GOR tests will be completed and reported by May, which will give us time to analyze them, that this case should be continued to the regular June hearing. It is my belief that at that time the case should be heard to conclusion if at all possible, and that a permanent order be issued as far as the pools that were considered critical. We will recall that certain of the areas were excluded; certain of the areas were just determined necessary for further study, and certain other areas were considered critical in the amount of gas that was being produced and flared. I therefore suggest to the Commission that that case be continued to June, and if at all possible, it be heard to its conclusion at that time.

Q Thank you, Mr. Nutter. Do you have anything further?

A No, I haven't.

MR. FAYNE: Mr. Commissioner, I move at this time that this case be continued until the June regular hearing.

MR. PORTER: Before acting on the counsel's motion for a continuance, I would like to hear any other comments that anyone else has concerning the case or any progress reports.

MR. WHITE: If the Commission please, Charles White, attorney, Santa Fe, New Mexico, appearing on behalf of Sunray Mid-continent Oil Company. I have associated with me Bill Loar of Tulsa, Oklahoma, who will give a progress report. I am also appearing on behalf of Skelly Oil Company, and Mr. Selinger of Tulsa will give a progress report.

MR. PORTER: Thank you, Mr. White.

MR. SELINGER: May I inquire a question of Mr. Nutter?

MR. PORTER: Certainly.

CROSS EXAMINATION

BY: MR. SELINGER:

Q Mr. Nutter, you stated the pools now are undergoing gas-oil ratio and bottom hole pressure tests?

A No bottom hole pressure tests have been taken yet, but gas-oil ratio tests are under way, yes, sir.

Q Would you recommend that this hearing be continued until all of the data of all the pools on the gas-oil ratios has been assembled by the Commission staff?

A Yes, sir, the bulk of the tests which are required for the areas that we have determined critical, or we determined critical last December will be in. The reporting date was recently changed from the 15th of the month following the date that the

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test was taken to the 10th of the month. We expect to have the bulk of the tests in by May 10th. I believe this would give us in excess of a month in which to analyze the results of the test by the June hearing.

Q Would it be advisable to have not only the bulk, but all of the information from all of the pools in before the next hearing on this matter?

A Well, it's never possible to have information on all of the wells because you have new wells being completed in certain pools all of the time, and there are sixty days from the date of completion of the well before the first test has to be filed.

Q I have in mind, Mr. Nutter, the memo that the Commission put out which is Memo No. 1-59 in which the deadline filing date for the C-116's are to be in from May 10th through July 10th, and I was wondering whether or not it would be advisable to have this hearing postponed until the July hearing so that all of the information on all of the pools would be in your hands prior to the time this case is brought up again.

A If my memory serves me correctly, Mr. Selinger, some of the pools were lighted for July, so the ones that we determined critical would be reported by May 10th.

Q My only point, Mr. Nutter, was it would be advisable, since this all applies to all of the pools, that all of the information from all of the pools will be in, in time for the continued

hearing in this matter to be heard.

A I can't see the necessity for delaying the time of the hearing to July the 10th when the reports on gas production, or gas-oil ratios in the non-critical areas are the only ones that will be coming in at that late date.

MR. SELINGER: We would like to have made part of this record the Commission Memo 1-59.

MR. PORTER: The Commission Memo 1-59 will be made a part of the record in this case.

MR. SELINGER: That is all.

REDIRECT EXAMINATION

BY: MR. PAYNE:

Q Mr. Nutter, as a practical matter, we all know that a great deal of gas is being flared at the present time in the Bisti Gallup Oil Pool?

A Yes, sir. The Bisti Gallup Oil Pool is producing considerable volumes of gas. I might add also that the Bisti Lower Gallup Oil Pool is due to be reported in May. Another pool that was determined critical is the Gallegos Gallup Oil Pool, which is due to be reported May 10th.

MR. PAYNE: That's all.

MR. PORTER: Mr. Kell.

MR. KELL: I am authorized by Shell Oil Company, which I shall refer to as Shell, to make this statement on behalf of Shell.

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Shell signed a casinghead gas contract with the El Paso Natural Gas Company for the purchase of Shell's Bisti gas production on June 16, 1958, and filed an application with the Federal Power Commission, Docket G-15969, for the sale of this gas to El Paso on August 12, 1958. El Paso filed with the Federal Power Commission on July 29, 1958, Docket 15696, an application which among other things would construct facilities to gather, compress, process, and purchase our casinghead gas production for the Bisti field. Hearings have not been had on these applications to date.

On November 13, 1958, pursuant to a request made by El Paso, the Federal Power Commission granted temporary authority to El Paso to build facilities designed to take and process approximately ten million cubic feet of casinghead gas per day from the Bisti area.

For reasons set forth in a statement by F. Norman Woodruff on behalf of the El Paso Natural Gas Company before this Commission on December 17, 1958, El Paso's management determined that it should not at that time proceed with construction of facilities under a temporary certificate.

Shell, since filing with the Federal Power Commission last August, has been endeavoring to find some economically feasible way of expediting the sale of its casinghead gas production and these efforts were redoubled in the light of aforementioned situation, as explained by El Paso in December.

We are pleased to state that we have just concluded an

arrangement with El Paso in which Shell, to the extent of its own production, is sharing the financial risk with El Paso in proceeding under aforementioned temporary certificate. The arrangement calls for a gas gathering system and compression for the so-called Carson Unit and Shell's adjacent production.

Shell is taking immediate steps to apply to the Federal Power Commission for a temporary certificate to sell the gas to El Paso, and El Paso has agreed to proceed with due diligence to do any and all things necessary in order to purchase Shell's gas under El Paso's temporary authority.

El Paso has advised us that it estimates the compressors will be in operation in 120 days and the pipeline prior to such time. We anticipate these facilities will handle up to 10,000 MCF per day.

MR. HOWELL: Mr. Chairman, Ben Howell for El Paso Natural Gas Company. I would also like to make a statement on behalf of El Paso Natural Gas Company.

I am authorized by El Paso Natural Gas Company, referred to as "El Paso," to make this statement on its behalf. At the December, 1958 hearing, El Paso stated that it had negotiated contracts for purchase of casinghead gas from producers in the Bisti-Gallup and Gallegos-Gallup Oil Pools, jointly referred to as the "Bisti area," covering the major portion of casinghead gas from the known productive areas in these two pools. Said contracts had been filed by El Paso as a part of its application

for a certificate of public convenience and necessity in Docket No. G-15696, wherein El Paso requested, among other things, the authority to construct facilities to gather, compress and process the casinghead gas production for the Bisti area. By order dated November 13, 1958, the Federal Power Commission, in said Docket No. G-15696, granted El Paso temporary authorization to build facilities designed to take and process up to 10,000,000 cubic feet of casinghead gas per day from the Bisti area. A letter from the Federal Power Commission dated November 20, 1958, was filed with the statement. This letter raised the question of Federal Power Commission's authority to grant temporary certificates. In conclusion, El Paso stated that it could not give firm assurance of the date when facilities would be built and it would be able to take casinghead gas from the Bisti area.

At the present time 32 producers have made casinghead gas contracts with El Paso and most of them have filed with Federal Power Commission applications to make sale of casinghead gas pursuant to their contracts with El Paso. The application in Docket G-15696, as it relates to the taking of gas by El Paso from the Bisti area, has been amended slightly by filing of producers' contracts and providing for transfer of compression facilities from El Paso's Chaco Plant into the Bisti field. No permanent certificate has yet been issued.

In the interval since the December meeting El Paso and Shell Oil Company have been engaged in negotiations and have now

reached an agreement providing for their sharing of risks inherent in a temporary certificate in a manner satisfactory to each. While this agreement has not been executed, it is expected to be executed within the next few days. With respect to Shell Oil Company, El Paso estimates 120 days to be the time required to construct facilities in order to take up to 10,000,000 cubic feet of casinghead gas per day, which is the volume presently authorized by the Federal Power Commission in the temporary certificate. It is El Paso's understanding that Shell will require a temporary certificate to sell such gas to El Paso, which request is a prerequisite to El Paso's being able to purchase same.

As soon as the agreement with Shell is executed, El Paso will offer to all other producers who have executed casinghead gas contracts with El Paso an opportunity to enter into the same type of agreement which El Paso has entered into with Shell. As to such other producers, El Paso estimates 120 days from the date of execution of each additional agreement to be the time required to construct the facilities necessary to take casinghead gas from each such other producer. However, as to such other producers, it will be necessary for El Paso to obtain from the Federal Power Commission authorization to allow El Paso to take in excess of 10,000,000 cubic feet of casinghead gas per day from the Bisti area and, in addition thereto, it will be necessary for each producer to obtain a temporary certificate to sell such casinghead gas to El Paso.

MR. PORTER: Thank you, Mr. Howell. Mr. Loar.

MR. LOAR: I am William R. Loar, representing Sunray Midcontinent Oil Company. Sunray Midcontinent is the chairman of the Operators' Committee and Engineering Committee for the proposed Central Bisti Unit and the proposed southeast Bisti Unit.

As we previously reported to the Commission in December, the Engineering Committee's study and the Operators' Committee's study has been going on with success. The agreements for the Central Bisti Unit have been drafted. On January the 16th, 1959, these agreements were submitted to the State Land Office and the USGS. It is my understanding that on February 27th, these agreements were forwarded by the USGS in Roswell to Washington. Right now in Washington our people are meeting with the USGS to review these agreements. On the Southeast Bisti Unit, the Engineering Committee met January 6th through 9th and February 2nd through February 6th. Other meetings are scheduled in the immediate future.

Sunray Midcontinent in the Central Bisti area operates the Federal "C" Lease. The Commission has granted us permission to inject gas, and we are currently injecting gas under this authority. We believe that the operators in these two areas are diligent in proceeding for the formation of units for secondary recovery, which will take care of the casinghead gas problem. We request continuance for approximately six months, hoping that

during this period one of these units will be finalized and we can work out some arrangement with El Paso concerning some arrangement in the area.

MR. PORTER: Anyone else have a statement to make?
Mr. Sperling.

MR. SPERLING: Jim Sperling, appearing for British American Oil Producing Company. By way of a progress report, British American operates thirty-two wells in the Bisti field, and has recently completed the gas gathering system, which was announced as a project in the December, 1958, hearing. As a result of the completion of the gathering system, and the completion of injection facilities, British American is now disposing of 95.4 per cent of the total gas produced from their wells, and that is available either into the Sunray Midcontinent LPG Project, or by reason of its utilization of the compression facilities, which went into operation on March the 14th, 95.4 per cent of the total gas produced is going back into the Gallup reservoir.

MR. PORTER: Anyone else?

MR. SELINGER: Is this just in Bisti, or any other pool?

MR. PORTER: Any pool up there. This case covers the entire San Juan Basin.

MR. SELINGER: George Selinger representing Skelly Oil Company. We were informally elected chairman of this Gallegos-Gallup Gas Pool, which we haven't official accepted, but we felt

someone should make a report to the Commission on the Gallegos-Gallup Pool.

In mid-January, 1958, operators in the Gallegos-Gallup field held a meeting to request an Engineering Committee meeting be held in March, 1958, to formulate recommended field rules and regulations for submission to the New Mexico Oil and Gas Conservation Commission.

This study got under way in May, 1958, and continued through July, 1958. In August, Skelly requested a hearing before the N.M.O.G. C.C. to establish a gas-oil ratio rule for all wells in the Gallegos-Gallup field which was withdrawn by request of some of the operators and purchasers.

In the early part of September, 1958, an Engineering Subcommittee was formed for the purpose of studying increased primary and secondary recovery possibilities through unitization. Since that time this Subcommittee has met continuously, working five days each alternate week, compiling reservoir data.

At the last combined Operators and Engineering Committee meeting held January 28, 1959, the Engineering Committee was charged to compile additional data which has since been completed. At this same meeting Skelly was requested to draft unitization agreements. These are presently being drafted.

An Operators meeting will be held late in March or early April to approve the completed assignment of the Engineering Committee and to attempt reaching agreement on a basis for

unitization, provided it is considered feasible.

Skelly Oil Company has five high pressure, dry gas wells from which gas is being sold to El Paso Natural Gas Products Company. These sales began in February, 1958. All Skelly casinghead gas acreage in the area is dedicated to El Paso N.G.P.C. We understand that other operators in the area have also dedicated their casinghead gas to El Paso; however, El Paso is not taking any of this gas pending the outcome of unitization negotiations.

Under Memo No. 1-59, issued by the O.C.C. to all operators of oil wells in the San Juan Basin and pertaining to gas-oil ratio and bottom hole pressure tests, the Gallegos-Gallup Field 1959 test period is during March and April with deadline filing date of May 10, 1959.

Now, I also want to call the Commission's attention to the statement of El Paso with respect to the difficulties they are having as to temporary or permanent rule by the FPC in which they point out that the agreement with Shell is to be executed, they hope, within the next few days, and that following such approval, El Paso will offer to other producers a similar casinghead gas contract, and that as to such other producers, El Paso estimates a hundred and twenty days from the day of the execution of each additional agreement, so it can be seen by the Commission that a one hundred twenty days period of time is necessary after each of the thirty-two operators have been given an opportunity to see the contract that El Paso has made with Shell, and that

in turn is dependent upon whether Shell and El Paso execute their contract, and that in turn is also dependent upon whether the FPC will approve a temporary or require a permit, so I want to point out to the Commission the fact that the gas industry and the oil industry is faced now with something having to be done, required to be done, hoping to be done by this date, that it is all leading up to the FPC's door, and when that time comes that the wishes of the industry and the wishes of the state can be fully complied with, that is dependent upon the actions of the Federal agency.

MR. PORTER: Thank you, Mr. Selinger. Anyone else have a comment on the case? On Mr. Payne's motion for continuance?

MR. SELINGER: I would like to recommend, Mr. Porter and Mr. Morgan, that this hearing be continued to the July hearing so that all of the information from all of the pools be made available to the Commission and its staff as well as to the industry as a whole.

MR. PAYNE: May it please the Commission, in view of Mr. Nutter's testimony that all the gas-oil ratio tests from the critical areas will be in by May 10th, my original motion to continue until the June regular hearing stands.

MR. SELINGER: Mr. Porter, it was called to my attention that in my original statement reporting on the Gallegos Gallup I said Skelly's acreage was dedicated to El Paso Natural

Gas Products, and the record should be corrected to read El Paso Natural Gas, and not Products.

MR. PORTER: Let the record so show. The Commission will continue the case to the regular hearing on June 17th. We are going to take a ten minute recess at this time, after which we will take up Case 1615.

STATE OF NEW MEXICO)
)
COUNTY OF BERNALILLO) ss

I, Joseph A. Trujillo, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing was reported by me in stenotype and that the same was reduced to typewritten transcript by me and contains a true and correct record of said hearing, to the best of my knowledge, skill and ability.

DATED this 27th day of March, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph A. Trujillo
NOTARY PUBLIC

My Commission Expires:

October 5, 1960

El Paso Natural Gas Company

El Paso, Texas

December 21, 1959

Mr. A. L. Porter, Jr., Secretary & Director
New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Re: Takes by El Paso Natural Gas Company
of additional volumes of casinghead gas
from the Bisti-Gallup and Gallegos-Gallup
Pools, San Juan County, New Mexico

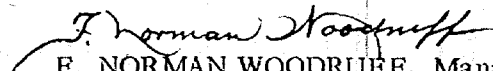
Dear Mr. Porter:

This letter is to confirm my telephone conversation with you last Thursday, December 17, 1959. I advised you that we had received information upon our return to El Paso which had not been available to us at the time we made our statement to the Commission at the December 16th Hearing in which we stated our expectation of completing the Bisti facilities prior to January 1. We were advised that certain compressor and cooling system components were not shipped as scheduled. The result of this failure to ship as scheduled will cause us to be unable to handle additional volumes of Bisti gas until approximately the 15th of January, 1960.

As shipments are received, construction will be immediately commenced and facilities will be placed into operation as construction is completed. Under such procedure, it is possible that some portion of the gas to be handled by the facilities can be taken prior to the January 15th date. We will increase our takes of gas upon the completion of any portion of these facilities which will enable us to do so, and, will advise you immediately of the lease name and battery location from which such increased takes will be obtained.

The conditions discussed above will not affect our completion of facilities to handle Gallegos-Gallup Pool gas. We still expect takes from that pool to commence ten days to two weeks after the first of the year, as you were advised in our statement at the December 16th Hearing.

Yours very truly,


F. NORMAN WOODRUFF, Manager
Gas Proration Operations

FNW:mgs

PHONE MAIN 2-5840
RES. MAIN 2-5363

FRANK O. ELLIOTT

BOX 703

ROSWELL, NEW MEXICO

December 21, 1959

State of New Mexico
Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Attention: A. L. Porter

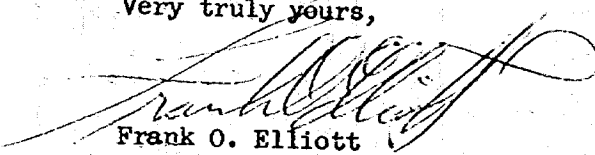
Re: Commission Order No. R-1427

Gentlemen:

In regard to our compliance with the above referenced Order, please be advised that we have entered into a Contract, dated December 8, 1959, with El Paso Natural Company for the purchase of the casinghead gas produced from our Bisti lease, being the W $\frac{1}{2}$ Sec. 33, SW $\frac{1}{4}$ Sec. 28, Twp. 25N., Rge. 10W., and in addition have filed an Application for Certificate of Public Convenience and Necessity, along with our Notice of Intention to Invoke Section 157.28 of the "Regulations under the Natural Gas Act", which is the emergency provision.

Based on the assumption that El Paso Natural's Gathering System will be in operation on January 1 and that the Federal Power Commission timely grants the temporary Certificate, we will be in position to cease the flaring of casinghead gas on or before January 1, 1960, in compliance with the above referenced Commission Order.

Very truly yours,


Frank O. Elliott

FOE:mc

CC: Emery C. Arnold



SKELLY OIL COMPANY

TULSA 2, OKLAHOMA

PRODUCTION DEPARTMENT
C. L. BLACKSHER, VICE PRESIDENT

December 22, 1959

Re: Jicarilla "B" Lease
Otero-Gallup Oil Pool
Rio Arriba County, New Mexico

AIR - MAIL

Mr. A. I. Porter, Jr.
Oil Conservation Commission
Post Office Box 871
Santa Fe, New Mexico

Dear Sir:

Order No. R-1237 promulgated August 13, 1958 as amended by Order No. R-1237-A, promulgated October 19, 1959, provides that no casinghead gas should be flared or vented from any well from this field after August 31, 1958, with certain exceptions.

Our field office have called this date to advise that on or about November 29, the compressor for the lines utilizing the casinghead gas went out and was down and it was thought that the overhauling would be a relatively short period of time and is to be reinstalled on December 23. This compressor was to serve the Jicarilla "B" Lease from a productive standpoint. The lease could not be shut-in because they sand up considerably. Consequently they were allowed to be continued to be produced. Unfortunately I was out of pocket and our field office was unable to contact me and therefore no one in our organization contacted your office.

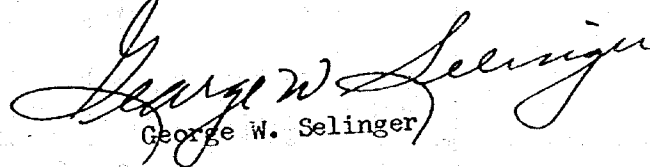
Since certain exceptions are permitted to the flare and although none covering this particular instance, we feel that the circumstances justified our action in the matter and since this is an operational function which we had no particular control and faced with the possibility of committing waste both underground and economic that our advising you would be sufficient to explain our action during the interim period.

On our Jicarilla "B" Lease we have 19 wells of which only 2 wells produce a top allowable and since the majority are sub-marginal wells,

Page 2
Mr. A. L. Porter, Jr.
December 22, 1959

we feel is an additional factor to be considered in the matter. We trust
that this full explanation is sufficient for your favorable consideration.

Yours very truly,


George W. Selinger

GWS/gl

cc: Mr. P. E. Cospers

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 1569
Order No. R-1427

APPLICATION OF THE OIL CON-
SERVATION COMMISSION ON ITS OWN
MOTION TO CONSIDER THE PROMUL-
GATION OF AN ORDER PROHIBITING
THE FLARING OF CASINGHEAD GAS
FROM OIL WELLS IN SAN JUAN, RIO
ARRIBA, MCKINLEY, AND SANDOVAL
COUNTIES, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on December 17, 1958, March 18, 1959, and June 9, 1959, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 25th day of June, 1959, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

FINDS:

- (1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.
- (2) That the evidence presented in this case conclusively establishes that a very substantial quantity of casinghead gas produced from oil wells in San Juan, Rio Arriba, McKinley, and Sandoval Counties, New Mexico, is presently being flared or vented.
- (3) That the evidence presented further indicates that in a number of areas in said Counties the present production of casinghead gas is relatively small, and it is neither economically feasible to gather this gas nor to reinject it.
- (4) That the evidence presented further indicates that in certain other areas in said Counties a large percentage of the produced casinghead gas is necessary for the operation and maintenance of the leases.

-2-

Case No. 1569

Order No. R-1427

(5) That there is no necessity at the present time for the promulgation of an order prohibiting the flaring or venting of casinghead gas in any areas in said Counties other than the Gallegos-Gallup Oil Pool and the Bisti-Lower Gallup Oil Pool.

(6) That there is a definite need for the promulgation of an order prohibiting the flaring or venting of casinghead gas in the Gallegos-Gallup Oil Pool and the Bisti-Lower Gallup Oil Pool, so as to eliminate what is clearly preventable waste.

(7) That operators in the Gallegos-Gallup Oil Pool and the Bisti-Lower Gallup Oil Pool have been met with certain delays in their efforts to make beneficial use of the produced casinghead gas, and therefore, in order to provide them sufficient time to procure sales for, or beneficial disposition of, such casinghead gas, any order prohibiting the flaring or venting of gas in the Gallegos-Gallup Oil Pool and the Bisti-Lower Gallup Oil Pool should be effective December 31, 1959.

(8) That every newly completed well in said Pools should be given ninety days to make beneficial use of the produced casinghead gas.

IT IS THEREFORE ORDERED:

That except when authorized by or pursuant to the following provisions of this order, no casinghead gas shall be flared or vented from any well in the Gallegos-Gallup Oil Pool and the Bisti-Lower Gallup Oil Pool after December 31, 1959; provided however, that any well completed in said pools after September 30, 1959, shall be given ninety days in which to make beneficial use of the produced casinghead gas.

Any operator who desires to obtain an exception to the foregoing provisions of this order shall submit to the Secretary-Director an application for such exception with a statement setting forth the facts and circumstances justifying such exception. The Secretary-Director is hereby authorized to grant such an exception if he determines that the granting of the exception is reasonably necessary to prevent waste or to prevent undue hardship on the applicant. If the Secretary-Director declines to grant administrative approval of the requested exception, the matter shall be set for hearing if the operator so requests.

The flaring or venting of casinghead gas from any well in violation of any provision of this order will result in suspension of any further allowable for said well.

-3-

Case No. 1569
Order No. R-1427

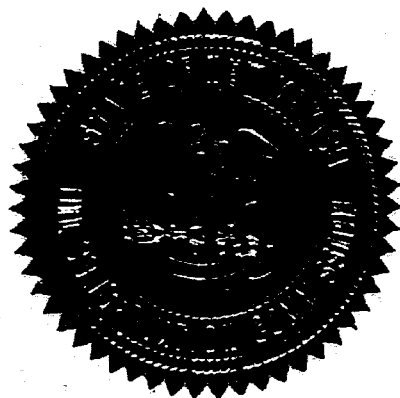
DONE at Santa Fe, New Mexico, on the day and year hereinabove
designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

John T. Burroughs
JOHN BURROUGHS, Chairman

Murray E. Morgan
MURRAY E. MORGAN, Member

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



vem/

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

January 30, 1959

C
O
P
Y

MEMORANDUM

TO: All Operators of oil wells in the Escrito-Gallup Oil Pool, San Juan County, New Mexico

FROM: A. L. Porter, Jr., Secretary - Director

SUBJECT: Gas-oil ratio tests in the Escrito-Gallup Oil Pool

This is to advise that through inadvertance, the Escrito-Gallup Oil Pool, San Juan County, New Mexico, was omitted from the 1959 Gas-Oil Ratio Test Schedule as was published by Commission Memorandum No. 1-59, dated January 19, 1959.

The test schedule is hereby amended to include the Escrito-Gallup Oil Pool. The gas-oil ratio limit for the pool is 2,000 cubic feet of gas per barrel of oil produced. The 1959 test period for the pool shall be March and April, and all test results will be due May 10, 1959.

The provisions of Memo No. 1-59 relating to bottom-hole pressure tests shall also apply to the Escrito-Gallup Oil Pool.

DSN:bp

THIS MEMO WAS SENT TO:

Eastern Petr. Co., 1st Natl. Bank Bldg.
Pan American, Box 487, Santa Fe, N.M.
Southern Union, Box 757, Santa Fe, N.M.
Standard Oil, Box 1531, Santa Fe, N.M.
OCC, Aztec

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1569

TRANSCRIPT OF HEARING

JUNE 9, 1959

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

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
JUNE 9, 1959

IN THE MATTER OF:

CASE 1569 In the matter of the hearing called by the
Oil Conservation Commission on its own mo-
tion to consider the promulgation of an
order prohibiting the flaring of casinghead
gas from oil wells in San Juan, Rio Arriba,
McKinley and Sandoval Counties, New Mexico.

BEFORE:

Mr. A. L. Porter
Mr. Murray Morgan
Gov. John Burroughs

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

MR. PORTER: At this time we will take up Case 1569.

MR. PAYNE: Case 1569. In the matter of the hearing
called by the Oil Conservation Commission on its own motion to
consider the promulgation of an order prohibiting the flaring of
casinghead gas from oil wells in San Juan, Rio Arriba, McKinley
and Sandoval Counties, New Mexico. We have one witness, Mr. Nutter.

MR. PORTER: I would like to have other appearances
at this time.

MR. NEWMAN: Kirk Newman of Roswell, New Mexico, and
Guy Buell of Fort Worth, Texas, representing Pan American Petro-
leum Corporation. We may have testimony in this case.

3
MR. WHITE: Charles White of Gilbert, White & Gilbert, Santa Fe, New Mexico, appearing on behalf of Sunray Mid-Continent Oil Company, and I have associated with me Bill Loar of Tulsa, Oklahoma.

El Paso Natural Gas Company expects to make a statement. Mr. W. V. Holik will make a statement on behalf of El Paso Natural Gas Company.

MR. SPERLING: J. E. Sperling, Modrall, Seymour, Sperling, Roehl & Harris, Albuquerque, New Mexico, appearing on behalf of British American Oil Producing Company.

MR. KELLAHIN: Jason Kellahin, Kellahin & Fox, Santa Fe, New Mexico, representing Standard Oil Company of Texas, and Amerada Petroleum Corporation. I have associated with me Mr. H. D. Bushnell of the Oklahoma bar representing Amerada.

MR. PORTER: Mr. Bratton.

MR. BRATTON: Howard Bratton, appearing on behalf of Humble Oil and Refining Company.

MR. SPANN: Charles C. Spann of Grantham, Spann & Sanchez, representing Phillips Petroleum Company and El Paso Natural Gas Products.

MR. PORTER: Mr. Payne, would you have the Commission witness sworn, please?

(Witness sworn)

DANIEL S. NUTTER,
called as a witness, having been first duly sworn, testified as

4
follows:

DIRECT EXAMINATION

BY MR. PAYNE:

Q Will the witness please state his name and position?

A Daniel S. Nutter, chief engineer for the New Mexico Oil Conservation Commission.

Q Are you the same Daniel S. Nutter who testified in Case No. 1569 in December of 1958, and in March of 1959?

A Yes, I am.

Q Mr. Nutter, are you generally familiar with conditions regarding production in Northwest New Mexico?

A Yes, sir.

Q Both oil and gas?

A Yes.

Q Now, specifically, Mr. Nutter, have you made a recent study of casinghead gas production in the San Juan Basin?

A I've made a study of casinghead gas production in portions of San Juan Basin.

Q Now, why did you restrict your study to certain areas, Mr. Nutter?

A It will be recalled that at the hearing in December of 1958, we had certain areas marked on this Exhibit and labeled as areas "A" through "P."

Q That's Commission's Exhibit 1?

A This was Exhibit 1 in Case 1569. And at the time of the December hearing, I suggested that certain of these areas be deleted from further study. Those areas that I suggested be deleted from further study have not been considered in preparation for this hearing today.

Q Now, would you run through those areas that you propose be deleted from further consideration?

A Yes, sir. In December I recommended that area "A", the Verde-Gallup Pool in San Juan County, New Mexico, be deleted from further study. I recommended that area "B," the Horseshoe-Gallup Pool, be deleted; area "C," the Chimney Rock Pool; area "M" being two Pictured Cliffs wells in Township 26 North, Range 3 West; I recommended that area "K," being two wells located in Township 25 North, Range 5 West, be excluded. Area "N" is a pool where the casinghead gas is sold, it is labeled with little green wells on the Exhibit, it was not necessary for further consideration. Area "P," the Otero-Gallup Pool, has a market for its casinghead gas and was deleted from further study also.

Q All right, sir. Now, before going into detail, can you give the Commission the figure as to the present total gas production in the areas that are under consideration? That is, the other areas in the San Juan Basin that you have just excluded?

A I don't have an actual total for all of the areas.
I do have totals for the individual areas, however.

Q All right, sir. We can go through them subsequently
and then add them up.

A Yes, sir.

Q All right. Now, referring to what will be designated
as Exhibit 2, Commission's Exhibit 2, would you refer to area
"D?"

A Area "D."

Q Explain to the Commission what that is and what the
colors depict and so forth.

A Area "D", on Exhibit 2, on what has been marked as
Exhibit 2, is the Gallegos-Gallup Pool. It is circled in red and
labeled as Area "D."

Q All right, sir, can you tell the Commission how much
casinghead gas is being produced in that area?

A Yes, sir. An estimate of casinghead gas production
for the month of June is nine million three hundred eight thousand
cubic feet of gas.

Q Now, would you tell them how much of that gas is being
used on the lease?

A It is impossible to tell from the statistical report
that our calculating machine in the basement ran on the Gallegos-
Gallup Pool just how much gas is being used on the lease. If we
are to believe what this calculating machine gave as the figure,

we come up with a ridiculously low amount of gas which I am sure is not correct. The total amount of gas which is being used on the lease, according to the C-115's which were filed, amounts to 768 MCF's during the month of April. I firmly believe that more gas than this is necessary for the operation of a pool that size, and I note that only a few operators seem to be using gas on the lease.

Q All right, sir. Now, --

A So this figure I don't believe is realistic.

Q Do you know how much has been sold, if any?

A Yes, using the gas-oil ratios which we have recently obtained in these pools, and applying that to the wells that have connections, I find that approximately two million two hundred and four thousand cubic feet of gas will be sold in the Gallegos-Gallup during the month of June.

Q Now, taking into consideration the fact that you can't determine exactly how much gas is being used on the lease, what is your estimate, your best estimate, as to the amount of gas that is now being vented in this area?

A The remainder of the gas that's not sold presumably is being used on the lease or rented, and I think the bulk of the gas is being vented, and that figure comes to approximately seven million one hundred four thousand cubic feet.

Q All right, do you have anything further in regard to area "D?"

A Yes, sir. As I stated, the tabulating machine had run these figures for me, and actual production during the month of April in that pool was eight million two hundred sixty-five thousand cubic feet. Actual sales were one million two hundred ninety thousand, leaving a balance for flare or lease use of six million nine hundred and seventy-five thousand. As we stated, this hundred and sixty-eight MCF that was reported for lease use is probably small, so not all of this six million nine hundred and seventy-five thousand was actually flared, but a large percentage of it was, I am sure.

Q All right. Now, refer to area "E," Mr. Nutter, and explain to the Commission what that depicts.

A Area "E" is that portion of the Bisti Pool which we defined in the first hearing on this case as the North Bisti area. It lies principally in Township 26 North, Range 13 West. This area, as you'll note from Exhibit 2, has a portion shaded in green, this is the British American properties described as the Doutheit, Salgee, and Marye leases. British American currently is gathering the casinghead gas that is produced on those three locations and injecting it on their British American, Doutheit "B" No. 5 Well for repressuring in the Bisti formation. The red wells, of area "E", are the wells for which no beneficial use, except a portion of the gas is being used on the lease, but otherwise no beneficial use is made of the gas.

Q That's true with the red dots on the entire Exhibit,

is it not, Mr. Nutter?

A The red dots on the entire Exhibit are wells for which no market or injection use is made of the gas; the blue dots are wells for which we have no good GOR's; the yellow dots are wells which on the GOR test came TSTM, the gas too small to measure.

Q All right. Now, can you tell the Commission how much gas is produced in area "E?"

A Yes. Estimating the production for area "E," by use of the new GOR tests, we find that during the month of June we can expect two million five hundred eighty-eight thousand cubic feet of gas to be produced. It is estimated that one million five hundred seventy-five thousand cubic feet will be reinjected into the formation, leaving one million thirteen thousand for lease use or flare.

Q Do you have a figure on the amount that is being used on the lease?

A No, sir, I don't.

Q What percentage would you estimate that it would be?

A The Bisti Pool as a whole in the month of April, operators reported that 5.5 percent of the gas that was produced was being used on the lease.

Q Do you have anything further in regard to area "E," Mr. Nutter?

A No, sir.

Q All right. Refer now to area "F."

A Area "F" is the area that we defined as the North Central portion of the Bisti Pool. It also has an area shaded in green. This is Sunray Mid-Continent Oil Company's Federal "C" lease. At the present time the gas is being gathered from the Federal "C" lease and injected into the Sunray Mid-Continent Federal "C" Well No. 18 to repressure the Bisti formation. The rest of the area is covered by wells which are designated with red dots, indicating that they have no market or injection use of the gas.

Q Do you have the total figure on the amount of gas being produced from this area?

A Yes, area "F" is the largest area of the four areas in the Bisti Pool. It is estimated that during the month of June there will be thirteen million seven hundred and seventy thousand cubic feet of gas produced in area "F."

Q Now, how much is injected?

A It is estimated that two million nine hundred fifty thousand cubic feet of gas will be reinjected into the formation.

Q Is any gas from this area being sold?

A No, sir. I'll take that back. There was six hundred twenty-nine cubic, or MCF of gas sold to the Toronto Pipe Line Company during the month of April. If any gas is sold, it is a very insignificant quantity.

Q Do you have an estimate as to the amount of gas that is utilized on the leases?

A As I stated, there will be thirteen million seven

nundred seventy thousand feet produced. There will be two million nine hundred fifty thousand feet injected, leaving for lease use or flare, ten million eight hundred twenty thousand cubic feet of gas.

Q What percentage of that figure do you estimate can be used on the leases?

A I still go by this 5.5 percent, which is the lease use production figure reported in April.

Q Do you have anything else in regard to area "F?"

A No, sir.

Q Please refer now to area "G" and explain to the Commission what that depicts.

A Area "G" is what we defined as the South Central portion of the Bisti Pool, and all of the wells in this area are red with the exception of three wells which reported negligible amounts of gas and are labeled in yellow.

Q What is the total amount of gas produced in the area?

A It is estimated that during the month, eight million two hundred fifty-eight thousand cubic of gas will be produced in area "G."

Q Is there any gas in this area being sold?

A No, sir.

Q What is the total amount being vented or used on the leases?

A Eight million two hundred fifty-two feet estimated.

Q And your estimate of the lease use would be about the 5.5 percent also?

A Yes.

Q Now, is any injection taking place in this area at all?

A No, sir.

Q Do you have anything else in regard to area "G?"

A No, sir.

Q Please refer now to area "H."

A Area "H" is the area that we defined in December as the south end of the Bisti Pool and has a sprinkling of wells in the northwestern portion of the balloon and scattered wells in the southern portion of the balloon.

Q Now, how much gas is being produced from this area?

A It is estimated that area "H" will produce one million two hundred thirty-one thousand cubic feet of gas in June.

Q Is any of this gas being sold?

A No, sir.

Q Is any of it being reinjected?

A No, sir.

Q So, the total amount is either vented or used on the lease?

A Yes, one million two hundred thirty-one thousand feet.

Q Do you have anything further in regard to this area?

A No, sir.

Q Please refer then, to area "I."

A Area "I" is an area of, in December we recommended be considered for further study. At that time it was estimated six hundred nineteen MCF of gas was being produced each day.

Q What pool is this, Mr. Nutter?

A This is the Escrito-Gallup Oil Pool and the immediate vicinity surrounding that pool. Under the new GOR tests that we have, it is estimated that six hundred seventy-four MCF of gas will be produced per day on this area.

Q Is there any sale for that gas?

A No, there is not. This is a peculiar area. I would like to call the Commission's attention to the fact that there are two wells in Section 26, both of which have high gas-oil ratios. There is another -- they are labeled in red -- there is another well, in Section 24 which is labeled in blue. This is the Val Reese well and was potentialled in the Gallup formation for one million eight hundred sixty-seven thousand cubic feet of gas per day. The well is currently shut in. I don't believe it has ever been produced. It's the closest, or these two wells that produce with high ratios are quite close to this one blue well on the Exhibit. Now, if this blue well were a gas well and had a connection, it would mean extending lines only a mile to gather the gas from the two high ratio oil wells. However, this is probably a situation similar to what we had in the Angels Peak-Gallup Oil Pool where we couldn't call this a gas well, we would have to classify it as an oil well. It is probably one of those gas cap situations in the Gallup formation, so I think all I can say is that you've got three

wells within a mile or mile and a half from each other which could be classified as high ratio oil wells. The rest of the wells in the area produce relatively small amounts of gas. As I said, it was one of those areas that we recommended be deferred for further study, and the only thing I can see about it right now, unless you have a line in the immediate vicinity to gather the gas, it is going to be uneconomic to put this gas to any beneficial use insofar as the market is concerned. Now, there is a very good possibility that reinjection of the gas into the formation might help in there. I think that any order issued, as a result of this hearing, should contemplate even further study on this pool to determine the feasibility of doing something with this gas. However, I don't think a market is exactly the answer right now.

Q All right, sir. Now, refer --

MR. PORTER: Mr. Payne, I have one question at this point. I missed a figure there, Mr. Nutter. You said the last time you recommended this area for further study, and at that time you gave six hundred nineteen MCF?

A Yes, and now it is six hundred seventy-four.

MR. PORTER: Thank you.

Q (By Mr. Payne) Now, referring to area "J," Mr. Nutter, will you explain what that is?

A Yes. Area "J," at the time of the last hearing, had two wells, being located in Section 20 and Section 34. Those two wells, at the time of the last hearing, had an estimated production

of five hundred ninety-eight MCF of gas per day. Now, we have a no-flare order --

Q What pool is this, by the way?

A In the Otero-Gallup area. We have a no-flare order prohibiting the flaring of gas in the Otero-Gallup pool. I should mention this: We have three pools in the San Juan Basin for which no-flare orders have been promulgated. The Angels Peak-Gallup Pool, the South Blanco-Tolcito Pool, and the Otero-Gallup Pool. Now, area "J" is going to -- the problem in area "J" is going to solve itself by itself by extension of the pool. The two wells that we were discussing in December and included in area "J" are included in a proposed extension for the Otero-Gallup Pool that is on the docket for this same hearing. There are also several other new wells in the area that will be included in the proposed extensions, and also two or three wells that have very recently been drilled and aren't included in the extensions right now. There is a possibility that the Commission's order in prohibiting the flaring of gas in the Otero-Gallup Pool would also extend one mile outside the boundaries of the pool. Most of the Commission's pool rules do cover and are a mile away.

Q Would the extension over this pool automatically take care of wells within that area?

A Yes, it would.

Q Would they automatically have a market? I realize they are not allowed to flare, but would they necessarily have a

market?

A They wouldn't necessarily have a market, but there are marketing facilities in the area. It might take compression or some other facilities to put the gas in the lines, but the lines are there and available, and the gas is there.

Q Now, if I understand your testimony correctly, Mr. Nutter, this area could also be eliminated from further consideration since the no-flare order is probably in effect in the pool and will take care of the situation?

A I think this situation is solving itself, yes.

Q All right. Please refer now to area "L" and explain to the Commission what that is.

A Area "L", in December, was a wildcat area in which Skelly Oil Company has three Dakota wells. In December I stated that approximately two hundred seventy-three MCF of gas was being produced per day. Mr. Selinger pointed out that only about half of that gas was being produced, and the new GOR tests could reflect that fact. It is estimated that only one hundred thirty-five MCF per day is being produced in area "L" at the present time. I recommend that any order issued as a result of this hearing dismiss area "L" from any further study. It is not profitable to compress gas when there is only one hundred thirty-five MCF available.

Q All right, Mr. Nutter. Referring now to area "D"

once again, what would you recommend to the Commission in regard to this pool?

A There are facilities nearby which can handle the gas produced in area "D." As we stated previously, there are a couple of obstacles in the way which prohibit the immediate marketing of the gas. However, I would recommend that the Commission, in considering area "D," as a result of this hearing, issue an order prohibiting the flaring of gas in area "D" effective one hundred and twenty days after the issuance of the order.

Q All right, sir. Now, referring to area "E," "F," "G" and "H," you may treat them either as a whole or separately, if you wish, that being the Bisti Lower-Gallup Pool. What would you recommend in that area or those areas?

A Where making any actual recommendation there, I would like to point out that my estimated gas production in the Bisti for the four areas totals twenty-five million eight hundred forty-seven thousand cubic feet of gas per day. It is estimated that four million five hundred twenty-five thousand feet of that gas will be injected in June. It is estimated that one million four hundred twenty-one thousand cubic feet of gas will be used on the lease. It is estimated that nineteen million nine hundred and one cubic feet of gas per day will be flared. The actual figures for the month of April are as follows: There was seven hundred nineteen thousand three hundred and twenty-two MCF pro-

duced during the month. There was thirty-nine thousand five hundred and forty-eight MCF of gas used on the lease. There were six hundred and twenty-nine MCF of gas sold to Toronto Pipe Line. There was one hundred fifty thousand seven hundred and eighty-six MCF of gas injected into the reservoir. There was flared five hundred twenty-eight thousand three hundred and fifty-nine MCF of gas, or an average of seventeen million six hundred and twelve MCF per day, seventeen million six hundred twelve cubic feet per day.

Q Now, Mr. Nutter, in area "F," there in the Bisti, Sunray Mid-Continent Oil Company and British American Oil Producing Company have just recently been granted authorization for an LPG gas injection project, have they not, which will take care of some of this?

A Yes, sir. That amount of gas is deducted from the estimate there for the two authorized gas injection projects, the British American project over on their Douthett "B" 5, and the Sunray project in the Federal "C" 18.

Q I am talking about the two further injection projects.

A Well, British American received authorization from the Commission to convert two wells to water injection. Those wells are located in Sections 1 and 12, of 25, 13. In addition,

Sunray Mic-Continent received authorization to convert, I believe it was six wells, to LPG injection, and five or six additional wells to gas injection on their proposed central Bisti unit.

I have that unit outlined in green right here, and these red wells in this little area that is outlined with the dotted green line presumably will not be flaring their gas any more as soon as this injection program gets under way.

Q All right, sir. What would you recommend to the Commission, then, in regard to area "I?"

A Well, as I stated awhile ago, I think that the order that the Commission enters, if they do enter an order in this case in the near future, should require that area "I" be given detailed study by someone, an engineering committee for the pool, or further study by the Commission staff. I think preferably it should be a pool operators' committee, to consider the feasibility of doing something with this gas. As I stated, I don't think that marketing is the answer right now, but dog-gone it, if it is put in the reservoir, it is going to be there if the market does become available.

Q Your recommendations as to area "J" and "L" is that --

A Yes, sir, and area "L" be dismissed from further consideration and also "J" because it is taken care of by the

pool extension.

Q So, summing up your recommendations then, is this correct, you propose that areas "D," "E," "F," "G," and "H," that a no-flare order be entered effective one hundred twenty days from the date of the order?

A I would recommend that an order be entered in this case and that area "D" be covered by that order prohibiting the flare of gas one hundred twenty days after the effective day of the order, which would be the date of its issuance. Also, that the Bisti Pool, being areas "E," "F," "G" and "H" be included in that order and prohibit the flare of gas in that pool one hundred twenty days after the order.

Q And further study be given to area "I?"

A And further study be given to area "I."

Q Now, in your opinion, Mr. Nutter, are your recommendations in the interest of conservation?

A I think so, yes, sir.

Q Now, do you have a figure on the total gas production in the five areas that you propose that the shut-in order apply to, or the no-flare order?

A Yes, sir. The five areas "D," "E," "F," "G," and "H," it is estimated in the month of June will produce thirty-

five million one hundred and fifty-five cubic feet of gas. It is estimated that the amount of gas that is used on the lease, or flared, will total twenty-eight million four hundred twenty-six MCF, twenty-eight million four hundred twenty-six cubic feet of gas.

Q Now, what is your estimate again as to the amount that would be used on the lease?

A As I stated, we don't have a realistic figure to use in the Gallegos area, so I have to lump this in a group and say used on the lease or flared.

Q Now, did you compute these figures, Mr. Nutter?

A These figures were computed from the gas-oil ratio tests that were taken during the months of March and April of this year, and assuming that the wells can make their allowable, we took the gas-oil ratio times the allowable and calculated each well, the amount of gas that would be produced, and then totaled it up for each of the areas.

Q And this total figure is the amount of gas that will be produced incidental to the production of oil wells?

A That's right.

Q Was the Exhibit prepared by you or under your supervision, Mr. Nutter?

A Yes.

MR. PAYNE: I move at this time for the introduction of Exhibit 2 into evidence.

MR. PORTER: Without objection, Commission's Exhibit 2 will be admitted into the record.

MR. PAYNE: That concludes the direct examination of this witness.

MR. PORTER: Mr. Nutter, were your allowable figures based on the June proration schedule?

A Yes.

MR. PORTER: And does that schedule reflect the latest gas-oil ratio tests?

A Yes, sir, on all of the wells for which the tests have been completed.

MR. PORTER: Anyone have a question of Mr. Nutter?
No questions of the witness, he may be excused.

(Witness excused)

MR. PORTER: Anyone desire to present testimony?

MR. BUELL: May it please the Commission, Guy Buell for Pan American Petroleum Corporation. Our testimony relates only to the Escrito-Gallup Pool. I believe there are only two of us operators here who are in that pool. The others here are interested in making statements on the other pool. We can put on our testimony now, or the Commission may want to hear their statements prior to our testimony. There are only two of us from Escrito here.

MR. PORTER: I believe we will proceed with the testimony at this time, Mr. Buell, and entertain statements at the close of the hearing.

MR. BUELL: All right, sir.

(Witness sworn)

MR. BUELL: May it please the Commission, I might say at the outset that I don't feel that our testimony and evidence will be in conflict with Mr. Nutter's presentation. As I see it, he made more or less of a regional study and recommended that Escrito be looked at as specifically as we have so looked.

CHARLES R. MARSHALL,
called as a witness, having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. BUELL:

Q State your name, by whom you are employed, please, Mr. Marshall.

A My name is Charles R. Marshall. I am employed with Pan American Petroleum Corporation in Farmington, New Mexico.

Q You are a petroleum engineer?

A Yes, sir.

Q Have you testified at prior Commission hearings?

A Yes, sir.

Q Are your qualifications a matter of public record?

A Yes, sir, they are.

MR. PORTER: They are acceptable.

Q I direct your attention to what has been marked as Pan American's Exhibit No. 1, Mr. Marshall. What is that Exhibit?

A Exhibit 1 is a regional map or a portion of the San Juan Basin on which I have located the Escrito-Gallup Field, outlined the legal field limits in red on the lower left-hand corner of the map.

Q How many producing wells are within the horizontal limits of the Escrito Pool?

A There are eight producing wells within the horizontal limits of the Escrito Field.

Q Would you name the operators and the number of wells that each operates?

A Standard Oil Company of Texas operates four wells in the Field; Southern Union Gas Company operates one well; Eastern Petroleum Company one well, and Pan American two wells.

Q All right, sir. I notice, looking at your Exhibit 1,

Mr. Marshall, that immediately outside the horizontal limits there are two wells, one in Section 19, and one in Section 20. Is that correct?

A Yes, sir, these are two Gallup Wells.

Q And looking at the Commission's Exhibit No. 3, prepared here today, and the area designated on that Exhibit as "I," I believe Mr. Nutter included those two wells in his area "I," did he not?

A Yes, sir.

Q Did you include those two wells in the scope of your study and evaluation?

A I included the well in Section 20 in my study, and not the well in 19. My study was to determine the economic feasibility of constructing a gas gathering, casing head gas gathering system, and compressing that gas and delivering it to a high pressure line. The reason that well in Section 19 was not considered is that in accordance with the operator's report all of the gas which is presently being produced from this well is being utilized on the lease, and, consequently, as there would not be any gas available at that well, then it would be naturally expensive to extend the system to include it. In order to give it a more favorable picture, it was not included in the study.

Q As a result of your study and evaluation, Mr. Marshall, let me first ask you, in your opinion, will it be economic to gather and compress this casinghead gas for sale?

A No, sir, it will not.

Q In your opinion, will it be economic to gather and compress this casinghead gas for injection?

A No, sir.

Q What are we looking at here in the way of a reservoir, Mr. Marshall? What stage of depletion is the Escrito-Gallup Pool in?

A The reservoir is in a very advanced stage of depletion. The average production from the eight wells in the field is, I believe, approximately 13 barrels of oil per day. The field is in what we might term the stripper stage.

Q All right, sir. In view of that, let me ask you this, Mr. Marshall. I want you to assume, for the purpose of this question, that present operations in this field continue, and that no additional investment or operating expense is required. Under that assumption, let me ask you, will these wells in the Escrito-Gallup Pool be profitable wells?

A In regard to Pan American's two wells, it is my opinion that neither of these wells will even pay out the cost of drilling. In regard to the remaining wells, it is also my opinion that although I don't have the benefit of the exact cost figures, the average well in the field will not pay out, or pay out the cost of drilling.

Q And your answer to that question is with the assumption in mind that no additional expense was required?

A That's correct. That was under the assumption it is continued to be operated in the manner it has been operated in the past.

Q If additional expenses, operating and investment were encountered, that would make it even more uneconomic, would it not?

A Yes, sir.

Q All right, sir. Let me ask you this, Mr. Marshall. What is the total gas produced from the Escrito-Gallup Pool per day? When I say Escrito-Gallup Pool, I am including the two wells, the one in Section 19, and the one in Section 20?

A Based on actual production figures for March, there was 500 -- approximately 500 MCF of casinghead gas daily produced from this field.

Q All right, sir. You heard Mr. Nutter's testimony that he would predict for June 674 MCF per day?

A Yes, sir.

Q What causes the difference between your 500 and his 674?

A Well, sir, my figures were based on actual production during March. Now, the -- I believe the ratio tests which Mr. Nutter based his figure on were taken during two, three month period, March and April and possibly some in May. I'm not sure, but the difference in figures is possibly partly due to the fact that these wells are declining rapidly in producing rate, and to

apply the gas-oil ratio to the allowable may be somewhat excessive to what it will -- what the field will actually produce.

Q All right, sir. Still for the purpose of Mr. Nutter's study, that is certainly a valid way --

A Yes, sir, and, of course, with the number of wells considered in this field, in my opinion, the numbers are close together, they are in the same range.

Q All right, sir. Of this approximate 500 MCF per day, how much of that is flared?

A I believe that there is approximately 400.

Q About 400 MCF per day flared?

A Yes, sir.

Q In your opinion, Mr. Marshall, is this a large quantity of gas or a small volume of gas?

A When the number of wells are considered that are producing, I consider it a small volume of gas.

Q In your opinion, will the gas rates for this pool -- the gas producing rates, do you think it will increase?

A No, sir. Based on my study, as I stated before, the field is pretty well depleted, and although the gas-oil ratios will probably go up in the future, the fact that the oil producing rates are declining at such a rate, it will cause a total gas volume to be less even though the ratios may increase.

Q All right, sir. Now, Mr. Marshall, regardless of whether the gas in this pool is sold, or whether it is reinjected,

it will have to be gathered and compressed, will it not?

A That is correct.

Q That will be an investment expense and operating expense that will be common to either a sale or reinjection?

A That is correct.

Q So actually, looking at it from the investment standpoint, it would require almost the same system, would it not?

A The -- except for possibly some small amount of line to get to the delivery point into the high pressure line, the cost would be essentially the same.

Q All right, sir, let me ask you this. You stated that, in your opinion, it would be uneconomic to reinject this gas completely. Aside, now, from the cost of investment and operating expense of gathering and compressing this casinghead gas for reinjection, is this the type of reservoir and is it a reservoir at a stage of depletion that would lend itself to secondary recovery efforts through gas injection?

A No, sir. The primary recovery from this field has been so limited, and the reservoir characteristics are such that a return on the investment necessary to instigate a secondary recovery program would not be realized.

Q Actually, Mr. Marshall, when you are looking at the Escrito-Gallup Pool, if you mined it and got every drop of oil out of it, you still wouldn't get much oil, would you?

A That is correct.

Q All right, let's -- first, let's now examine the feasibility of gathering, compressing and selling. How far is the closest pipeline from the pool?

A According to the information available to me, the closest line to which gas could be delivered is approximately 12,000 feet north of the northernmost well in the field, which is Pan American's Sanotee No. 1, located in the SW/4 of Section 15, Range 7 West, Township 24 North. A compressor located centrally with respect to the wells in the field would probably be 16,000 to 17,000 feet from the nearest delivery point.

Q Casinghead gas is low pressure gas, is it not, Mr. Marshall?

A Yes, sir.

Q And to get it into anything other than a low pressure gathering system, it has to be compressed?

A Yes, sir.

Q Is this pipeline that you spoke of, the nearest one, is it a high pressure line or a low pressure line?

A It is a high pressure gathering line.

Q So the gas would have to be compressed to put it into this line?

A It would have to be adjusted to the pressure in the line, yes, sir.

Q All right, sir. Let me direct your attention, now, to what has been marked as Pan American's Exhibit No. 2. What is

that Exhibit?

A Exhibit 2 is a bar graph which I've used to compare the initial investments and operating costs which would be required for a gathering and compressing system with the revenues that would be realized from the gas, from the sale of the gas, when it is compressed.

Q All right, sir. Will you discuss what that Exhibit reflects, starting first with the bar on the left portion of the Exhibit?

A The bar on the left represents the initial investment to purchase and install the compressor and to lay the necessary lines for the gathering system in addition to the operating cost for the compressor over the remaining life of the field. This bar indicates that these would require approximately \$68,000 investment. The bar on the right is the -- represents the revenue that would be obtained from the sale of the gas that was produced. This revenue amounts to some \$27,000, showing that a loss of \$41,000 would occur if it were necessary to compress and --

Q It is clear from that Exhibit, is it not, Mr. Marshall, that it is not only an uneconomic proposition, actually, it results in a loss?

A Yes, the loss amounts to \$41,000.

Q And you have testified earlier, have you not, that Pan American's wells in this pool, and in your opinion, the average well in this pool will not pay out, assuming no additional invest-

ment and operating expenses?

A Yes, sir, I have.

Q And your Exhibit 2 reflects that gathering and compressing this casinghead gas would not only be uneconomic, it would result in a \$41,000 loss to the operator?

A Yes, that is correct.

Q You made your study on a field basis, did you not, Mr. Marshall?

A Yes, sir.

Q Why?

A In starting out with this problem, it was my opinion that if I could make my calculations on the basis of the most favorable conditions toward installing a compressor system, if under those conditions it proved that it was not economically feasible to do so, then under any conditions it would not be economically feasible. Consequently, in all the factors I used, I attempted to make it the most favorable. Now, in regards to doing it on a fieldwide basis, it is my opinion that it would cost less to install a central compressor station and a gathering system than it would be to try to attempt to compress gas and necessitate buying a compressor for each well or any group of wells.

Q Mr. Marshall, are you familiar with the two high gas-oil ratio wells that Nutter pointed out in Section 26?

A Yes, sir, I am.

Q Of the field's 500 MCF per day, what percent do those

two wells contribute?

A I believe they produce 60 to 65 percent of the total gas produced in this field.

Q All right, sir. Are you familiar with those two wells?

A Yes, sir.

Q In your opinion, are they approaching the abandonment stage of depletion?

A Neither of the wells during March reported production of as much as 3 barrels a day. It is my opinion that these two wells are advancing rapidly toward economic abandonment and will probably be abandoned in the near future.

Q Assuming that those two wells will be abandoned, as you anticipate they will, what then will be the total gas production per day from the field?

A It will be approximately 180 MCF of casinghead of gas daily.

Q 180?

A Yes, sir.

Q Mr. Marshall, do you have a recommendation to make to the Commission with respect to the Escrito-Gallup Pool?

A Yes, sir. As a result of this study, it is my opinion that the field should be continued to produce as, and prorated, as it has been in the past, and that by doing this, the interests, both correlative rights of all people concerned, will

be protected and waste will not occur.

MR. BUELL: That's all we have at this time, may it please the Commission.

MR. PORTER: Does anyone have a question of Mr. Marshall? Mr. Payne.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Marshall, did you hear Mr. Nutter's testimony that perhaps this pool should be the subject of a further study?

A Yes, sir.

Q Do you feel that you have made such a study and, therefore, there is no necessity for a second study to be made?

A I am confident that a future study would indicate approximately the same thing, so consequently, I couldn't recommend any further study.

MR. PAYNE: Thank you. That's all.

MR. PORTER: Mr. Nutter.

QUESTIONS BY MR. NUTTER:

Q Mr. Marshall, did you make an estimate of the reserves that are in place in this pool?

A The -- it was any estimate in regard to making this study, that from the performance of the pool, that the gas rate is now at a maximum. Now, I -- rather than making a -- trying to make an estimate of the actual reserves, I based these economics on the fact that this maximum would be produced throughout the

remaining life of the field. Now, I do not believe that the rate will be that high. However, to give a more favorable picture, I assumed that the rate will continue at the level that it is now.

Q Do you think that the high ratios which the two wells in Section 26 have, can be attributed more to structural position or to stage of depletion?

A Well, I think that a considerable amount of that can be attributed to depletion. Now, it is possible that, in fact, probable, I think, in this case, that these wells may be producing some free gas. Now, whether this gas is as a result of a structural position or stray sand possibly that contains free gas, I am not sure.

Q Well, some of the wells in this pool have low ratios, don't they?

A Yes, sir.

Q As they produce and reach a similar stage of depletion, that their ratios will become higher?

A Yes, sir, I believe their ratios will increase somewhat, yes, sir.

Q Do you think that the injection of gas in this pool would enhance the oil recovery?

A I fail to see how it could economically enhance the oil recovery. Possibly, if you didn't consider economics at all, and injected all the gas, there might be some minor amount in increase in production, but the primary amounts are so low that it

certainly would not be much.

Q Now, this income or revenue that you show on the bar on the right side of your Exhibit, is -- the income from the gas is if you marketed the gas?

A Yes, sir.

Q You haven't made any study of the increased oil that might be available if you inject the gas?

A Well, sir, I've made a study to the extent that I do not believe it is feasible to do such a thing. Now, after that conclusion, I didn't pursue the matter any further.

Q What would compression facilities for 500 or 600 cubic feet of gas cost?

A My estimate for the cost of the compressor is \$25,000; the rest of the bar on the left of the Exhibit 2 is operating cost and line cost, laying the line.

Q That would be to transport the line to transport the gas to the nearest market facilities?

A To gather the gas from the well into the compressor and then to transport it through one line to the nearest --

Q If the gas were gathered and then put into a compressor and then injected into a nearby well, you wouldn't have that long line to the nearest producing gas well?

A That's correct.

Q How much would that cost, do you feel?

A Well, as I said, there was approximately 17,000 feet,

so I would say possibly as much as \$7,500 to \$8,000 would be eliminated by virtue of not having to build that line.

Q What did you use as your life of the pool for your income calculation, Mr. Marshall?

A My estimate is three years from June 1st of this year.

MR. NUTTER: Thank you. That's all.

MR. PORTER: Anyone else have a question of Mr. Marshall? The witness may be excused.

(Witness excused)

MR. PORTER: Anyone else desire to present testimony in this case, Case 1569? Anyone have a statement to make?

MR. HOLIK: Mr. Commissioner, W. V. Holik, Jr. I would like to make a statement on behalf of El Paso.

MR. PORTER: H-o-l-i-k.

MR. HOLIK: I am authorized by El Paso Natural Gas Company, referred to as "El Paso," to make this statement on its behalf. El Paso had made prior statements in December of '58 and March, '59 hearings. This statement supplements and brings to date the progress made in obtaining authorization to construct and the progress made in construction of facilities for taking casinghead gas from producers in the Bisti-Gallup and Gallegos-Gallup Oil Pools.

Pursuant to an agreement entered with Shell Oil Company construction work has proceeded on the facilities necessary to take ten million cubic feet per day authorized by Federal Power Commission in a temporary certificate order dated November 13, 1958. El

Paso's Exhibit No. 1 is a map showing the location of gathering facilities already constructed and gathering facilities now under construction.

Now, referring to that map, what is shown in red is what we have initiated construction on with Shell Oil Company, a joint venture, you might say, and we are presently building those facilities at this time. In the Bisti trend, the facilities shown on the extreme left are those which are hereafter referred to as the British American, and lying between those is the Sunray Mid-Continent facilities. That I will refer to later. The gathering system shown on the extreme right-hand corner in the Gallup Gallegos trend are proposed systems, and nothing has been done on them to date.

El Paso estimates the gathering facilities to serve the wells covered by the Shell contract will be completed by June 15 and the compression facilities by July 1 of this year. These facilities will handle ten million cubic feet per day authorized by the temporary certificate.

In addition, British American Oil Company has completed a gathering system to gather casinghead gas which is presently being reinjected by British American and which will be sold to El Paso in the future under an existing contract between British American and El Paso. Negotiations are substantially completed for transfer of these gathering facilities to El Paso upon FPC approval. A similar arrangement is under discussion with Sunray Mid-Continent.

Engineering studies have been made to estimate the facilities

required and the cost of facilities necessary to take gas from the Gallegos-Gallup trend. Preliminary but firm proposals have been submitted within the last week to Skelly Oil Company and others covering the production of Skelly and other operators in the area. No firm agreement has been reached regarding any producer sharing with El Paso the risk incident to construction of facilities under a temporary certificate.

El Paso's application under Docket No. G-15696 was set for hearing July 6 but Federal Power Commission has recently postponed this hearing and has not reset the hearing for a definite date. This application requests, among other things, authority to construct facilities required for gathering and processing the casing-head gas under contract, as estimated.

All except five of the producers with whom El Paso has casinghead gas contracts have filed applications with Federal Power Commission for producers' certificates. These cases have been consolidated and set for hearing on June 12.

If Federal Power Commission issues permanent certificates to the producers in these applications El Paso will seek to obtain approval for construction of the facilities necessary to serve those producers accepting permanent certificates in an entire area. El Paso will meet with any group to discuss sharing the risk of construction under a temporary certificate. Upon obtaining a certificate, in form acceptable to El Paso, then El Paso will proceed immediately with construction of the additional facilities.

MR. BUELL: May I formally offer Pan American's Exhibits 1 and 2, Mr. Porter, and while I am on my feet, make a general statement in this case?

MR. PORTER: Is there objection to the admission of these Exhibits? They will be admitted into the record. You may proceed, Mr. Buell.

MR. BUELL: Pan American has operations in the Gallegos-Gallup Pool and the Bisti-Gallup Pool, and in those two pools we find ourselves in a situation that is common to a lot of the operators. Through no lack of diligence on our part, we are not yet able to save and sell the producing casinghead gas. We have a hearing before the Federal Power Commission tomorrow as a result of an application we made back in November of 1958. The earliest possible approval on our certificate would be two to three months. For the procedural delays that we run into, and can expect, I am afraid Mr. Nutter's recommended delay of a hundred and twenty days would not give us sufficient time to have complied with these procedural rules and matters and to have -- for El Paso to have constructed the facilities to our wells to save the gas. For that reason -- and Pan American sincerely feels the delay is not due to a lack of diligence on our part. For that reason, I would like to move that this case be continued for six months. It is my sincere belief that if the Commission should continue that, we will find at the expiration of six months that most, if not all, of the gas in the areas that Mr. Nutter has recommended, will be saved and

going into sales.

MR. PORTER: The Commission would like to hear any comments that anyone would like to make concerning counsel's motion for continuance.

MR. KELLAHIN: If the Commission please, as I understand, you just want comments on the motion for continuance?

MR. PORTER: That's right.

MR. KELLAHIN: We also have an additional statement we would like to make, but at this time the Standard of Texas would like to go on record in support of the motion which has been made by Mr. Guy Buell for an extension of time, for the six months. Standard is in a similar situation in the Bisti Pool. Although our production is not so great as some of the other operators, we are negotiating with El Paso in an attempt to get our casinghead gas picked up. We have the same problems as all the other operators are faced with, and we do not feel that one hundred twenty days is going to be sufficient time to get connections in there.

MR. LOAR: I am William Loar, representing Sunray Mid-Continent. In the portion of the Bisti Field, which is the east portion of area F and part of portion G, Sunray Mid-Continent has several wells that have -- we have dedicated the gas to El Paso. We are in a position similar to the Standard of Texas, and a number of the other operators. We have diligently been trying to work out some method for the disposition of this gas. From what we have found, from the delays we have gotten from the Federal Power Com-

mission hearings, and the lines laid in the area, the earliest we can expect gas going into the market would be approximately six months. Therefore, we would concur in Mr. Buell's motion that six months delay be granted.

MR. BRATTON: If the Commission please, Humble desires to concur in the motion by Mr. Buell. I believe that what has been shown here today shows that everything is being done which can be done, and that the delays are not the fault of the operators, and that within a reasonable time further progress will be made, but one hundred twenty days may just be too short, and six months sounds more within the realm of probability. We strongly concur in the recommendation of Pan American.

MR. HOWELL: Ben Howell, representing El Paso Natural Gas. El Paso Natural Gas joins with the operators and believes sincerely that by the time that the recessed hearing is resumed, that the great bulk of the problems will have been solved. It is just a matter of three days now until a number of producers' applications will be heard by the Federal Power Commission, and certainly until the action that the Federal Power Commission takes upon those applications is known, it is impossible for anybody to proceed any further. So that everything is at a standstill until we can find out something from the Federal Power Commission.

MR. BUSHNELL: Amerada concurs in the motion made by Mr. Buell on behalf of Pan American.

MR. SPANN: Charles C. Spann, for both Phillips

Petroleum Company and El Paso Natural Gas Products Company, we would like to concur in Mr. Buell's motion, and further state that if the motion is overruled, we would still recommend that additional time be allowed -- I mean in addition to one hundred twenty days before the Order becomes effective, at least some realistic time be used, bearing in mind these hearings that are pending. And it would be -- perhaps if a period of time is used, it begin after the Federal Power Commission has acted, and some Orders put out concerning these applications.

MR. PORTER: Any other comments on the motion?

MR. PAYNE: Yes, sir.

MR. PORTER: Mr. Payne.

MR. PAYNE: Mr. Examiner, I would point out that it is the duty of this Commission to prevent waste, and that this is true regardless of many delays that may be caused by the Federal Power Commission. I would, therefore, recommend that an Order be entered in this case. If the Commission feels that a hundred and twenty-day limit is too short, they could extend it to six months or some such figure. However, I strongly believe that an Order ought to be entered as perhaps the only way to speed up the Federal Power Commission.

MR. PORTER: Anyone else want to comment on the motion?

The Commission will deny the motion for a continuance, and in considering the case, we certainly will consider the admonition of Mr. Payne to consider a later date -- later effective date of

entering a no-flare provision for the Order that might be included. The Commission will certainly consider the recommendations of Mr. Nutter. We will also consider the merits of making the effective date of any such Order later. And we will take the case under advisement.

I believe we had the request from some of the interested parties to enter a statement into the record, which we will entertain at this time.

MR. KELLAHIN: If the Commission please, Jason Kella-hin for Standard Oil Company of Texas. Standard Oil Company of Texas operates four wells in the Escrito-Gallup Pool, two of which received some attention, both in Mr. Nutter's testimony and in that presented by Mr. Marshall. As the record now shows, those two wells located in Section 26 are high gas-oil ratio wells, which are practically at their economic limit of productivity. We do not anticipate they will be produced very much longer. Of the four wells operated by Standard, they are all marginal wells and producing approximately 35 barrels of oil per day total. The gas volume from the Escrito Field, as shown by the testimony offered by Pan American, is insufficient to justify the gas gathering system or compression facilities either to sell or to reinject the gas. The flaring of gas, of course, is prohibited in the Gallup Field. It would then cause premature abandonment of the properties operated by Standard Oil Company of Texas, and probably some of the other operators, and a resultant loss of oil, which could

otherwise be recovered. It is requested that the present status of allowing the flaring of gas in this Pool be continued to permit these marginal wells to produce their normal -- to their normal economic limit during -- by obtaining a greater recovery of hydrocarbons from this particular reservoir. We appreciate the recommendation which has been made by Mr. Nutter that this pool be given further study. If there is any possibility of anything being worked out which would save this gas, either by injection or by marketing it, certainly Standard of Texas will cooperate to the fullest extent. We do not object to an industry committee making further study. We do feel that Pan American has done an excellent job, but if there is anything further to do, we certainly want to cooperate. Thank you.

MR. PORTER: Anyone else want to say anything further in this case? Take the case under advisement.

STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

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

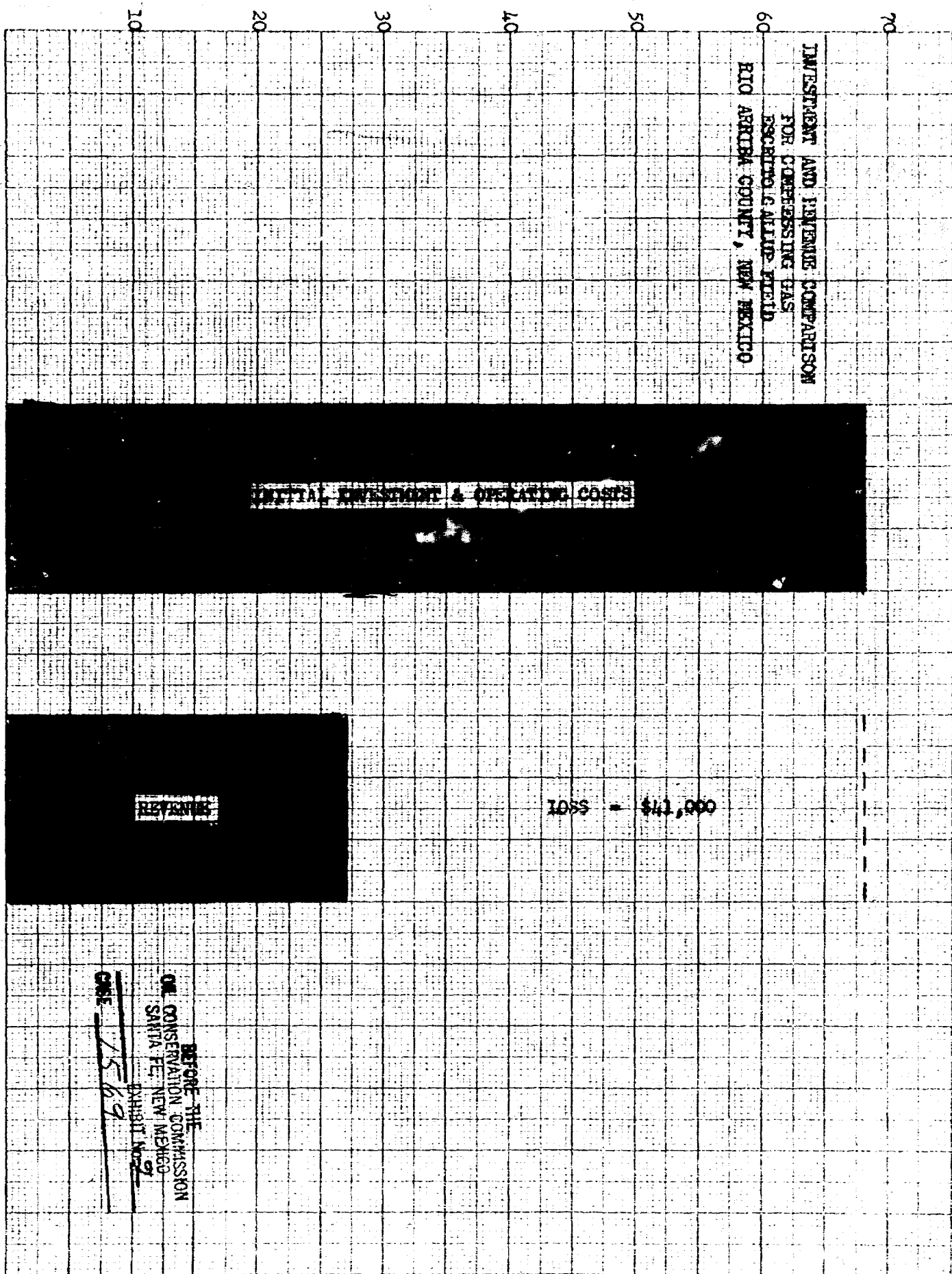
WITNESS my Hand and Seal this, the 7th day of June, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph A. Trujillo
 NOTARY PUBLIC

My Commission Expires:

October 5, 1960

INVESTMENTS & REVENUES - 1000's OF DOLLARS



STATEMENT OF W. V. HOLIK, JR.
ON BEHALF OF EL PASO NATURAL GAS COMPANY
BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION
JUNE 9, 1959

I am authorized by El Paso Natural Gas Company, referred to as "El Paso," to make this statement on its behalf. El Paso had made prior statements at the December, 1958 and March, 1959, hearings. This statement supplements and brings to date the progress made in obtaining authorization to construct and the progress made in construction of facilities for taking casinghead gas from producers in the Bisti-Gallup and Gallegos-Gallup Oil Pools.

Pursuant to an agreement entered with Shell Oil Company construction work has proceeded on the facilities necessary to take ten million cubic feet per day authorized by Federal Power Commission in a temporary certificate order dated November 13, 1958. El Paso's Exhibit No. 1 is a map showing the location of gathering facilities already constructed and gathering facilities now under construction. El Paso estimates the gathering facilities to serve the wells covered by the Shell contract will be completed by June 15 and the compression facilities by July 1 of this year. These facilities will handle ten million cubic feet per day authorized by the temporary certificate.

In addition, British American Oil Company has completed a gathering system to gather casinghead gas which is presently being reinjected by British American and which will be sold to El Paso in the future under an existing contract between British American and

El Paso. Negotiations are substantially completed for transfer of these gathering facilities to El Paso upon FPC approval. A similar arrangement is under discussion with Sunray Mid-Continent.

Engineering studies have been made to estimate the facilities required and the cost of facilities necessary to take gas from the Gallegos-Gallup trend. Preliminary but firm proposals have been submitted within the last week to Skelly Oil Company and others covering the production of Skelly and other operators in the area. No firm agreement has been reached regarding any producer sharing with El Paso the risk incident to construction of facilities under a temporary certificate.

El Paso's application under Docket No. G-15696 was set for hearing July 6 but Federal Power Commission has recently postponed this hearing and has not reset the hearing for a definite date. This application requests, among other things, authority to construct facilities required for gathering and processing the casinghead gas under contract, as estimated.

All except five of the producers with whom El Paso has casinghead gas contracts have filed applications with Federal Power Commission for producers' certificates. These cases have been consolidated and set for hearing on June 12.

If Federal Power Commission issues permanent certificates to the producers in these applications El Paso will seek to obtain approval for construction of the facilities necessary to serve those producers accepting permanent certificates in an entire area. El Paso will meet with any group to discuss sharing the risk of construction under a

temporary certificate. Upon obtaining a certificate, in form acceptable to El Paso, then El Paso will proceed immediately with construction of the additional facilities.

STATEMENT OF BEN R. HOWELL
ON BEHALF OF EL PASO NATURAL GAS COMPANY
BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION
MARCH 18, 1958

MARCH

I am authorized by El Paso Natural Gas Company, referred to as "El Paso," to make this statement on its behalf. At the December, 1958 hearing, El Paso stated that it had negotiated contracts for purchase of casinghead gas from producers in the Bisti-Gallup and Gallegos-Gallup Oil Pools, jointly referred to as "Bisti area," covering the major portion of casinghead gas from the known productive areas in these two pools. Said contracts had been filed by El Paso as a part of its application for a certificate of public convenience and necessity in Docket No. G-15696, wherein El Paso requested, among other things, the authority to construct facilities to gather, compress and process the casinghead gas production from the Bisti area. By order dated November 13, 1958, the Federal Power Commission, in said Docket No. G-15696, granted El Paso temporary authorization to build facilities designed to take and process up to 10,000,000 cubic feet of casinghead gas per day from the Bisti area. A letter from the Federal Power Commission dated November 20, 1958 was filed with the statement. This letter raised the question of Federal Power Commission's authority to grant temporary certificates. In conclusion, El Paso stated that it could not give firm assurance of the date when facilities would be built and it would be able to take casinghead gas from the Bisti area.

At the present time 32 producers have made casinghead gas contracts with El Paso and most of them have filed with Federal Power Commission applications to make sale of casinghead gas pursuant to their contracts with El Paso. The application in Docket G-15696, as it relates to the taking of gas by El Paso from the Bisti area, has been amended slightly by filing of producers' contracts and providing for transfer of compression facilities from El Paso's Chaco Plant into the Bisti field. No permanent certificate has yet been issued.

In the interval since the December meeting El Paso and Shell Oil Company have been engaged in negotiations and have now reached an agreement providing for their sharing of risks inherent in a temporary certificate in a manner satisfactory to each. While this agreement has not been executed, it is expected to be executed within the next few days. With respect to Shell Oil Company, El Paso estimates 120 days to be the time required to construct facilities in order to take up to 10,000,000 cubic feet of casinghead gas per day, which is the volume presently authorized by the Federal Power Commission in the temporary certificate. It is El Paso's understanding that Shell will request a temporary certificate to sell such gas to El Paso, which request is a prerequisite to El Paso's being able to purchase same.

As soon as the agreement with Shell is executed, El Paso will offer to all other producers who have executed

casinghead gas contracts with El Paso an opportunity to enter into the same type of agreement which El Paso has entered into with Shell. As to such other producers, El Paso estimates 120 days from the date of execution of each additional agreement to be the time required to construct the facilities necessary to take casinghead gas from each such other producer. However, as to such other producers, it will be necessary for El Paso to obtain from the Federal Power Commission authorization to allow El Paso to take in excess of 10,000,000 cubic feet of casinghead gas per day from the Bisti area and, in addition thereto, it will be necessary for each producer to obtain a temporary certificate to sell such casinghead gas to El Paso.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER CONCERNING
THE PROHIBITION AGAINST THE
FLARING OF CASINGHEAD GAS
AFTER DECEMBER 31, 1959,
FROM OIL WELLS IN THE BISTI-
LOWER GALLUP OIL POOL AND
GALLEGOS-GALLUP OIL POOL,
SAN JUAN COUNTY, NEW MEXICO

EMERGENCY ORDER No. E-23

NOW, on this 31st day of December, 1959, the Oil Conservation Commission of New Mexico, a quorum being present, having considered certain applications for an emergency order and being fully advised in the premises,

FINDS:

(1) That an emergency exists which requires the promulgation of an order by the Commission without notice and hearing.

(2) That under the terms of Order No. R-1427, no casinghead gas is to be flared or vented in the Bisti-Lower Gallup Oil and the Gallegos-Gallup Oil Pool, San Juan County, New Mexico, after December 31, 1959.

(3) That the Commission has been advised that due to various unforeseen circumstances, the completion of a gas gathering system in said pools will be delayed for 15 days.

(4) That, as requested by numerous operators, a 15-day grace period should be granted to all operators in the subject pools during which time the no-flare provision of Order No. R-1427 should be suspended.

(5) That this order should be effective at 12:01 a.m., January 1, 1960, and thus will expire at 12:01 a.m., January 16, 1960.

IT IS THEREFORE ORDERED:

That the provision of Order No. R-1427 prohibiting the flaring or venting of casinghead gas in the Bisti-Lower Gallup Oil Pool and the Gallegos-Gallup Oil Pool, both in San Juan County, New Mexico, after December 31, 1959, be and the same is hereby suspended for a 15-day period commencing at 12:01 a.m., January 1, 1960 and ending at 12:01 a.m., January 16, 1960.

-2-

Emergency Order No. E-23

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

John Burroughs

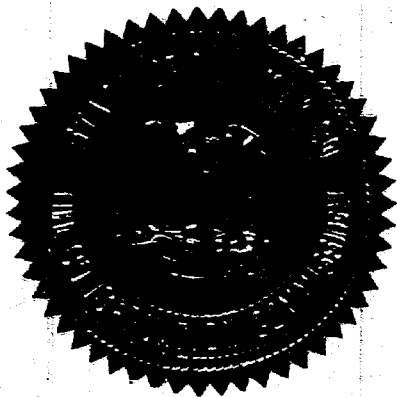
JOHN BURROUGHS, Chairman

Murray E. Morgan

MURRAY E. MORGAN, Member

A. L. Porter, Jr.

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



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