

CASE 2215: Application of the OCC
to consider prohibiting flaring of
casinghead gas from oil wells in
the CHA CHA & TOTAH-GALLUP POOLS.

-asa / No.

2215

Application, Transcript,
Small Exhibits, Etc.

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 15, 1961

IN THE MATTER OF:)

The hearing called by the Oil Conserva-)
tion Commission on its own motion to)
consider the promulgation of an order)
prohibiting the flaring of casinghead)
gas from oil wells in the Cha Cha-)
Gallup and Totah-Gallup Oil Pools, San)
Juan County, New Mexico.)

Case 2215

BEFORE: Mr. A. L. Porter, Chairman
Honorable Edwin L. Mechem
Mr. E. S. (Johnny) Walker

TRANSCRIPT OF HEARING

MR. PORTER: The hearing will come to order, please.

The Commission will next take up Case 2215.

MR. PAYNE: 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 the Cha Cha-Gallup and Totah-Gallup Oil
Pools.

MR. PORTER: San Juan County.

MR. PAYNE: I am glad you called that to our attention.

MR. BUELL: Pan American Petroleum Corporation, Guy
Buell.

MR. DAVIS: Aztec Oil and Gas Company, Quilman B. Davis.

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MR. BRATTON: Humble Oil and Refining Company, Howard Bratton.

MR. HOWELL: El Paso Natural Gas Company, Ben Howell, and in association with New Mexico counsel Mr. Montgomery and Mr. Federici.

MR. PLUMB: Tenneco Oil Company. L. B. Plumb.

MR. PAYNE: We have one witness, Mr. Emery Arnold.

MR. PORTER: Will you stand and be sworn, please.

(Witness sworn.)

E. C. ARNOLD

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

DIRECT EXAMINATION

BY MR. PAYNE:

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

A E. C. Arnold, Supervisor of the Division 3, Oil Conservation Commission.

Q Are you generally familiar with the matters involved in Case No. 2215?

A Yes, sir.

Q And have you made a study in this connection?

A Yes.

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(Whereupon, Commission's Exhibit No. 1 was marked for identification.)

Q Now, referring to what has been designated as Commission's Exhibit No. 1, will you explain to the Commission what that depicts?

A Exhibit No. 1 is an area map showing the Cha Cha-Gallup, Totah-Gallup and Kutz-Gallup Pools. Also shown are all presently producing Gallup oil wells as of February 28, 1961.

Q How many wells are in the Cha Cha Pool and in the Totah?

A Forty-two on this map in the Cha Cha and twenty-three in the Totah.

Q Mr. Arnold, have any dry holes been drilled in either pool?

A No, sir.

Q Is it your opinion there will be other productive wells in one or both of these fields?

A There are presently several rigs operating in both fields and neither pool has been defined, particularly on the Northwest and Southeast ends.

Q What was your purpose in depicting the Kutz Pool on Exhibit 1?

A The Kutz Pool falls within this area, also is a producing pool in the Gallup formation, so we put the Kutz Pool boundary on it. There is actually not enough available gas from

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the Kutz Pool at the present time in my opinion to call for a no-flare order. I do think we should watch this area.

Q Are the Cha Cha and Totah Pools dry gas reservoir?

A Yes.

Q Is there reason to assume the gas-oil ratios will rise?

A Yes, they will rise as more oil is processed as the bubble point is reached.

Q What is the present situation in regard to making additional recovery of casing-head gas in these two pools?

A In the Cha Cha, one operator has installed compressor facilities and is selling gas. This amounts to about 1,470,399 cubic feet of gas being sold on the Benson-Montin-Greer Jones lease. The balance of gas in both reservoirs being vented at the present time.

(Whereupon, Commission's Exhibit No. 2 was marked for identification.)

Q In that connection, will you please refer to what has been designated as Exhibit 2 which deals with the Cha Cha-Gallup Pool, and explain the information that you have compiled thereon?

A Exhibit No. 2 is a summary of the gas-oil ratio information on the Cha Cha-Gallup Pool as of February 28, 1961. I have listed all the wells producing in the Cha Cha-Gallup Pool as of that date shown on this exhibit, or gas-oil ratio tests

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taken in late January and early February of 1961. We had at that time forty tests available to the wells on this exhibit and didn't have tests available on two.

Q Mr. Arnold, will you give the company totals of available gas and then give the total gas available that you have compiled?

A Yes, sir. First, I might say, the way I have calculated the gas available is by multiplying the top oil allowable times their gas-oil ratio. On penalized wells, I have multiplied oil allowable to these pools, time 2,000, which is the limiting gas-oil ratio. On non-penalized marginal wells I have multiplied the producing capacity times the well's oil-gas ratio. This gives a fairly accurate figure as to the amounts of gas being vented.

Q What did you use to the situation of the two wells that had no tests?

A I average the gas available per well on the forty wells on which we had tests and simply multiplied that figure times the remaining two wells.

Q I see.

A This study shows that the Aztec Oil and Gas Company has available 391,468 cubic feet; Benson-Montin-Greer, 1,470,399 cubic feet; El Paso Natural Gas Products Company,

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1,144,884 cubic feet.

Q 844 or --

A 884. Humble Oil & Refining Company, 889,536 cubic feet; Pan American Petroleum Company, 3,068,138 cubic feet, for a pool total, well, actually that is upon the forty wells upon which we have tests, of 6,964,385 cubic feet.

The third page of Exhibit 2 is a summary of this information and it indicates that we have arrived, as an average per well, with your figure multiplied times the two with the remaining wells on which we didn't have tests, we come up with a total gas available of 7,312,605 cubic feet.

Now, the gas, as I said, on Benson in the Jones lease is being presently sold. Actually on this exhibit they were also selling the gas from Jones A, but I received notice yesterday, this is in error. The one well on the Jones A lease produces 59,177 cubic feet, which would change these totals, but not significantly.

At any rate, I have shown Benson 1,470,399, leaving vented gas 5,842,206 cubic feet.

Q In your opinion, is this amount great enough to make the gathering of the gas economical?

A Yes, I believe so.

Q You say these tests, as reflected on Exhibit 2, were all taken in '61?

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A Yes, sir, January and February, 1961.

Q In all probability, the gas-oil ratios have not gone up a great deal?

A No, should be fairly accurate.

(Whereupon, Commission's Exhibit No. 3 was marked for identification.)

Q Referring to Exhibit 3, would you go through that and explain to the Commission what you have shown on that?

A Exhibit 3 is a summary of the Totah-Gallup Pool showing twenty-four wells producing. As of February 28 we had available sixteen gas-oil ratio tests. Several of these tests date back as far as September, 1960, so the actual situation may not be as accurate as in the Cha Cha Pool, because the ratios probably were increased on several wells since that time.

Q So, any change in your figure would result in more gas available?

A That's right. Also on this exhibit I have calculated gas available using 94 and 164 barrels top allowable. The reason for this, presently the pool is producing on areas based on 40-acre spacing; 40-acre allowables effective April 1st will be 80 acres, and the allowable will be 164 barrels a day. I have calculated available gas using both these oil allowable figures.

Q Then, for practical purposes, your 80 figure would be the one that would be controlling in this particular case?



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A That, yes. On one other, assuming the oil withdrawals on gas-oil tests available were not at high enough rates for a 164 barrel allowable, so, actually, I assumed that each well which was top allowable at 40-acre allowable would also be top allowable with 80-acre allowable.

Q Realizing in some cases that couldn't be true?

A That's right.

Q Now, would you go through the company totals?

A Yes, sir. The Aztec Oil & Gas Company total is on 40-acre spacing, 313,500 cubic feet, on 80-acre, 545,300 cubic feet. Pan American Petroleum Corporation, 162,955 on either 40 or 80-acre allowables. That is because both are marginal wells. Southwest Production Company, 40 acre, 123,140 cubic feet; on 80 acre, 214,840 cubic feet. Tennessee Gas Transmission, 769,307 cubic feet on 40-acre allowable and 1,138,857 on 80-acre allowables. That gives a pool total to 40-acre allowables of 1,368,902 cubic feet and for 80 acre, 2,061,952 cubic feet.

Q Now, page 2 of Exhibit 3 summarizes that information?

A Yes. It also shows that amount of gas again as shown on the first page of Exhibit 3. Those wells with tests only, which was sixteen wells, derived by dividing that figure by sixteen, and I arrived at a figure of 85,556 on 40-acre allowables. Then by multiplying this by an additional seven wells in the pool with no tests, we got an additional gas available figure of



598,892 cubic feet, or a total of gas available figure of 1,967,794 cubic feet for 40-acre allowables. 80-acre allowable average gas per well is 128,872 cubic feet; multiplying this by seven we got 902,104 cubic feet for a pool total on 80 acre of 2,964,056 cubic feet.

Q In regard to these gas-oil ratio tests, were some of them witnessed by Commission Staff members?

A Yes, several of the tests in the Cha Cha and in both pools were witnessed.

Q If the Totah were geographically situated like the Cha Cha is, would there be some question that it would be economically feasible to gather that gas?

A It would make it less difficult because of the fact the Totah and Cha Cha are in close proximity to each other. The gas can be gathered cheaper because you don't need as many gathering process facilities.

Q Would you be able there to look at a total available for both in determining if it is economically feasible to gather gas in this area?

A Yes, sir, I believe so. That total figure for both pools is 8,826,262 cubic feet.

Q Do you know, of your own knowledge, of any plans for going forward at the present time that make additional use of this gas?

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A Well, as I said before, Benson-Montin-Greer has installed compressor facilities and are selling gas from the Jones lease in the Cha Cha Pool.

Q What date did that sale start?

A March 1st of this year. I have also heard of at least two other parties that have been studying the pool with the idea of putting in gasoline plants and gathering this gas.

MR. WALKER: That is hearsay?

A I have actually talked to both parties.

Q Is it your testimony that in your opinion it would be economically feasible to gather this gas? What did you have in mind to recommend to the Commission as to the time and so forth?

A I would recommend that the Commission direct all operators in these pools to immediately start the construction of gathering facilities so that that gas might be gathered and sold. I would also recommend that this particular case be continued for sixty days so we can look at the situation at that time to see what progress has been made.

Q If you know at this time, could you tell the Commission after a period of sixty days you would recommend that it be continued again?

A Would you repeat the question, please?

Q This is the only continuance you want, is it not?

A Yes, sir, the problem in this kind of reservoir is

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economics or marginal to begin with, and you only aggravate that progress of putting off the time you are going to gather the gas. In six month's time this additional volume, you imagine you are going to vent could be some \$180,000 worth of gas. So from an economic standpoint, the faster we move the better, I would say.

Q The operators would move forward in this sixty-day period?

A Yes, sir, I believe they will.

Q Do you have anything else you would like to explain to the Commission in regards to this case?

A No, sir, I don't believe so.

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

MR. PORTER: Anyone have any question of Mr. Arnold? The witness may be excused.

(Witness excused.)

MR. PAYNE: At this time I offer in evidence Commission's Exhibits 1 through 3.

MR. BUELL: Guy Buell with Pan American. May it please the Commission, Pan American would like to concur in Mr. Arnold's sixty-day continuance with respect to the Cha Cha Pool. I can tell the Commission the operators have been diligently working several months on a field-wide gathering compression facility. We sincerely believe that within sixty days we can finalize

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those plans. With respect to Totah, Pan American operates only two wells there. They are both marginal. Actually candidates for exception from a flare order, if any is ever issued. We are prepared to present testimony to show the economic situation with respect to those wells, if the Commission would like to receive it.

MR. PAYNE: Mr. Buell, I want to see at this time whether there is any further testimony to be used here today by other interested parties and then we will decide whether we want you to go ahead and put your testimony on.

MR. DAVIS: Quilman Davis appearing on behalf of Aztec Oil and Gas Company. Aztec has acreage and production on both the Cha Cha and Totah Pools. I believe we are the major holder in the Totah area. We would like to, Oliver, to change the names of the pools. We do find a different situation in the areas, particularly with respect to the gathering of this casing-head gas, Aztec and other operators in the Totah area have been actively engaged in this sort of operation to find a way to gather and save that gas, and will continue in this line, Mr. Arnold recommended. We certainly concur in his recommendation that this case be postponed or continued for sixty days and I think we will be able to give the Commission some very definite information on the Totah area particularly.

MR. PORTER: Mr. Bratton.

MR. BRATTON: Howard Bratton, Humble Oil and Refining

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Company. Humble owns an interest approximating 25 percent in the Cha Cha. We would concur with Mr. Arnold's recommendation to the Commission. Mr. Buell has stated on the matter of the operators, we can report on the progress of that within sixty-day time and show definite progress of fieldwide disposal.

MR. PORTER: Anyone else have a statement to make?
No further questioning to be presented?

MR. PAYNE: The Commission received communication from Benson-Montin-Greer which we would like to have you read into the record.

MR. PORTER: Mr. Payne, in regard to Mr. Buell's statement, did you wish him to proceed with his testimony?

MR. PAYNE: Well, the Commission has decided to continue the case, according to Mr. Arnold's recommendation, for sixty days. The matter will be brought up again at the regular May hearing, at which time we certainly want to urge all the operators in this pool to use every effort to expedite the marketing of this gas, and at that hearing we will expect some definite progress reports as to what has been accomplished in these sixty days. Did you want to enter Mr. Greer's letter for the record?

MR. PORTER: In view of the fact Mr. Arnold testified it is economically feasible to gather this gas, and in view, further, of the fact that's the essence of Benson-Montin and

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Greer's statement, perhaps it should be read in the record.

"Gentlemen: In the event Benson-Montin-Greer Drilling Corp. is unable to have a representative present at the subject hearing, we are sending you with this letter information concerning operations of Benson-Montin-Greer Drilling Corp.. which we request be filed with other statements relating to this case. We understand the information cannot be introduced as evidence, but that it might properly be accepted by the Commission along with other statements.

Benson-Montin-Greer Drilling Corp. operates seven wells in the Cha Cha-Gallup Field producing from the Gallup Formation. Six of these wells are on the Jones Lease, which covers the east half and the northwest quarter of Section 17, Township 28 North, Range 13 West, and one is on the Jones "A" Lease, which covers the southwest quarter of Section 17, Township 28 North, Range 13 West. The Jones "A" No. 1, SE/4 SW/4 Section 17, is a non-commercial well, currently producing about 15 barrels per day. We believe it economically not feasible to attempt to make useful disposition of the gas from this well, and in the event the Commission establishes a ruling whereby exceptions can be made for such wells, we will at a later date request such exception from a no-flare gas order.

The remaining six wells which we operate on the Jones Lease produce in a common tank battery, and the gas produced in connection

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with the oil is compressed at the tank battery by our own compressors and delivered through our own pipe line, approximately one half mile, and is delivered to El Paso Natural Gas Company at its pipe line connection in the SE/4 SE/4 of Section 17. Gas compression and sales commenced February 29, 1961, and at this time we are flaring no gas from the six wells on the Jones Lease.

Attached to this letter are three exhibits describing the following items:

1. Price paid for the casinghead gas sold.
2. Compressor installation.
3. Economics of gathering and selling casinghead gas from Benson-Montin-Greer Drilling Corp. Jones Lease." Signed Albert R. Greer.

"GAS SALE PRICE, BENSON-MONTIN-GREER DRILLING CORP., JONES LEASE, CHA CHA-GALLUP POOL, SAN JUAN COUNTY.

Benson-Montin-Greer Drilling Corp. is currently compressing gas produced from Gallup Formation oil wells under its Jones Lease, Section 17, Twp. 28N, Rge. 13W, pursuant to Casinghead Gas Contract originally entered into with El Paso Natural Gas Company dated June 14, 1960, for a daily quantity of gas of 1 million cubic feet per day, which Contract was supplemented by Agreement dated November 30, 1960, to increase the volume to 2 million cubic feet per day.

The price for gas in this contract is 11¢ per thousand



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plus a share of the value of the liquids, for gas delivered at 250# per square inch gauge pressure, which is approximately the pressure of El Paso's gathering system in this area at this time. The contract contemplates that gathering pressures will later on be increased to 500#, at which time the price for the gas will be increased 1¢ per thousand for the additional delivery pressure. The contract carries an escalation provision of 1¢ increase for each five year period." Signed Albert R. Greer.

"COMPRESSOR DATA
BENSON-MONTIN-GREER DRILLING CORP. JONES LEASE
CHA CHA-GALLUP POOL
SAN JUAN COUNTY

Benson-Montin-Greer Drilling Corp. has currently installed on its Jones Lease two compressors, each identified as follows:

Oil Well Model GBLU-150A Belt-Driven Natural Gas Compressor Unit, consisting of the following:

Chicago Pneumatic Tool Company 7" x 4½" x 13" tandem double-acting horizontal water-cooled gas compressor for two-stage operation, powered by Waukesha Model 6-NKRBU 6-cylinder 7" bore x 8½" stroke gas engine.

Estimated performance data is as follows, for a discharge of 500 pounds per square inch gauge:

<u>Inlet</u> <u>Pressure</u> <u>psig</u>	<u>Cubic Feet</u> <u>per 24 hours</u> <u>each compressor</u>	<u>Cubic Feet</u> <u>per 24 hours</u> <u>Two compressors</u>
20#	395,000	790,000
40#	640,000	1,280,000
60#	925,000	1,850,000

Signed Albert R. Greer.



"ECONOMICS OF GATHERING, COMPRESSING AND SELLING
CASINGHEAD GAS FROM
BENSON-MONTIN-GREER DRILLING CORP. JONES LEASE
E/2 & NW/4 SECTION 17, TWP. 28N. RGE. 13W
CHA CHA-GALLUP POOL
SAN JUAN COUNTY
(AN INDIVIDUAL SIX-WELL LEASE SYSTEM)

In Case No. 2069 before the New Mexico Oil Conservation Commission September 14th, 1960, I testified that in my opinion the casinghead gas produced in connection with the oil from the Gallup Formation under Benson-Montin-Greer Drilling Corp. Jones Lease would have negligible economic value, because the cost of gathering, compressing and marketing would approximate the total value of the gas. Since that date there have been no developments which would tend to change this opinion. I still estimate, on 40-acre spacing, an average recovery of 60,000 barrels per well primary production, which represents approximately 15% of the oil in place. I also estimate that there will be produced with this 60,000 barrels approximately 200 million cubic feet of gas per well. This represents an income, after royalties and taxes but before operating expense, of about \$18,000 per well.

We do not have all of our costs assembled for our compressor installation and high pressure pipe line system. However, it appears that our investment to date for these items will approximate \$12,000 per well. With this installation we can sell approximately all of the gas we will be allowed to produce with an oil

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allowable of 175 barrels per day and a gas-oil ratio limit of 2,000 cubic feet per barrel, and a separator pressure of 60# per square inch. We are currently operating with a separator pressure of 50# and compressing approximately 1,600,000 cubic feet of gas per day, with the present oil allowable of 863 barrels per day for the lease. As the wells decline, the investment of another \$6,000 per well, or a total investment cost equal to the anticipated value of the gas, will be required in order to reduce separator pressure to approximately 30#. Further reduction in separator pressure can then only be accomplished by restricting production to lower rates, or by installation of compressor equipment far in excess of the value of gas to be recovered. It is now our plan that when the stage in the producing life of our wells is reached at which they will not produce against separator pressures of 30#, to restrict total production from the lease, in order to accomplish reduction of separator pressure." Signed by Albert R. Greer.

MR. PORTER: Anyone else?

MR. HOWELL: If the Commission please, Ben Howell.

I would like to make a brief statement. We have no testimony to offer at this time in this hearing. We are making studies relating to the economics of this gas and we are in the process of negotiating contracts, as the records show, one which has at this time been entered with the Benson-Montin-Greer group,



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and we have made firm offers of contracts to other producers. However, I think it should be pointed out that the existing gathering and lateral facilities which we have in the area are loaded to almost capacity at the present time. It will probably be necessary, in order for us to take this gas, to construct some additional facilities to handle the gas.

Now, we have not progressed to the point we are able to make any announcement or remarks as to the length of time in which such facilities will be connected. We will be glad to inform the Commission as soon as the other contracts are able to be negotiated.

MR. PORTER: Anyone else have any comments? The Commission recognizes in new pooling and rapidly ^{Developing} ~~depleting~~ pools *that sometimes* ~~at the same time~~ it is necessary to ^{have} ~~acquire~~ a certain amount of gas until facilities can be built to handle this gas. But certainly for the past several years the Commission has been making every effort to limit it as much as possible to cut it to the bare minimum. Certainly I appreciate your effort to do something about this and give us a report at the May hearing. We will continue the case until the regular May hearing. I would like to remind you at this time the April hearing will be held in Hobbs. At that time we expect to have on the docket several cases concerning administrative approval.

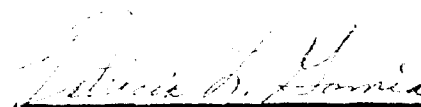
The next case on the docket is Case 2216.



STATE OF NEW MEXICO)
) SS
 COUNTY OF BERNALILLO)

I, PAT GOMIA, Notary Public, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 25 day of April, 1961.


 Notary Public

My commission expires:

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BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 17, 1961

IN THE MATTER OF:)

The hearing called by the Oil Conserva-)
tion Commission on its own motion to)
consider the promulgation of an order)
prohibiting the flaring of casinghead)
gas from oil wells in the Cha Cha-Gallup)
and Totah-Gallup Oil Pools, San Juan)
County, New Mexico.)

Case 2215

TRANSCRIPT OF HEARING

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 17, 1961

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 the Cha Cha-Gallup and Totah-Gallup Oil Pools, San Juan County, New Mexico.

Case 2215

BEFORE: Mr. A. L. Porter
Mr. Murray Morgan

TRANSCRIPT OF HEARING

MR. MORRIS: 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 the Cha Cha-Gallup and Totah-Gallup Oil Pools, San Juan County, New Mexico.

MR. PORTER: At the outset I would like to ask for appearances in Case 2115.

MR. BUELL: For Pan American Petroleum Corporation, Guy Buell.

MR. BRATTON: For Humble Oil and Refining Company, Howard Bratton.

MR. DAVIS: For Aztec Oil and Gas, Quilman Davis.

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MR. WALSH: Swell Walsh for El Paso Natural Gas Products Company.

MR. KNIGHT: Will Knight for Southern Union Gas, and in connection with resident counsel Manuel Sanchez.

MR. SETH: Oliver Seth and Mr. Ben Howell for El Paso.

MR. PORTER: Mr. Morris.

(Witness sworn.)

E. C. ARNOLD

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

DIRECT EXAMINATION

BY MR. MORRIS:

Q Will the witness please state his name and position?

A E. C. Arnold, supervisor District 3 of the Oil Conservation Commission.

Q Mr. Arnold, did you testify in case 2215 presented at the March, 1961 Regular Hearing concerning the flaring of casing-head gas in the Cha Cha and Totah-Gallup Oil Pools?

A Yes, I did.

Q Would you review the testimony that you gave in that case, first in the Cha Cha-Gallup Oil Pool?

A At that time in the Cha Cha-Gallup Oil Pool there were 42 completed producing oil wells in the Gallup formation. I estimated at that time that there was about 7300 MCF of gas per

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day being produced in the pool.

Q Mr. Arnold, how many additional wells have been put on production since that time?

A Nineteen additional wells have been drilled in the Cha Cha Pool since that time as of May the 15th.

Q Including those new wells, how much gas is now being produced from all the wells in the Cha Cha-Gallup Oil Pool?

A Approximately 10,600 MCF per day. This figure is determined by using the average gas per well figure from the March hearing and multiplying by the total number of wells producing as of May 15.

Q Would you review the testimony that you gave at the previous hearing concerning the number of wells producing and how much gas they produced in the Totah-Gallup Oil Pool?

A At the time of the March hearing there were 23 wells producing in the Totah Pool and the amount of gas produced was estimated at 2964 MCF per day.

Q Would you state how many new wells have been completed in the Totah-Gallup and how much gas is now being produced per day in that pool?

A An additional 16 wells have been drilled in this pool as of May 15, and the total amount of gas now being produced is estimated at 5,000 MCF per day.

Q What is the total amount of gas that is now being

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produced from both the Totah and the Cha Cha-Gallup Oil Pools?

A I estimate that there is approximately 15,650 MCF per day being produced in both pools combined.

Q Now, Mr. Arnold, is any of this total amount being put to beneficial use at the present time.

A Yes, approximately 1500 MCF per day from the Benson-Montin John Lease is being compressed and sold to El Paso Natural Gas Company. This leaves about 14,000 MCF per day being flared at the present time.

Q Do you have any knowledge of gathering facilities that are planned or any other use that's being planned for the gas that's being vented at the present time?

A Yes, it's my understanding that the Knight Engineering Company has signed contracts with the majority of the operators in both these pools to gather and compress the gas and sell it, I believe, to the El Paso Natural Gas Company. Their surveying, as I understand it, in the Cha Cha Pool, is just about complete and they are presently at work in the Totah Pool. I think that significant progress has been made since the March hearing toward the problem of gathering this gas. They intend, I believe, by the first of July, to be taking gas, although I doubt that they're taking all of it by that time.

Q At the present time, however, all of the gas except the ~~million and a half a day~~ that you mentioned is being flared or

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PHONE CH 3-6691



vented, is that correct?

A Yes, that's correct.

Q Mr. Arnold, if the Commission saw fit to issue a no flare order at the present time, would you recommend that some of the wells in these pools be given exceptions?

A Yes, I think the order should provide that an operator can get administrative exception for any wells from which it's not economic to gather the gas. I also think that there should be a provision in any order which would allow ninety days from the date of first oil production for a new well to get a gas connection.

Q Mr. Arnold, do you have anything further you wish to state in this case?

A No, sir, I don't believe so.

Q Did you refer to your exhibit in your testimony or was that just a picture?

A Exhibit No. 1 is an area map showing the Totah and Cha Cha Pool. The wells have been spotted on this map up through May 15.

(Whereupon, Commission's Exhibit No. 1 was marked for identification.)

Q Did you prepare this exhibit, Mr. Arnold?

A Yes.

MR. MORRIS: We will offer this exhibit in this case,

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and that concludes the direct examination of this witness.

MR. PORTER: Without objection, the exhibit will be admitted to the record. Does anyone have any questions? If no questions, the witness may be excused.

(Witness excused.)

MR. PORTER: Anyone else desire to present testimony? Any statements? Mr. Buell.

MR. BUELL: May it please the Commission, Guy Buell for Pan American Petroleum Corporation. I would like to briefly comment on the progress that has been made in both of these pools. I would like to state at the outset that I speak only for Pan American, but as Mr. Arnold has testified, the operators in these two pools are attacking the problem as a whole, so it's almost impossible to talk about progress unless you talk about not one pool as a whole but actually both pools.

As Mr. Arnold has testified, the operators, sufficient number of operators in both pools have committed their gas to Knight such that he can go ahead with his plans for a fieldwide gathering system in both pools.

As Mr. Arnold testified, Mr. Knight is diligently working at that right now, so actually, we, as operators, have done everything that we can do except to wish Mr. Knight God speed in his work. We don't need a shut down order to spur us to diligence.

MR. PORTER: Could you help him a little maybe?

MR. BUELL: Sir?

MR. PORTER: Could you help him a little maybe?

MR. BUELL: We're helping him in every way that we can.

We have been diligent, I sincerely feel that we have. All the operators realize when we first started evaluating the problem of this produced casinghead gas that it was going to be a marginal economic deal for everyone involved. So, actually, the efforts that have been made, I believe, could be termed strictly a conservation effort. From the economic standpoint there's going to be very little economic gain to anyone involved.

In addition to the surveys that Knight is conducting in the Cha Cha that Mr. Arnold mentioned, he has already ordered his pipe for the gathering line. He advises us that some of his compressors are currently being fabricated at their shops in Tulsa. He's diligently pursuing the administrative route with the federal agencies involved.

We feel that everyone is doing everything that they can. This is an unusual situation. The testimony of Mr. Arnold, we're dealing with two unique and novel pools. At the present time there are probably six drilling rigs active in this area. In Cha Cha since March we've had nineteen wells completed, in Totah, sixteen. The field is on the move, it's being actively developed.

We feel, actually, that if the Commission would hold off any action until after the July hearing, by that time, if everything

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PHONE CH 3-6091



goes well for Mr. Knight, we should be taking gas out of these pools. We feel with that factual data before it, the Commission will be in a better position to intelligently issue an order that will properly regulate the production and disposition of casing-head gas in these two pools.

For these reasons Pan American would respectfully move that this case be continued until the regular July hearing.

MR. PORTER: Before we rule on the motion, I would like to hear any other comments concerning the progress that has been made.

MR. NUTTER: I would like to ask Mr. Buell a question before any other statements. Mr. Buell, will Mr. Knight actually be buying the gas from the producers?

MR. BUELL: Yes, the producers' contract is with Mr. Knight.

MR. NUTTER: It's with Mr. Knight?

MR. BUELL: Yes.

MR. NUTTER: Are these contracts being made under the Federal Power Commission price scale?

MR. BUELL: I rather doubt it, if they are I feel sorry for the area.

MR. NUTTER: Is there any possibility there might be a long delay in getting approval for the contracts?

MR. BUELL: They're considerably below the area price.

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Mr. Knight is not anticipating any difficulty with the Federal Power Commission.

MR. NUTTER: Has he made his application with the Federal Power Commission?

MR. BUELL: He advised me yesterday that he was currently preparing the papers for the application.

MR. NUTTER: Has Pan American made the application yet to the Federal Power Commission to sell their gas?

MR. BUELL: No, to my knowledge, no. Frankly, I don't even know if it will be required.

MR. NUTTER: Thank you.

MR. PORTER: As I understand it, I don't understand it fully, the Federal Power Commission, at least at the present time there seems to be a state of confusion concerning this area pricing, but you can operate under this area pricing, as I understand it, if your prices that you are asking for do not exceed the ceiling set for the area, is that right?

MR. DAVIS: That's my understanding.

MR. BUELL: I don't know. I can say this, Mr. Porter, if the area price is the price we're getting for our gas, I feel sorry for the area.

MR. PORTER: There's another question, Mr. Buell, and that is this: is this the quickest way that gas can be disposed of, made beneficial use of in this area as proposed to the

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gasoline plant?

MR. BUELL: Yes, sir, of all the possibilities that we have evaluated, and Pan American evaluated several; of course I can't speak for the other operators; of all the possibilities that we evaluated, this is the best from an economic standpoint to the operators in that they will get a slight return for their gas. It is the most expeditious, it will allow us to save the gas quicker than any other possibility that we investigated. So, both from the standpoint of economics and expediency, Pan American certainly feels that the proposal with Mr. Knight is the best of any that we evaluated.

MR. PORTER: Mr. Bratton.

MR. BRATTON: Howard Bratton on behalf of Humble. I would like to second everything that Mr. Buell has said here and, as to your question, Mr. Porter, we also evaluated several approaches to this and this was the quickest way the problem could be resolved, the quickest one we could discover.

We also entered into a contract with Mr. Knight. We wish him God speed and we certainly will help him in every way that we possibly can, and it is our understanding that the, as Mr. Arnold said, that gas will be started to be purchased by July 1st, and possibly it will not all be completed, I don't know, but certainly in view of that and in view of the fact that the operators have done, the matters are beyond their control except to assist in any

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PHONE CH 3-6691

61

way possible at the present time.

We feel that Mr. Buell's motion is in order that the Commission look at this matter at the July hearing. For that reason we certainly would second his motion.

MR. PORTER: Mr. Davis.

MR. DAVIS: Quilman Davis, on behalf of Aztec Oil and Gas Company. I, too, want to second Mr. Buell's request and motion and, Mr. Porter, I might add that Aztec secured an outside consultant to look into this matter, particularly in the Totah area where we have a large percentage of the acreage. We found that Mr. Knight's proposal was the fastest and the most economical way for us to produce the gas. We feel, in answer to Mr. Nutter's question, that it will not be necessary to the producers to file any application on their contracts with Mr. Knight. We have made two, one in the Totah and one in the Cha Cha. I have seen Mr. Knight's proposal from El Paso and even that contract should pass Federal Power Commission area pricing, so it looks like that everything, as far as it can, will go smoothly. All we're asking is that we be permitted to continue this hearing.

MR. PORTER: You say the only thing that the Federal Power Commission would have to approve would be the installation, the gathering system, the compressor system and so forth?

MR. DAVIS: Under the terms of this whole arrangement, I can't understand how they will have any objection to that

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situation, because the price that El Paso is paying for the gas is within the area pricing standard. Insofar as Mr. Knight is concerned, he's got a hundred percent guarantee that so much gas is going to move through the system from we and the other operators.

Secondly, to make this thing work, we have conceded some of our contractual rights on other gas up in the Basin for the time being until the larger El Paso line is being put into operation. We are doing everything we can to get it rolling. I can't see how Federal Power Commission can make any objection to the system that Mr. Knight will put in when his price for the public consumption is less and certainly not any more than gas well gas.

Secondly, Mr. Knight has a hundred percent guarantee of his operation.

MR. PORTER: Mr. Walsh.

MR. WALSH: Mr. Walsh, El Paso Products; we would like to concur with Mr. Buell's suggestion for a continuance, and we have been advised also by Mr. Knight on his progress and we fully believe that he should have the system in in a relatively short time. We have also evaluated the different type contracts and markets that's available for that gas and we feel that Mr. Knight has offered us the best program.

MR. PORTER: Anyone else like to make a statement? I guess we had better rule on Mr. Buell's motion. The Commission wishes to express its appreciation for the diligent effort that

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PHONE CH 3-6691



has been made by the producers in these two fields, since this matter was brought up in March, toward getting a market for the gas. We, too, feel that the plan that you have adopted is the quickest way of getting this gas on market. We're going to continue the case until the regular July hearing, which is July 13, I believe. It's fairly early in the month.

By that time, according to the record here this afternoon, why some of this gas, at least, should be going to market by that time. So, we will continue the case until the July regular hearing and remind the producers here that if necessary, at that time we could issue an order on pretty short notice. So the case will be continued until that time.

MR. BUELL: I would like to thank the Commission for their consideration in this matter.

MR. PORTER: Right at this point I have a note from Mr. Nutter that he has been advised by Nearburg and Ingram in connection with the Bluitt system, that they had Federal Power Commission approval for their gathering system and plant down there and I was assured by Mr. Ingram that they could be taking gas in sixty days. They were assured at first of Federal Power Commission approval by April 1st and then it was postponed until the 15th, and I think it came through last month or last Saturday.

We'll take up next Case 2277.

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IN WITNESS WHEREOF I have affixed my hand and notarial seal
this 26th day of May, 1961.

Notary Public-Court Reporter

June 19, 1963.

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PHONE CH 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 13, 1961

IN THE MATTER OF:)
)

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 the)
Cha Cha-Gallup and Totah-Gallup Oil)
Pools, San Juan County, New Mexico.)

CASE 2215

TRANSCRIPT OF HEARING

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PHONE CN 3-6691

ALBUQUERQUE, NEW MEXICO



BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 13, 1961

PHONE CH 3-6691

DE ARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO

IN THE MATTER OF:)

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 the)
Cha Cha-Gallup and Totah-Gallup Oil)
Pools, San Juan County, New Mexico.)

CASE 2215

BEFORE: Honorable Edwin L. Mechem
Mr. A. L. (Pete) Porter
Mr. E. S. (Johnny) Walker

TRANSCRIPT OF HEARING

MR. PORTER: We will take up next Case 2215.

MR. MORRIS: 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 the Cha Cha-Gallup and Totah-Gallup Oil
Pools, San Juan County, New Mexico.

MR. PORTER: This is a case which was continued from the
May regular hearing to this date. In May we had Mr. Arnold of the
Commission Staff bring us up-to-date as to the amounts of gas being
flared from the two pools under consideration. We also asked
Mr. Arnold to give us that same information at this time, and ask
him to stand and be sworn.



(Witness sworn.)

MR. MORRIS: At the outset, Mr. Commissioner, I would like to offer the record at the hearing held May 17, 1961 in Case 2215 as part of the record of the proceeding today, inasmuch as I do not intend to ask Mr. Arnold to repeat the cumulative totals that were presented in that hearing.

MR. PORTER: The record of the May hearing will be included as far as this hearing, Case 2215.

E. C. ARNOLD

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

DIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Arnold, will you state your full name and position, please.

A E. C. Arnold, supervisor, District 3 of the Oil Conservation Commission.

Q Mr. Arnold, did you testify in Case 2215 at both the March and the May hearings of the Commission concerning the flaring of casinghead gas in the Totah and Cha Cha-Gallup Oil Pools?

A Yes, I did.

Q Mr. Arnold, I won't ask you to review your previous testimony, but if you will state for the record, first in the Cha Cha-Gallup Oil Pool, how many producing wells were producing

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as of July 1st, 1961.

A In the Cha Cha Pool, 67 wells were producing as of July the 1st.

Q What was the total production of gas per day from these 67 producing wells in the Cha Cha?

A 17,523 MCF per day.

Q Would you explain to the Commission how you arrived at this figure as the total production?

A Yes, new gas-oil ratio tests were conducted in the Cha Cha Pool in May of 1961 and these tests went into effect July 1st. I used these new gas-oil ratio tests to calculate the total gas available on 63 of the wells on which we had tests. Actually, we had four wells on which we didn't have tests.

Q How did you arrive at the production from those other four wells?

A Well, from the 63 wells I determined that we had 16,475 MCF per day. This was an average of 262 MCF per well per day. So, I used this average for the four wells on which tests weren't available. This gave me a total of 1,048 MCF per day, which was added to the 16,475 from the 63.

Q Giving you a total of 17,523 MCF per day for the Cha Cha?

A Right.

Q Now, in the Totah-Gallup Oil Pool, Mr. Arnold, how many

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producing wells were there in that pool as of July 1st, 1961?

A Forty-three.

Q What was the total daily pool production from those 43 wells?

A 6751 MCF per day.

Q How did you arrive at that figure as the total daily pool production?

A I used the 33 wells on which we had gas-oil ratio tests. These weren't, however, 1961 annual tests, because they will not be available for another thirty days. Actually, the gas-oil ratio tests used, which are the tests in effect in the July oil schedule, are probably incorrect. I imagine that the ratios have increased.

But, using those old tests, 33 wells having tests, calculated to have available 5181 MCF per day. This is an average of 157 MCF per day. So, I've used 157 MCF as the average figure for the ten wells on which we didn't have tests. This gives an additional 1570 MCF per day. So, that the total is 6,751.

Q You would say that total, Mr. Arnold, is probably a conservative estimate as to the amount of daily production in the Totah?

A Yes, because of the fact that the tests used were last year's tests.

Q Have you totaled the daily production for both the

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Cha Cha and the Totah-Gallup Oil Pool?

A Yes, sir, that figure is 24,274 MCF per day.

Q Mr. Arnold, of this 24,274 MCF per day that's being produced in both of these pools, is any amount of this being put to beneficial use?

A Yes, approximately 1500 MCF per day is being gathered on the Benson-Montin Jones lease in the Cha Cha Pool.

Q Is there any other beneficial use being made at the present time?

A Not that I'm aware of, no.

Q What disposition, Mr. Arnold, is being made of the remainder of the gas being produced in these two pools?

A It's being vented.

Q Approximately how much per day is being vented from these two pools?

A 22,750 MCF per day.

Q Mr. Arnold, at the May hearing of this case there was testimony that Mr. Knight had a project under way to install a gathering system for this gas. Do you have knowledge of the progress of this Knight project?

A I understand that Mr. Knight encountered some difficulties and was delayed, so that the construction of the facilities hasn't gone according to plan. However, I also understand that he has overcome the difficulties and that they do

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intend to start construction of gathering facilities next week.

Q To your knowledge, Mr. Arnold, no gas is being gathered from Mr. Knight's project at the present time?

A No, sir, no pipe has been laid in the field at this time.

Q Mr. Arnold, if the Commission should see fit in this case to issue a no-flare order, would you recommend that some wells in these two pools be given exception to the order?

A Yes.

Q Under what conditions?

A Well, the usual conditions in cases where it's not economically feasible to gather the gas from particular wells or leases.

Q Also would you exempt new wells?

A Well, I would give new wells a ninety-day period in which to secure a gas connection.

Q Do you have anything further you would like to offer, Mr. Arnold?

A No, sir, I don't believe so.

MR. MORRIS: That concludes the direct examination of this witness, Mr. Commissioner.

MR. PORTER: Does anyone have any questions of Mr. Arnold on cross examination? Mr. Nutter.

CROSS EXAMINATION

BY MR. NUTTER:

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Q Is there any general similarity to the reservoirs as far as the Totah and the Cha Cha are concerned?

A Yes, sir, they're very similar.

Q I note that you have an average gas producing rate of 262 MCF in the Cha Cha and a hundred fifty-seven on the Totah. Would that difference, since the reservoirs are similar, be due to the fact that the tests in the Cha Cha are more recent than the tests in the Totah?

A I believe that's the case, yes. I have noticed that the Cha Cha ratios in many cases have about doubled since the 1960 gas-oil ratio tests.

Q The gas-oil ratios of some of the wells have doubled in the last year, is that correct?

A That's right.

Q Do you anticipate that there would be any decrease in the gas-oil ratios in this pool in the near future?

A I wouldn't anticipate it on the basis of anything I know at the moment.

Q Would you expect that the ratios in the Totah, if they were run today, or new tests that will be presented in the next month or so, will they indicate higher ratios in all probability than the 157 MCF per day average?

A I would certainly think they would, yes.

Q Would it be your opinion that if the 24,274 MCF per



day which is being produced from the two pools at the present time, if that figure is correct, would more gas than that be being produced, say ninety days from now?

A You ask this question without taking into consideration new development, you mean on the wells?

Q No, I'm talking about the wells that are completed at this time. If the 24,000 were correct today, would you expect that ninety days from now more gas would be produced?

A Yes, I believe I would expect that.

MR. NUTTER: Thank you.

MR. PORTER: Does anyone else have any questions of the witness?

BY MR. PORTER:

Q Mr. Arnold, do you have the figures on the oil production from these two pools?

A No, sir, I don't have. I believe it's probably in the neighborhood of thirteen or fourteen thousand barrels a day.

Q I notice the allowable is in excess of 15,000 for the two pools. You are probably close to right. However, I will ask you when you've concluded your testimony to get those figures for us from the latest tabulation for the month of May.

A All right.

Q You can get that from the monthly report.

MR. PORTER: Does anyone else have any questions?

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The witness may be excused.

(Witness excused.)

MR. PORTER: Anyone else desire to present testimony?

MR. BUELL: May it please the Commission, Guy Buell for Pan American Petroleum Corporation. We operators in these two pools in the past have pointed out to the Commission our efforts in attempting to gather and save and put this casinghead gas from these two pools to a beneficial use. We feel that the record will reflect that our efforts have been diligent.

We have also pointed out to the Commission several complicated factors in these two pools that have made our assignment, our job, considerably difficult. The primary complicating factor has been the submarginal economic nature of gathering and saving this gas. That has been a big hurdle.

Another complicating factor, and a highly complicating one, it's a mechanical one, an engineering one, one that we operators and Mr. Knight have had to deal with, is that in these two pools it is extremely unusual in that the operators are making an effort to gather and save the casinghead gas prior to complete development of the pools.

I'm sure if the Commission will recall any pools that they've looked at from the standpoint of saving casinghead gas, the pools have been substantially developed. Here, as has been reported to the Commission, development is going on at a highly rapid pace.

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That makes engineering system extremely difficult. Actually, in a sense of the word, in attempting to save the gas in these two pools we're a lot like Columbus in that we are sailing an uncharted sea and, of course, when you sail an uncharted sea, every now and then you hit a reef.

Well, we hit our reef, as Mr. Arnold mentioned, Mr. Knight encountered some difficulty. We advised the Commission about it, and honestly, in good faith, that we felt by July 1 that we would have some wells connected and be making substantial progress to physically handling the gas.

Unfortunately, as Mr. Arnold has testified, that is not the case. With the Commission's indulgence, we would like to present Mr. Knight as a witness so that he can relate for the record the reef that he hit sailing this uncharted sea.

MR. PORTER: The Commission will be interested in hearing Mr. Knight.

(Witness sworn.)

DEAN B. KNIGHT

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

DIRECT EXAMINATION

BY MR. BUELL:

Q Mr. Knight, while Mr. King is putting one of your exhibits on the board, I will ask you to state your full name and

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PHONE CH 3-6691



your place of residence for the record, please.

A My name is Dean B. Knight. I live in Tulsa, Oklahoma.

Q What is your position with the Knight Manufacturing Company?

A I am president of that firm.

Q I believe the record reflects that you are to be the gatherer of the casinghead gas in both the Cha Cha and the Totah-Gallup Pools, is that correct?

A That is correct.

Q Have you in your possession executed contracts from about what percent of the operators in each pool, do you recall off-hand?

A About 92% in Totah, it's roughly 92% in both fields.

Q That percent of committed operators to your system is more than enough for you to go forward with a fieldwide gathering system in both pools?

A Yes, it is.

Q What disposition have you planned to make of the gas once you gather it?

A We are selling that gas through three different connections to El Paso Natural.

Q Do you feel that your arrangement with El Paso is now firm?

A Our arrangement with El Paso is firm, yes.

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Q You were in the room, so I'm sure you are aware of the fact that we had advised the Commission at the May hearing that we expected to have some wells connected by July 1. You've also heard testimony to the effect that such has not happened. Why haven't we some wells connected at this time, Mr. Knight?

A Well, I hit that uncharted reef we were talking about and it had a great big dollar sign on it. When we wrote this contract with Pan American, when Pan American and I worked out the original contract in the Cha Cha Field, we wrote what we thought was a negotiable instrument so that it could be financed by some financing house.

Apparently we knew more about the gas business than we did the financial world, because when we took it to a bank they took a look at it and said "Mr. Knight, your contract only will return about one dollar for each dollar you spend, and that is not good enough for this type of an organization. You should have at least two or two and a half times cash flow over what you have expended."

So, then, we took it to what we would call a leasing house where you build a facility, they buy it from you and lease it back to you. We had a firm verbal commitment from a house in Boston when I was here for that May hearing. We then went ahead very rapidly, we stacked up pipe, we stacked up compressors, engines and other component pieces.

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Along the first part of June we received a very uncerimonious letter which stated they were withdrawing their commitment.

Q Mr. Knight, let me interrupt here. At the time of the May hearing did you have any reason to doubt the verbal commitment for financing that you had?

A None whatsoever.

Q All right. Go right ahead, what happened in June?

A We received this letter which cancelled their verbal commitment. We immediately, then, went to a couple of more houses and we called two of the firms involved and told them we were having difficulty and from that, then, the Pan American set up a meeting for Friday, June 30, I believe it was, in which we were all to sit down and discuss the possibilities of the oil companies putting up the money and we would go forth with it from there.

However, that meeting did not take place in that we received another commitment from a New York house, from Los Angeles, rather, I should say, through a New York house, committing them to buy this property from us and leasing it back.

We have gone forward from there at that point. I have that letter, or I believe you have a copy of that letter.

Q You now have your commitment in writing, do you not, Mr. Knight?

A Yes, we have it in writing this time.

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(Whereupon, Operator's Exhibit No. 1 was marked for identification.)

Q Mr. Knight, I now hand you a copy of what has been marked as Operator's Exhibit No. 1. What is that exhibit?

A Oh, this is the letter of commitment from Phoenix Enterprises of Beverly Hills, California, agreeing to purchase and lease this facility back to us in the Total and Cha Cha Fields.

Q Mr. Knight, I notice that that commitment letter was dated July 6. When did you receive that?

A I received that letter Tuesday afternoon of this week, which would be the 11th, I believe.

Q Mr. Knight, now that our financial reef has been overcome, where do you stand now, what are your immediate plans?

A My immediate plans are to leave here this afternoon for the field at Farmington. We have a couple of meetings scheduled with pipeline contractors which we will make a deal with, one of them or two of them to start construction of this line. The pipe is all stored at either Fontana, California or Valley, Nebraska. That pipe will be shipped Monday.

Q Do you have any pipe on the ground in Farmington at this time?

A There's a mile of ten inch on the ground at Farmington now. It's stored, however, in a truck yard. We, at the moment,

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PHONE CH 3-6651



have run up about six hundred dollars in storage charges on pipe, so we know the pipe is there. That is in both places.

Q When would you anticipate that you will let your contract for the picking up, ditching of your gathering system?

A I plan to do that either this afternoon or tomorrow.

Q Immediately after that you intend to release the pipe for delivery, I'm speaking of the pipe now that's in California and Nebraska?

A Yes, we'll probably release that pipe tomorrow. However, it can not be shipped until Monday because of truck regulations over the week ends on highways. It actually should arrive in Farmington on Wednesday or Thursday.

Q Mr. Knight, assuming the normal delays that you encounter in installing a system of this type, when would you anticipate that you would have the majority of the wells in both pools connected to your system?

A We will have those wells connected probably by August 15. Now, this does not mean that we will be compressing the gas from all of those wells, but the line will be laid to the tank batteries, the tank batteries will be hooked up and they would be ready to process the gas. Then, of course, we have to add the compressors to this system.

Q What date would you feel, Mr. Knight, would you not only have your wells connected but you would have sufficient

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of your compressors installed such that you would be physically taking into the system most of the casinghead gas produced?

A Most of the casinghead gas? That is a majority of it?

Q Majority, yes, sir.

A We should have that by, oh, the first week in September. We should be rolling then.

Q Would you think, then, by October 1 of this year you should have your system shaken down, I don't know if that is the proper term that you gatherers use or not, most of the bugs worked out of it by October 1?

A Yes, I feel that we should be operating in good order by October 1.

Q I'll direct your attention now to what I'll have marked as Operator's Exhibit 2, the plat on the board there.

(Whereupon, Operator's Exhibit No. 2 was marked for identification.)

Q What is that exhibit?

A That is our certified survey from Scanlan Engineering of the Cha Cha Field system, which extends for quite some number of miles, eleven miles of it. It starts in the center here with ten inch pipe. Our delivery point will be in the East Half of Section 16, that's our final delivery to El Paso, whose line runs north-south through here.

Our central compressor station will sit here. This system

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is a little bit unusual for the average compressing system. Normally you would find all your compressors sitting here, your line would extend out like spider webs or feet or something, and you would field all the gas into here. This system economically would not stand for that. If we had done that we would have spent somewhere close to a million dollars in the fields. There isn't that much gas there. We had to change the thing completely around, there will be from 35 to 45 different compressors set in the two fields.

The other one, of course, is right here. We'll have a small central station here at every well head, every battery there will be another one, two or three compressors handling the gas from this system into the main line. The operators are holding approximately 40 to 20 pounds pressure on the tank batteries. We are picking up the pressure at that and boosting it to one hundred pounds through the entire system, which still requires the use of eight or ten inch line.

Had we used the conventional, we would have been looking at 6, 8, 10, 20 and even 24 inch line. If the line were long enough, if this were a five-year or ten-year project, well, to start with, I would never have seen the deal and secondly, it would stand that kind of pipe. This one it will not do that, and it must be done in this manner to actually come out with as many dollars income as you spent, which we will all like to do to at

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least break even.

You say, "Why did you do it?" I'm taking this whole project, frankly, I will not make any money, it is cut that close, but out of the operation I do hope to break even. My money will come from being able in a few years to salvage the compressor and the line and using the compressors in different jobs over the country as rental units, that is my profit from this project in its entirety.

Q Now, Mr. Knight, Exhibit 2 shows your design for the system in Cha Cha. Is your system in Totah similar to the Cha Cha system?

A Similar only in certain ways. The Cha Cha system is cut into two pieces. There's one part of it along in here approximately, it looks like a horseshoe, and then there's another small system up here.

If you remember the Totah Field, I guess right on the edge of the cliff, or what do you call it in New Mexico? In Oklahoma we call it the cliff, it breaks and so forth through this field. It looks like we are going to lay almost as much line vertically as we do horizontally. It's a tough one to handle. They didn't show consideration of us when they drilled the wells. They didn't drill them on the flats where we could get to them.

This field, of course, is almost flat with only one cliff crossing right here. This one is a tough one, particularly for

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us flatlanders, to handle.

MR. BUELL: I believe that is all we have at this time. I would like to formally offer Operator's Exhibits 1 and 2, inclusive.

(Whereupon, Operator's Exhibits 1 and 2 were offered in evidence.)

MR. PORTER: Without objection the exhibits will be admitted.

(Whereupon, Operator's Exhibits 1 and 2 were admitted in evidence.)

MR. PORTER: Mr. Buell, when you were describing your trouble, the Chairman of the Commission suggested that you have a navigators license.

MR. BUELL: He has one, but it's a little tattered and torn right now.

CROSS EXAMINATION

BY MR. PORTER:

Q Mr. Knight, your Exhibit No. 1, which is a letter from Phoenix Enterprises, Inc. in which they have promised certain funds if certain conditions are met, I notice those conditions are listed under A and B, B has four parts. Would you explain what effort has been made to meet those conditions up to now?

A Shall we take them in order?

Q Yes, please.

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PHONE CH 3-6601



A A, now, I think is very easily explained in that that is the way they are going to pay me for installing this plant. They do not wish to have me go out there, spend the money and end up with the plant half done, so they have tied my hands to a certain extent, that they will pay me nothing until we are passing some gas to El Paso.

At that point all the work I have done is immediately payable. As we add compressors to the system, they will pay for those. That is what paragraph A says.

Now B, under one, contract, a gas purchase contract executed by El Paso for the purchase of gas gathered and compressed from the above-named fields. That lays in my attorney's office in Tulsa. It has my signature ready to return to El Paso.

It has one change in one point of delivery in the Totah Field. It's the moving of a line by a few hundred feet.

Paragraph two, contracts executed with the producers of the field representing a minimum of 80%. That has been done in its total, we are at the 92-94%. Equipment leased between Phoenix Enterprises and Knight Manufacturing has been done. Notice of assignment of runs from El Paso, that will be done just as quickly as we get the forms back from them and it is an assignable contract which it is very simple to do. All we would need is their contract back.

Q As soon as you get it back from El Paso?

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PHOENIX ENTERPRISES, INC.

. 9350 WILSHIRE BOULEVARD
. BEVERLY HILLS, CALIFORNIA
. CRESTVIEW 4-5341

July 6, 1961

Knight Mfg. & Supply Co.,
P.O. Box 5426
Tulsa, Oklahoma

In re: Proposed purchase - leasing of
equipment for Cha Cha and Totah Fields,
San Juan County, New Mexico

Gentlemen:

This letter is to confirm our understanding regarding our purchasing and subsequently leasing to you certain pipeline equipment (installed) to be located in the Cha Cha and Totah Fields in San Juan County, New Mexico.

Subject to the conditions hereinafter stated, we will issue to you and other suppliers selected by you a purchase order covering the installation of a gas gathering and compression system in the above named fields for a total sum of \$608,000. This purchase order will be approved by Equilease Corporation with instructions that payment under said purchase order will be made by Equilease Corporation for the account of Phoenix. The conditions of said purchase order shall be as follows:

- A. When gas is delivered to and accepted by El Paso Natural Gas Co. payment will be made for the equipment installed and used to accomplish said delivery, and as additional equipment necessary to complete the system, as per inventory to be attached to the purchase order, is delivered and the delivery and installation of said equipment is certified to by a third party, the billing for said equipment shall be paid up to a maximum amount of \$608,000.
- B. The following contracts shall be completed:
 1. Gas purchase contract executed by El Paso Natural Gas Co. for the purchase of gas gathered and compressed from the above named fields.

PHOENIX ENTERPRISES, INC.

- 2 -

2. Contracts executed with the producers in the fields representing a minimum of 80% of the gross production.
3. Equipment lease between Phoenix Enterprises, Inc. and Knight Mfg. & Supply Co. executed.
4. Notice of assignment of runs from El Paso Natural Gas Co. insofar as they cover gas produced from leases described in present producers contracts, said assignment to be made to Phoenix Enterprises, Inc. or its assigns.

All of the above to be accomplished as quickly as possible.

If the above conditions meet with your approval, please so signify by endorsement in the space provided below.

Very truly yours,

Fred G. Luke

Fred G. Luke
for

Phoenix Enterprises, Inc.

APPROVED AND ACCEPTED:

Leab T. B. PRESIDENT
Knight Mfg. & Supply Co.

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Opt 1 EXHIBIT No. *1*
CASE *2215*

A Yes, it will be assigned to these people and we will have everything completed.

MR. PORTER: Does anyone else have a question?

MR. MORRIS: Yes, sir.

MR. PORTER: Mr. Morris.

BY MR. MORRIS:

Q Mr. Knight, on a sale and lease-back arrangement such as you have worked out with Phoenix Enterprises, are you going to be the owner of the properties when the operation is completed or will Phoenix Enterprises be the owner?

A Actually, Phoenix Enterprises will own this equipment. We have the prerogative for leasing it for so long as we wish, or usually there is, and there is in this contract, hope there are no Internal Revenue men here, to be able to buy this thing at a figure some time.

Q Then it would be possible for you to obtain your profit from salvage?

A Yes.

Q Even though you wouldn't actually end up possibly as the owner of the property?

A Yes, that is true.

Q Now, Mr. Knight, I believe it's been stated here today that the overall economic picture is pretty bad in these two pools at the present time. Do you believe that that picture is

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PHONE CH 3-6691



going to get any better as more reserves are produced and more gas is vented?

A Yes, that is bound to improve by the increasing of reserves and drilling of new wells, which they are rapidly doing.

Q The drilling of new wells possibly will increase the overall economic picture, but certainly the production of reserves and the venting of gas at the present time is not going to enable you to recover that portion of the reserves that are already gone?

A No, that portion of the gas that is vented every day is certainly gone. However, my particular contract, the oil companies have guaranteed me a certain amount of gas to process.

Q So you'll come out on it?

A Yes.

Q But possibly it will hurt the amount they might have to indemnify you?

A Yes, I am covered, but not quite sufficiently enough to go to a bank with the thing.

Q I don't believe you ever gave us the name of the firm that gave and withdrew their verbal commitment.

A The name of that firm was Seaboard Leasing Company.

Q Where do they have their home office?

A Boston, Massachusetts.

Q What was the date of the letter, Mr. Knight that

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revoked their financial commitment?

A I am sorry, I didn't bring it with me.

Q Do you have any idea when it might have been?

A The first part of June.

Q The first part of June?

A Yes.

Q I believe you stated that you had a meeting set up with the operators to talk about possible finances, and that was June the 30th?

A That is correct.

Q Had any thought been given to an earlier meeting of the operators soon after you received your revocation, so to speak?

A Yes, Yes, there was. We were talking back and forth almost daily. We had another firm that was looking at this thing and it looked like it would develop any day and we were sitting on pins and needles waiting for a commitment, and then when it didn't look like it was going to come through in good order, why Pan American gave the notice for a hearing which they gave a week's notice on it, so, actually, that meeting notice was issued about the 22nd or 23rd of June for the June 30 meeting, so everybody could plan to be there.

There was no time wasted as such. Things like this seem to always take a little more time than you think they are going to at the moment, and things are developing, you are expecting

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PHONE CH 3-6691



them to develop, and like I said, I believe it was on the 27th actually, the 28th, that we actually did get this other commitment. Just a couple of days before the meeting. Then here I finally get it in writing on the 6th of July.

Q Were the operators notified of your difficulties both, well, with Seaboard and with the other people that you were in contact with, all along in the process of your negotiations?

A We didn't know we had difficulties until we got this revocation and then they were notified of it.

Q They were notified?

A Yes.

Q Did the operators at any time offer you financial assistance in your project?

A As such, for me to go ahead with it, no, and yet they sat down and said "We will work out something. We are going to do it and we will work out something if you can't work it out, but we would like for you to, it has been your job, it's assigned to you with contracts, and if you can't do it, then we will."

MR. MORRIS: Thank you.

MR. PORTER: Mr. Nutter.

BY MR. NUTTER:

Q Mr. Knight, you stated that you had some pipe on hand in Farmington and you also had some coming from California and from Nebraska?

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A Yes.

Q Was that pipe been fabricated to date?

A Yes, I'm paying storage charges on it.

Q I'm not talking about the pipe in Farmington.

A I am not either. I am talking about the pipe at the factory.

Q The pipe at Farmington?

A You mean at Fontana.

Q Fontana, and Nebraska.

Q Yes, and I am paying storage on it.

Q It's ready to ship on notice?

A Yes, it is.

Q You stated that you would have the pipe installed and the wells connected by August 15. Now, will any gas flow into the El Paso's system without compression?

A No, the average separator pressure is about 25 to 40 pounds. El Paso is holding 250 on their lines. It will take compression for every foot of it.

Q How many compressors do you anticipate installing for the --

A The final installation will have between 35 and 45 compressors.

Q What kind of delivery commitments do you have for the compressors?



A Well, we have, during the month of July and the first part of August, we have about 30 units committed for delivery.

Q How many in July?

A I can't tell you exactly. I have about ten sitting in Tulsa at the moment.

Q Ten compressors available to ship?

A I have, I think, three that are available. When I speak of compressors I am talking about the raw compressor and raw engine and then they must come through my shop and be fabricated into a unit. They have to be mounted on skids and scrubbers installed and so forth. I have three or four units that are ready to ship now. They could be shipped today or tomorrow. Then, the rest of the equipment, the basic component pieces are in Tulsa, but they have not been fabricated into a unit which we are starting now after we get this letter.

Q How long does it take to make a complete compressor unit if you have the component parts available?

A That will depend on the size, but from two to three days to assemble this. We call it the manufacturing. In reality it is an assembly job.

Q Do you expect that you will run into any difficulties as far as the capacity of the shop which will be doing this work to assemble one of these units? I realize they could assemble one in two or three days. How about assembling thirty, will it take ninety days to assemble thirty?

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A Roughly, to do that, yes.

Q Then, if some of the compressors are to be delivered in August, it will be ninety days after they are received before they are completed?

A No, that's starting from scratch, it would take roughly ninety days to do thirty, but by the time we have finished with the first ten, which will make fifteen in the field, the others will be there ready to work on. You set it up kind of like an automobile assembly, they're pouring off one end when the raw pieces are coming in on the other.

Q Now, you have ten available and commitments for delivery of some more in August --

A In July and August.

Q In the later part of July and August, how about the remainder?

A The total delivery from a new order is only four weeks. We can issue a new order today and get delivery in four weeks. That is without pulling on local stocks or sources which are available.

Q There is no shortage of compressors?

A There is no shortage, no, or engines.

Q Are these delivery commitments, are they verbal or are they written?

A They are verbal, but they're good, we have been doing business with these people for years.

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PHONE CH 3-6691



Q I was wondering if we might run into other uncharted reefs.

MR. BUELL: Not when you are buying.

A Not when you are buying, only when you are trying to borrow money, or selling.

Q Now, this Phoenix Enterprises, is that a large institution, Mr. Knight?

A I have seen their financial statement. They show a net worth of about six hundred thousand dollars. They are neither large nor small. However, I do happen to know slightly the inner workings of this thing, it is much like you went down and bought a million dollar life insurance policy on yourself, they will farm out pieces of it to leasing corporations. No one of them will hold all of this itself. Our prime contract is with Phoenix, who are adequate to handle it.

Q Their commitment in Exhibit 1 is for what?

A Six hundred thousand.

Q Their net worth is six hundred thousand?

A That's right.

Q You don't anticipate another uncharted reef here?

A They're in trouble if there is.

Q They may not voluntarily present a reef. Now, you have 92% of the operators in each of the fields contracted at the present time.

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A That is an approximate figure, yes.

Q Has the contract been signed with El Paso for selling of gas?

A It is all agreed upon, it is waiting for my signature in Tulsa.

Q What is the price of the sale of the gas to El Paso?

A Twelve cents plus liquids.

Q What is your anticipated total volume that you'll be handling upon the completion of the facilities October 1st, and assuming no additional wells were drilled?

A We are setting up to handle between twenty and twenty-five million; if there's more there we will handle more, but my figures are from 35 to 45 compressors will handle up to twenty to twenty-five million.

Q What would your delivery pressure to El Paso be?

A It starts at 250 and then jumps to 500. There's also a difference in the price, as long as we are going in the 250 line the price is eleven cents. I forgot to put that in.

Q Now, the operators in the pools have given you a guarantee of so much gas that you would have available to you, and if you don't get that gas, they pay you for it anyway, is that correct?

A To a certain extent, yes. My income from gas not processed is considerably less than gas I do process.

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Q The marginal nature of this project which appeared to be important in the early negotiations, did that include secondary recovery gas that might be available also?

A As I understand it, the method that they are planning to use for secondary actually cuts the gas quantity. You are asking me questions, I'm not a production man, I only know machinery and I have seen the curves and I do know that this water injection system will cut the capacity of gas. Now, why, I can't tell you.

Q Well, now, how long is it intended that this facility will be in operation, until the complete completion of the pool?

A So long as there are commercial quantities of gas that can be handled.

MR. NUTTER: I believe that's all.

BY MR. PORTER:

Q Mr. Knight, as I understand it, you have the wells hooked up by August 15 and then you would add compression progressively? In other words, after August 15, as soon as your first compressors are installed, you will start taking some gas?

A Correct.

Q And you would anticipate having the entire field going to market around October 1st?

A That is correct. Actually, there's a little difference than you explained it there. The line will be in, in its entirety,

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PHONE CH 3-6697



by August 15, but we will be processing gas before then because as quickly as this little short segment here is in place, this short segment is in place and this one, we can set one compressor which we already have and start the compressing of gas.

As the line is extended out there will be another compressor set and this piece of line put in use. So, actually, by August 15 when the line is complete, we will be compressing considerable gas, but it will be utilized as the line is built from the central point out.

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

(Witness excused.)

MR. PORTER: Mr. Davis.

MR. DAVIS: Quilman Davis, appearing on behalf of Aztec Oil and Gas Company. The Commission has heard the difficulty that we encountered in this gathering system up in Totah and the Cha Cha area. We think that we're on the right course now. We're sure of it to the extent that Mr. Knight now has the money available and plans to start work this week end in letting contracts.

Further, I would assure the Commission insofar as Aztec is concerned in the Totah area, if there is a breakdown we'll be in there financing the thing, as we had planned to do in late June, at least our share of it, so that it will go forward

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on this present timetable. In other words, we are now of the opinion that this thing is on a scale where we can continue it.

It was a difficult problem there to get all the operators involved to get together and designate an operator, also to finance the thing, and since we had delegated Mr. Knight to do it, we felt that we should do everything to help him along.

Now that we see his timetable, and in my opinion am convinced that it will go forward in view of the fact that we understand there is a very strong market for oil from this area from the West Coast market, and I think was confirmed here today by the testimony in the oil allowable hearing, we urge this Commission not to take any action at this time that would impair that market. We don't feel that any immediate action will expedite the installation of this line.

I think all of the operators will stay on top of this thing day by day to see that the work is being done. In view of those circumstances, we ask this Commission to continue this Case 2215 till the September hearing, at which time we hope that everything will be in full operation and that we won't have any more flaring, or shortly after that.

MR. PORTER: Mr. Bratton.

MR. BRATTON: If the Commission please, Howard Bratton appearing on behalf of Humble Oil and Refining Company. We would join in the suggestion and request of Mr. Davis.

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I need not amplify on that.

I do want to emphasize two facts to the Commission. One, we have tried to our utmost to demonstrate to the Commission when we appeared in May, and the statements we made we made in good faith, and we thought everything we said there was the truth and would happen, this was an unexpected development. Hind sight is a great thing, and looking back now, I wish we had, the operators had collectively come in to the Commission some time in June when this problem developed. It was not because we weren't doing anything, it was because we were hopeful and the operators kept trying and hoping that the thing would work out day to day.

It would be my suggestion, I believe I can say on behalf of all the operators, that if the Commission were to continue the case on its docket until the September hearing, aside from that we would certainly furnish to the Commission informally at this office, to Mr. Arnold's office, a report every ten days or two weeks as to progress, in addition to which Mr. Arnold could actually observe, of course, the progress in the field.

We would be glad to do that in an informal way or by written letter, however the Commission might desire it. It is our earnest desire to convey to the Commission that we have been and are sincere that we are working and that we have tried to do this job as well and as fast as we could, and we will continue to do that.

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MR. PORTER: Mr. Buell.

MR. BUELL: May it please the Commission, speaking in support of Mr. Davis's motion for continuance, I'm sure that the statutory charge on this Commission to prevent waste is weighing heavily on all your minds. Normally you think the flaring of casinghead gas is waste. It is. Actually, the production of every barrel of oil that comes out of New Mexico ground is waste.

Really the Commission is only charged with preventing avoidable waste. In my opinion, the economics of saving this gas in these two pools is so marginal that there is a great doubt in my mind if we operators, by flaring this gas, are causing avoidable waste. Actually, I think it's an extremely close question.

I feel that in good conscience this Commission can continue this case until September, because in my opinion it is not avoidable waste.

MR. PORTER: Mr. Mason.

MR. MASON: John Mason of the El Paso Natural Gas Products Company. I think the position of El Paso and the other operators in the Cha Cha and Totah areas has been very ably stated by the representatives of the other companies here, so I won't attempt to add anything. I only wish to say that El Paso also joins in the request that this hearing be continued until the September hearing.

MR. PORTER: Anyone else have any comments to make?

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MR. PRATTON: I might add, Mr. Porter, that the statements I have made, I have been authorized to make also in behalf of Tenneco Oil Company who are a substantial operator in the Totah.

MR. PORTER: Any further statements? The Commission will take administrative notice of the figures supplied by Mr. Arnold that the May production for both pools was 13,480 barrels a day.

Mr. Davis, in regard to your motion, the Commission will continue the case until the regular hearing in August, which will be August 16, at which time we would like to have another look at it.

MR. DAVIS: Thank you.

MR. PORTER: We are going to have a very short recess at this time. If the applicant in the next case desires to have any exhibits **posted**, he might do so at this time.

(Whereupon, a short recess was taken.)

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ALBUQUERQUE, NEW MEXICO



STATE OF NEW MEXICO)
: SS
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 15th day of July, 1961.

Ada Dearnley
Notary Public-Court Reporter

My commission expires:

June 19, 1963.

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
AUGUST 16, 1961

IN THE MATTER OF

CASE 2215: 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 the Cha Cha-Gallup and :
Totah-Gallup Oil Pools, San Juan County, New :
Mexico. :

TRANSCRIPT OF HEARING

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



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ALBUQUERQUE, NEW MEXICO

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
AUGUST 16, 1961

IN THE MATTER OF

CASE 2215: 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 casing- :
head gas from oil wells in the Cha Cha- :
Gallup and Totah-Gallup Oil Pools, San Juan :
County, New Mexico. :

BEFORE:

Edwin L. Mechem
E. S. (Johnny) Walker
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: We will take up next Case 2215.

MR. MORRIS: If the Commission please, the Staff will
have one witness, Mr. Arnold.

MR. BUELL: If the Commission would like to swear all
witnesses at this time, the operators will have one witness, Mr.
Knight.

(Witnesses sworn)

E. C. ARNOLD,

called as a witness, having been first duly sworn on oath, testi-
fied as follows:



DIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Arnold, would you please state your full name and position, for the record, please?

A E. C. Arnold, Supervisor of District 3, Oil Conservation Commission.

Q Mr. Arnold, you've testified in the previous hearings of this case, have you not?

A Yes, sir.

Q Do you have a statement prepared today reporting the gas vented as of August 1st, 1961 from the Cha Cha and Totah Pools in San Juan County, New Mexico?

A Yes.

Q Would you give us that statement, please?

A Prior to the July hearing, it was determined that there was an average of 262 MCF per day, per well, being produced by wells in the Cha Cha-Gallup Pool. As of August 1st, there were 73 wells producing, so I have calculated the volume as of August 1st to be 73 times 262, or 19,126 MCF per day. In the Totah Pool, the average amount of gas per well, per day, was 157 MCF per day. The new ratios were conducted in June and July, and I have calculated a new volume based upon the GOR tests of the 42 wells upon which we had tests. I found that the average in the Totah Pool freeze tests is 221 MCF per day. As of August 1st, there were 50 wells producing in the Totah Pool. Therefore, the total

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gas produced was 50 times 221, or 11,060 MCF per day. This gives a total figure of 30,156 MCF per day from the two Pools. Approximately 1500 MCF per day of this gas is being marketed. Therefore, the total gas vented as of August 1st was 28,686 MCF per day. This is approximately 6,000 MCF per day higher than the amount reported at the July hearing.

MR. MORRIS: If the Commission please, Mr. Arnold is also prepared to give the total oil production during the month of May, 1961, from both Pools, if it would desire that information.

MR. PORTER: I believe that the Commission would like to hear that information. We had it in the record at the last hearing, the figures as of that date.

Q That's, the May, 1961 production in the Cha Cha Pool was 273,248 barrels. This was a per day production of 8,614 barrels. In the Totah Pool, the May production was 175,566. This was a per day production of 5663. Total May production, both pools, was 448,814 barrels, which was a per day production from both Pools of 14,477 barrels.

Q Mr. Arnold, do you have anything further that you would like to state at this time with reference to the case that the Commission is considering at this time?

A No, sir, I don't believe so. I think the operators are prepared to give a progress report. I have visited the field and do know that the pipeline is under construction. I imagine



they can give a more accurate account of just how much has been done.

MR. MORRIS: That concludes the examination of Mr. Arnold.

MR. PORTER: Does anyone have any questions of Mr. Arnold? He may be excused.

(Witness excused)

MR. BUELL: May it please the Commission, Guy Buell with Pan American Petroleum Corporation. The operators have requested that I put Mr. Knight on the stand to let him review for the Commission the progress he has made since the July regular hearing.

DEAN KNIGHT,
called as a witness, having been first duly sworn on oath, testified as follows:

DIRECT EXAMINATION

BY MR. BUELL:

Q Mr. Knight, would you state, for the record, please, your full name and place of residence?

A My name is Dean Knight, and I am from Tulsa, Oklahoma.

Q What is your connection with the Knight Manufacturing Company?

A I am president of that organization.

Q Now, the record of the July regular hearing will reflect that you briefly reviewed for the Commission your financial

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situation with respect to installing the gathering system in these two pools. I would like to direct your attention, now, Mr. Knight, to what has been marked as Operator's Exhibit 3. What does that Exhibit reflect?

A That is a map of our Cha Cha system, which was the same map that we used last time. However, this red line, we would like to point out -- well, anyway, the red line is what is done. This much pipe is on the ground, or in the ground, welded up, tested, and about ready to operate. In other words, if everything else was done, we would be in very good shape here.

Q Would it be a fair summary, Mr. Knight, to state that the solid red lines on Exhibit 3 are that portion of the Cha Cha system that are virtually complete?

A This is virtually complete, all except the minor job of hooking up the ends of it. In other words, actually hooking into Pan American's tank battery here (indicating) and here, and someone else here, et cetera. This line (indicating) is in the ground up to this point, now (indicating). Now, just the day before yesterday we finally got permission from the Indians to go on their ground, and since that day we have laid this much line complete (indicating). We have cut right away to this point up till last night (indicating). Now, today, the report I get from our field up there, that the right of way is now cut complete to this point (indicating), and that this pipeline has all been strung or is being strung, and will be finished today, and that the



welded line will be up in the middle of this section (indicating) somewhere before dark tonight. They're making rapid progress.

Q So the record will reflect, when you were speaking of the right of way, that had already been cleared, as reflected on this Exhibit, you were referring to the alternate red and white line, were you not?

A Yes. That is the right of way that was cleared just yesterday. They made that much progress just yesterday in one day, from the time we got the word to go from the Navajos.

Q You were delayed in getting your right of way approval from the Navajos. Was your application misplaced or mislaid, or something?

A Yes. It was slightly misplaced. We sent a bond out and went to the Legal Department, and they put it on their desk, and they wondered what it was supposed to be, and they let it stay there for a week until they found it. We finally dug it out and got it over to the Land Department and immediately got our right of way.

Q That has been cleared away and invaded the Navajo Reservation yesterday?

A Yes, sir. If we had gotten it out of the hands of the Legal Department, we would have had it a week ago.

Q The progress as depicted by the red, is that progress that had occurred up until yesterday afternoon, is that correct?

A Yes. This all happened up until yesterday afternoon.

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Then, I pointed out what had happened today, the rapidity with which we're going. These green dots that are hard to see are the compressor sites that have been cleared, and are ready to start pouring concrete on those for the compressor stations.

Q How many compressors do you now have on the site in Farmington?

A Roughly, ten percent in Farmington, and another ten percent are supposed to be shipped this week, which will make us about twenty percent on location at that time.

Q Has the location been cleared in the field for these compressors?

A Yes, it is cleared.

Q Are they permanent mount or skid mount type?

A The compressors are skid mounted. All that we will do in the field is pour a small concrete pad under each one, and make our piping hook-up, which is about a day's work for three men total.

Q Now, with respect to where we expect to be by quitting time this afternoon, could you pick a spot on that Exhibit 3 so that the record will reflect where you expect to be this afternoon?

A The right of way will be to the toe of the bluff, which is marked 86 plus 50. The top of the bluff, which is marked 91 plus 42. They expect to clear to the top of the bluff.

Q Clearing of right of way by this afternoon?



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A Correct. The ditching, then, is supposed to be up in the middle of 36, roughly, at 764 plus zero zero.

Q In other words, by this afternoon you will have ditched some pipe in that area of the Exhibit that was only cleared right of way last night?

A That is correct.

Q With respect to the system in Totah, Mr. Knight, what is the status of your progress there?

A The system in Totah, the right of way has been completed, which I believe was quite rough, but it has all been done, and we have completed about 4,000 feet of ditch. They are to start stringing pipe on that tomorrow or next day, as soon as they have finished this.

Q Assuming no abnormal weather problems are encountered in the immediate future, how long do you think it will be before in all practical effect the Totah system will be virtually complete?

A I can only quote our pipeline contractor there, the Four-Way Company, and he says that it will be less than seven working days to be complete.

Q Of course, there will still be other things to do?

A Oh, many things.

Q But it will still be virtually complete?

A Yes, but that is the main heart of the thing.

Q Has anything occurred in the month's interim that has



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changed your target date for one hundred percent completion of October 1?

A No. We're still thinking that we will be on stream in full October 1.

Q Based on the progress you have made to date and have testified to here, you feel that you can meet that target date?

A Yes, I do.

Q It might be well to state, for the record, Mr. Knight, your progress with the Federal Power Commission. Have you made your filing with the Federal Power Commission?

A The Federal Power Commission filing was made three weeks ago. It was carried by hand to Washington, D. C. by our attorney, and supposedly put on top of the stack.

Q Have your people handling that given you an estimate of when they expect approval?

A I talked to Mr. Gibson, our attorney, and he gave me a date of ten days, he thought.

Q In an effort to expedite Federal Power Commission handling of your case, has your attorney made them aware of the hearings this Commission is holding on these two pools?

A Yes. He obtained a copy of the hearings, and had that forwarded to Washington.

Q By a "copy of the hearings," you mean the docket sheet of the Commission?

A Yes, I guess that would be the technical word.

Q He anticipates no trouble in getting the app



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Q He anticipates no trouble in getting the approval?

A No.

Q Assuming that you had Federal Power Commission's approval, -- now, let me direct your attention again back to Exhibit 3. Could you begin taking gas in the very near future from some of those batteries there in the southern area of Cha Cha?

A This is to be our main station right here (indicating). Now, this pipeline within a couple or three days could be made operative from this point here (indicating) where it crosses the Navajo land to this end here (indicating). Answering your question more directly, I would say that if we had Federal Power Commission's approval, that within five to seven days we could be passing some gas, only a minor quantity, but some.

Q But immediately after you get Federal Power Commission's approval, you are going to take gas as quickly as you can?

A Yes.

Q And you will take it by increments along your system?

A Yes.

Q And you will shake it down and get it all in operating order?

A Yes.

Q Do you have anything else you would like to add?

A I think not.

MR. BUELL: That's all we have at this time. May we formally offer Operator's Exhibit 3?



MR. PORTER: Without objection, the Exhibit will be admitted.

(Whereupon, Operator's Exhibit No. 3 was received in evidence)

MR. PORTER: Does anyone have a question of Mr. Knight? Mr. Nutter.

CROSS-EXAMINATION

BY MR. NUTTER:

Q Mr. Knight, you stated that ten percent of the compressors are on hand in Farmington, --

A That is correct.

Q -- and ten percent will be shipped next week?

A Actually, I think they will be ready this week. However a couple are over wide and they will leave our office Monday.

Q Are those the compressors that you mentioned last Monday were on hand in Tulsa in your yards?

A Those are completed now, and ready to come out.

Q When is the delivery date for the other eighty percent of the compressors scheduled?

A Day by day. In other words, they are being completed every day or so; we get a truck load of them, and we ship them, or two truck loads.

Q When will the last ten percent come, in the latter part of September so you can be complete by October 1st?

A Yes, that is our date on that.

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Q By September the 1st, what would you estimate will be the total percent of this 28,000 MCF of gas that Mr. Arnold mentioned is being produced or vented per day? What percent of that gas will be transported in this pipeline to a gasoline plant by September 1st?

A That's fifteen days from today --

Q Yes. Approximately?

A -- or fourteen. That's rather difficult to answer, Mr. Nutter, because I don't have my Federal Power Commission approval. There are certain things I can't do until I get it. If we do have it, we should be processing around six to seven million feet a day.

Q Then, approximately how much by September the 15th with your delivery schedule for compressors?

A I don't have that figure at hand. I would have to sit down and try to work out my schedule of deliveries, and then see what each one would do. I haven't gone into that calculation at this moment.

Q Now, the total number of compressors you were talking about was Cha Cha as well as Totah?

A That is correct.

Q Now, the twenty percent that you have on hand, now, are for the Cha Cha area here?

A No. They will go into both fields. We are going to try to process gas in both fields simultaneously. More units will go into Cha Cha, of course, because it is larger, but there will be



gas taken from both fields, which seems to be the only fair way to do it.

Q At the present time you have no schedule of the amount of gas that will be processed at various times, except approximately six million by September 1st, and the full amount by October the 1st?

A That is correct.

MR. NOTER: Thank you.

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

(Witness excused)

MR. PORTER: Anyone else desire to present testimony here? Mr. Buell, did you have anything further?

MR. BUELL: May it please the Commission, in view of the substantial progress that Mr. Knight has made to date with this gathering system in Cha Cha as well as in Totah, I would like on behalf of Pan American, to move that the Commission continue this case until the September regular hearing. I feel by then, and as Mr. Knight has testified here today, we, the operator, Mr. Knight, as well as the Commission, will be in a better position then to see the exact progress, the amount of gas we are able to take at that time, and on behalf of Pan American, I would like to move to continue this case until the September regular hearing.

MR. PORTER: Mr. Christy.

MR. CHRISTY: Sim Christy for Humble Oil & Refining

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Company, one of the operators in the pools in question. I might state initially in the July hearing Humble stated that informal reports of progress would be given to the Oil Conservation Commission's Farmington office every ten days to two weeks. Three of these reports were made between July 19th and August 2nd, and today's testimony is offered as the fourth progress report.

We believe that continued progress will be made by the contractor, and we believe that progress has been shown here today. There have been some minor delays, but steady and accelerated progress is being made here at this time, and we anticipate it to continue.

We recognize that the Commission -- the loss of this gas must weigh on the Commission's mind. However, and as Mr. Buell pointed out, in the July hearing, this Commission's duty is to prevent allowable waste, both for oil and for gas, and it should be remembered that we are here dealing with a marginal gas producing area within a major oil producing area. Any consideration as to the economics or as to avoiding allowable waste should be measured against -- the saving of the gas should be measured against the loss of taxable revenue by shutting in this field, which comprises some thirty-five to forty percent of all oil produced in Northwest New Mexico, plus the additional risk of loss of the West Coast market, which was mentioned in the July prorationing hearing. Therefore, Humble would join in Pan American's request, and motion that the case be continued to the September hearing, at which time we believe



that the red line will be substantially further on the Operator's Exhibit 3. Thank you.

MR. PORTER: Mr. Mason.

MR. MASON: John Mason, El Paso Natural Gas Products Company. We wish to join in the motion made by Pan American, and by Humble's statement in support of that motion that the hearing be continued until the September hearing. We, too, feel that at that time the more up-to-date progress report will show the Commission better as to how much gas is being taken at that time, and then we will be able to predict with more reasonable accuracy when the balance of the gas will be taken, and can, from that information, better determine what effect a no-flare order, possibly no-flare order may have upon the oil production and Northwest market situation. We urge that the hearing be continued for another thirty days, until the September hearing.

MR. PORTER: Anyone else have anything to say concerning Mr. Buell's motion? The Commission has decided to continue the case until the regular September hearing, Mr. Buell.

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STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter, 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 machine shorthand and reduced to typewritten transcript under by personal supervision, 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 23rd day of August, 1961, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Ada Dearnley
 NOTARY PUBLIC

My Commission expires:

June 19, 1963

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BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 13, 1961

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 flar-
ing of casinghead gas from oil wells in the
Cha Cha-Gallup and Totah-Gallup Oil Pools,
San Juan County, New Mexico.

CASE 2215

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PHONE CM 3-6691



BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 13, 1961

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 flar-)
ing of casinghead gas from oil wells in the)
Cha Cha-Gallup and Totah-Gallup Oil Pools,)
San Juan County, New Mexico.)

CASE 2215

BEFORE:

Mr. A. L. Porter
Mr. E. S. Johnny Walker
Honorable Edwin L. Mechem

TRANSCRIPT OF PROCEEDINGS

MR. PORTER: The meeting will come to order. We'll take
next Case 2215.

MR. MORRIS: Case 2215: 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 the Cha Cha-Gallup and Totah-
Gallup Oil Pools, San Juan County, New Mexico.

MR. PORTER: Mr. Buell.

MR. BUELL: May it please the Commission, Guy Buell with
Pan American Petroleum Corporation. The Commission willing, we
would like to present Mr. Knight again today to report for all the
operators in both pools, as well as himself, on his progress since

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the August regular hearing.

MR. PORTER: That will be fine, Mr. Buell. Will you have Mr. Knight come forward, please, and be sworn?

(Witness sworn.)

DEAN KNIGHT

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

DIRECT EXAMINATION

BY MR. BUELL:

Q Mr. Knight, would you state your complete name for the record, please?

A My name is Dean Knight.

Q Where do you live, Mr. Knight?

A I live in Tulsa, Oklahoma.

Q What is your capacity with the Knight Manufacturing and Supply Company?

A I am President of that firm.

Q And I believe you stated at past portions of this hearing that your company is installing the field-wide gathering systems in both pools?

A That is correct.

Q Speaking generally, Mr. Knight, before we go into detailed discussions of these exhibits, you have attended past portions of these hearings and you've heard we operators tell the Commission that the effort we operators are making in these two pools, as

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well as the effort on your part, was unusual. Do you agree with that, generally?

A Yes, that is correct.

Q Why, in your opinion, is that unusual conservation effort, Mr. Knight?

A The main unusual thing about it is that usually when you start out to install a compression system in an oil field, which this is not a gas field, the field is drilled out and you know what you are doing. You can go to each wellhead, you can measure the gas, you can calculate it and you can design your system around that. That has not been true in this case.

Q I believe past testimony in this record will reflect that we've had a rapid rate of development in both pools, is that right?

A That is true.

Q Has that caused you to have to modify, revise, and change the design and pipe capacity of your system in both pools?

A Yes. Up to this point we have changed almost everything except the idea of doing it, everything in the pool has been changed at least once.

Q Have these changes been not only in extensions to your original design, but modification in the original designs themselves?

A Yes, they have.

Q It might be well for the record if we can make a



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comparison, so the record will reflect just how rapidly these two pools have grown. If memory serves me correctly, active contract negotiations to handle the casinghead gas began between you and the operators back in March of 1961?

A That is correct.

Q Do you happen to recall the number of wells completed in each pool as of March, 1961?

A Yes, in the Totah Pool in March there were twenty-one wells completed; and in the Cha Cha Pool there were forty-one wells completed, for a total of sixty-two wells in both pools.

Q As of March 1, 1961?

A That is correct.

Q Do you happen to know the number of wells completed in each pool as of September 1?

A Yes, in the Totah Pool there are now fifty-four wells; in the Cha Cha Pool there are now seventy-five wells, for a total of one hundred twenty-nine wells. This pool has more than doubled since we started our contract negotiations.

Q That's over a hundred percent increase in the number of wells in both pools since we started work in our efforts to save this gas?

A Yes, that is true.

Q All right. Do you happen to recall offhand how much footage of additional pipe you have had to add to the system as it was originally designed?



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A In round figures, the original system was about 100,000 feet, or converting it to miles, roughly twenty miles, and we have added to that roughly 25,000 feet, or a twenty-five percent increase in pipe length. Also there has been two or three increases in pipe diameters at various critical points.

Q Have you had to make these changes more or less on a day to day basis as the two pools have grown?

A Yes, we have had to, and sometimes we had to hold up. I know that during this last month we held up one piece of construction for about eight days to get in some ten-inch and some eight-inch pipe, which were going to be desperately needed, where originally the design called for six-inch.

Q Can you think of a good example we might use to point out to the Commissioners of one example of an extension area or a step-out development?

A Yes, we, when we started this in the four Sections up in the Northwest Section of Totah, there were no wells. Today Pan American on that four Sections has eight wells in Totah and two in the Cha Cha Pool, for a total of ten wells that didn't even exist and weren't even thought to be drilled in March, but they are now.

Q Was that a sizeable step out, a sizeable extension from the established production in Totah and Cha Cha?

A Yes, those ten wells represent roughly twenty percent of the whole Totah Pool today with their fifty-four wells.



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Q Before we go to the exhibits which we put on the wall to show the progress as of today, I'm going to direct your attention back to the exhibit that was offered at the August regular hearing portion of this case, I believe that's Operator's Exhibit 3, and ask you to briefly review for the record where we were, from the standpoint of progress, as of that hearing.

A All right. I believe this is Exhibit 3, and as of that date this solid red line was the line that was welded, ditched, and in place, which was approximately a half of the Cha Cha or, oh, thirty-three and a third percent of the total system, or less.

Q That was the Cha Cha?

A That was all. There was nothing in Totah. This line here (indicating) was where the right-of-way had been cleared.

Q This line here?

A The dotted line, or the broken line. The right-of-way had been cleared, and I believe pipe had been strung over this area, and we were working right at this point as of the last meeting. This section here was all that was completed, which I would judge is about thirty percent of the total system.

Q Would you go now to what has been marked as Operator's Exhibit No. 4, and state for the record what that exhibit reflects?

(Whereupon, Operator's Exhibit No. 4 marked for identification.)

A This is the Cha Cha system as it is today. Now the solid red line is all the pipe that's completed, in the ground,



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ditched, covered up, and frankly operating today.

Q The solid red line represents that portion of the system that is complete and ready to go?

A Yes.

Q Does that include all of the system as it was designed, or as it existed back in August?

A Yes. This was the system that we thought we would use in August. This is the red line.

Q What is the significance of the solid yellow lines on that exhibit? I notice one in the Southeast portion, and another up in the Northwest, what is that?

A These are extensions that are being made. We have run the surveys on them, we are waiting on right-of-way, I believe, on them; but these are necessary extensions to conserve the gas out of two wells called the Tribal H, 2, and about in round figures, six to eight wells in this area that have been added to this system since the last time.

Q These two factors represented by the yellow lines, that represents two examples of additions that you have had to make to your system as you discussed earlier in your testimony?

A Yes, those are just plain additions to get more gas that has been brought in since the original setup was made.

Q What is the significance of the three green dots in the Southeastern portion of that exhibit?

A These are three compressors that are sitting on this



location, and today they are compressing gas and it is being sold to El Paso Natural Gas Company.

Q What's the significance -- is that arrow purple? I can't tell.

A Yes, it's purple. It's almost black, but let's call it purple, a purple arrow.

Q What does it designate?

A That is the tie-in to El Paso Natural, and that is actually the cash register or delivery point of gas.

Q Do you have an estimate, Mr. Knight, of the volume of gas that you are delivering to El Paso at that connection, say, today?

A Yes. As of eight o'clock this morning, the meters indicated that we were delivering at this point 1.9 million cubic feet per day. That was at eight o'clock this morning, and we should increase that before nightfall.

Q Before we go to the exhibit that reflects the Totah system, let me ask you to briefly review for the record the state of progress that existed at the August regular hearing.

A All right. The progress, of course, includes all of the line --

Q I believe you misunderstand me.

A All right.

Q I'm talking of Totah. Where were you in Totah at the time of the regular hearing?

A Excuse me. In Totah at the August hearing, there was

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no pipe in the ditch; there had been some right-of-way cleared and some ditches dug, but there was nothing beyond that in the Totah area as of that date.

Q Let me direct your attention now to what has been marked as Operator's Exhibit 5. What does that exhibit reflect?

(Whereupon, Operator's Exhibit No. 5 marked for identification.)

A This is a map of the Totah area.

Q It would appear from here, Mr. Knight, that actually in Totah you have two separate and distinct gathering systems, is that observation correct?

A That is correct.

Q For the purpose of simplification, in your testimony let's refer to the one in the southeastern portion of your exhibit as the Southeast system, and the other one the Northwest system. Generally speaking, did you find the terrain in Totah to be extremely rough and irregular?

A Yes, the terrain in this area is extremely rough and particularly right in here (indicating). The operators were not very careful where they drilled their wells when they drilled them.

Q They weren't thinking of you?

A No, they didn't think very much of us at that point.

Q Speaking of the Southeast system, what has necessitated the almost horseshoe shape of that system?

A Well, actually that was the only way we could put this



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thing together. I couldn't go across these -- what do they call them -- arroyos, we call them canyons in our part of the country. We had to come off the top of the hill, go down to the bottom and then follow the canyon out, and that's what we have done here. These solid red lines here are part of the line that is already in place, because it involved this dropping off this 400 feet off the top of these bluffs, and that's why this is in in such a manner, because it's following the floor of a canyon. That's the only way we could get through.

Q And again on this exhibit, and with particular reference to the Southeast system, does the solid red indicate the portion of the system that is complete?

A Yes, the solid red, which is quite small in this particular one, that is in place and done.

Q What is the significance of the broken red and white portion?

A That is pipe that has been, the right-of-way has been cleared and the pipe is strung, the ditches are being dug and the work is in progress there.

Q Why haven't you made more progress in that Southeast system? Why don't we have more solid red there, Mr. Knight?

A Well, actually there is, we received a letter from El Paso Natural, who said that due to their having to redo this line completely in here, I think everybody is aware --

Q By "this line", you mean the El Paso?



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A The El Paso line. They are redoing the lines in here to be able to take the quantity of gas we have to deliver to them. Over in the other areas, they did not have to tear out a line and put in a new one, but in this area, I understand they're having to tear out and revise their line. They won't be ready until October 1, and possibly October 15. So we have dropped off our work here and been concentrating in this area here and here (indicating), so we could get some gas movement, which was of prime importance.

Q Do you anticipate any difficulty in having that portion of your system now reflected on that exhibit in broken red and white line, do you anticipate having any difficulty in having that complete by the time that El Paso is ready to tie in?

A No, I don't anticipate any, unless we have a rain and that washes the floors of the canyon in, but I don't anticipate that at this time of the year.

Q What is the significance of the yellow line, is that the same that we talked about on Exhibit 4?

A Yes, this is another extension necessitated by more drilling activity in this area, and another one down in this area, and we are planning to tie it in to here so we can go ahead and take care of this gas in this area (indicating).

Q What stage of work are you at now on that portion shown in yellow?

A That has been surveyed and right-of-way applications have again been made, and that's about the status of that one.



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It's right at the very beginning, you might say.

Q Let's go now to what we have designated as the Northwest system in Totah. Briefly relate to the Commission and the record where you are on that system now.

A All right. The solid red line again represents a line that is in and complete, even including that little mark up here (indicating). Now you note that is no good up there, it doesn't tie in to anything. When we come out here to Pan American Tribal H-2, we had so much gas that it necessitated an entire change in the system up here, so we had to drop this line, which was scheduled for construction, the right-of-way was cleared; actually the right-of-way permits had been obtained and right-of-way cut across it. Then we had to deviate from that, go back and change that, increasing the size of this line. We came back down here, this all ties in to it, we had this all scheduled for six-inch; we come back in here, we had ten-inch here and eight-inch here, and extended the six-inch, which was originally four, to be able to take all of this, which leaves this piece isolated until we can clear this construction.

Q You have been discussing the northern portion of the Northwest system in Totah?

A Yes.

Q I believe that change in design or addition in design was necessitated by connecting up our Navajo Tribal H lease, which you used as an example earlier, as an example of an extension area?



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A Yes, there are now eight wells up here, which represent a very sizeable portion of the total in this particular Northwest section, so that necessitated actually a complete change out of our pipe sizes and thinking on this one situation.

Q Would it be fair to say that when you considered not only the change in the size of the pipe that has been necessitated in Totah, but as well as the extension areas themselves, that you have actually increased the size of your system about fifty percent in Totah? Would that be a fair observation?

A That's just about right, yes.

Q With the exception of that portion of the Northwest system shown in yellow, the remainder of the system is complete?

A Yes, it is complete.

Q Do the two green dots at the southern portion of the Northwest system again show compressors installed and on the line?

A Yes, sir, those are installed and operating today.

Q Are you delivering to El Paso there now?

A Yes, we're delivering here, as, again, of eight o'clock, 2.9 million feet a day, according to our meter, into El Paso's lines, at the purple arrow. This again is the cash register or El Paso's meters.

Q When you consider the gas that you are delivering in Cha Cha and Totah, what was the total delivery from both fields?

A The total delivery at eight o'clock was 4.4 million.

Q I believe you stated that you expected that to increase



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before the day is over?

A Yes.

Q Do you have an estimate of the rate that you will be delivering by this afternoon?

A We should pick up close to another million before nightfall.

Q Mr. Knight, so we can get some idea, will your deliveries to El Paso remain at the rate that you have just discussed until you complete your system, or is it going to be a day by day incremental increase in deliveries to El Paso?

A Well, this will be almost a day by day increase, because every time we set a new compressor, it will increase the delivery, and all that we have to do on this system, outside of adding these extensions, are to add compressors as fast as we can do that. That will increase our delivery every day, so it will be a daily growth now, and not waiting for more system or more anything. The same thing, this work can go ahead and progress, and when that's done we can start producing there as well as here and over here. So actually, from now on this thing will grow every day.

Q How are you selecting the batteries you are connecting to first, Mr. Knight? Do you have any method in your selection?

A We are trying to select at the moment batteries that we can obtain the most gas from and get the most conserved. That's our attitude at the moment. We are, therefore, picking separators not necessarily that make the most gas, but ones that



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they're holding the most pressure, that enable us to make the maximum delivery and save the maximum amount of gas.

Q From the standpoint of compressors, as I recall your testimony in July and August, I believe you said you planned on putting in thirty-three, is that correct?

A That's roughly correct, yes.

Q The exhibit in your testimony shows that five are installed and on the line. Could you give the Commission some idea of your scheduled tie-in of compressors on the system?

A Yes, our compressors should be tied in at the rate of about two and a half to three per week. Now we've had to make some changes here in our compressors, in that we have increased the system. In other words, this thing is growing so rapidly, and Mr. Mallarney is at the Farmington site now doing some re-engineering on sizes needed, and we are increasing the size per machine. We are trying to put in the large ones first and we have increased that by one size. We should be able to average about two and a half to three of those per week from now on.

Q How many crews or how many people do you have installing your compressors now?

A We have three of our key personnel that are doing the fine work, the precision work. We are using all the contract labor that we can use well, but contract labor, of course, is not available to do the precision work.



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Q You mean the ordinary roustabout or roughneck can't hook up a compressor?

A He can only go so far and then our men must finish, because at that point you can use labor that isn't good or it isn't quite competent, and you will run into headaches a little later down the line that you would have avoided had you done it with your own people. We have these three men out there working as hard as they can go.

Q Are they working seven days a week?

A I think they are working eight, from the reports I hear from them. They're telling me that, anyhow.

Q The July and August portion of this case, Mr. Knight, you estimated a target date of October 1 of being complete. Do you feel that you are going to need to revise that target date?

A Yes, we will have to, because of the extensions and additions that we have made. I think that a real target date for completion now should be around November 1st. We have so much more to complete than we had in August.

Q Were these changes and modifications in the design and the content of your system, were they time-consuming, did they cause you delay?

A Yes, that sort of thing always causes delay, and you reduce your efficiency.

Q And you now estimate a target date of November 1?

A That's for everything, yes. As we have stated before,



this thing will grow every day, but to be complete is another question and I would say that that must be now November 1.

Q Well, Mr. Knight, we -- by "we" I mean all the operators and yourself -- started from scratch on this in March. You estimate target date now of November 1. That's a little less than eight months. In your opinion, do you feel that the progress that has been made in these two pools, when you consider the myriad problems that you and we operators have encountered, do you feel that being as far as we are now and with a completion date by November 1 is a significant conservation achievement?

A I think it's very significant, because at this point we are five and a half months along from the start of negotiations. I have seen many of these things where the negotiations took longer than that. We have completed negotiations, we have put in the majority of the pipe in the ground, and we are actually delivering gas in five and a half months; and I think that's quite an achievement. And then your eight months that you are talking about is a completion date of everything, and that is, I believe, also quite rapid.

MR. BUELL: I believe that's all that we have at this time.

MR. PORTER: Any questions of Mr. Knight?

MR. MORRIS: Yes, sir.

MR. PORTER: Mr. Morris.

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CROSS EXAMINATION

BY MR. MORRIS:

Q Mr. Knight, you stated that part of the delay that's been caused has been due to the increase in the number of wells that have been brought in in these two pools. After the system that you have is fully installed and completely operative, how long do you think it will take for you to connect new wells that are brought in in these two pools, that might be brought in as normal extensions of the pool?

A In other words, you are talking about a complete new -- not a new well where we already have a battery, you are talking about extending the lines to reach a new battery that's even further away than it is now?

Q Yes, sir.

A I think we should have, from scratch, you've got your survey, permission to survey, of course, depending on which way you are going, whether on Indian lands or Federal lands, and then your permit to construct and your construction. I would think that the very minimum figure there should be sixty days, and would like to have ninety to make any sizeable extensions. If you were just running a few feet, then you might do it in less, but you have quite a lot of paper work that must be cleared before you can actually do anything.

Q Then if you had a normal step-out development, it still might take as much as sixty or ninety days to connect up a new well?

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A I think so.

Q As your facility is presently designed, what is the maximum amount of gas per day that you can handle, or is there a maximum figure?

A There's always a maximum. I would hate to state any certain maximum, because there are always little changes that you can make to increase that, but I would say with ease we should be able to process 30,000,000 plus.

Q I believe at the last hearing of this case Mr. Arnold gave us some figures that indicated there were some over 28,000 mcf per day of gas being flared at that time. Now that figure was some 6,000 mcf per day over the figure that he gave us for the month before. Now if the field continues to be developed at that rate, you are going to be over your 30,000 per day figure pretty fast.

A Yes, I think all of those instances merely necessitate running a higher pressure on our main line, and there also is another tie-in with El Paso up in the Northwest end of Cha Cha that can be made, which will help us if we have to go that way. I think that actually we can keep up with this pool.

Q I believe you stated that you had to abandon your ideas of using six-inch pipe in some places and using eight-inch. Do you think that you'll have to revise your program any more, will you have to increase the size of the pipe as new wells are brought in?



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A That was made on the Northwest Tatab. Actually there isn't any place for anybody else to drill there, unless they jump the river. If they jump the river, the logical place to bring them in is on the Northwest of Cha Cha. I think we are adequate there, and there can be no extensions of the East end of the Northwest system, so we have no problem there; so I think that system is adequate at this point.

Q If development continues in these two pools at the present rate, do you think you can keep up with it?

A We are going to make every effort to.

Q You say November 1st is now your target date?

A For the extensions, completions, everything.

Q You foresee any more uncharted reefs in your course?

A I think not. I think everything is rolling pretty smooth, actually, and certainly there could be more extensions on the Southeast end up there that by the time of November 1 we're still not through, but I think that this system as it's shown here can be through on November 1st, and personally I hope they keep going down there because it's only money that we're after, and all that adds to it in the long run. I hope they keep drilling and go clear down to -- I don't know what's down here, but I'm ready.

MR. MORRIS: Thank you.

MR. PORTER: We hope it does, too, Mr. Knight. Do you care to make an estimate about how much gas you think you'll be taking into the system by October 1st?



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A I believe that we could add safely here an average of a half million feet per day for the next thirty days without any problem at all. In other words, by -- did you say the end of October?

MR. PORTER: No, sir, I said October 1st.

A October 1st, that's roughly seventeen days. We should have another eight to ten million feet per day going in at that time. I'm being rather conservative in my thinking.

MR. PORTER: Mr. Nutter, did you have a question?

MR. NUTTER: No, sir.

MR. PORTER: Mr. Buell, do you have another question?

REDIRECT EXAMINATION

BY MR. BUELL:

Q I think it's pretty obvious in the record, since you are delivering to El Paso, you did get your F.P.C.?

A Yes, I hope so. So's El Paso. Yes, we received that.

MR. BUELL: That's all I have. I would like to formally offer Operators' Exhibits 4 and 5.

MR. PORTER: Any questions concerning the exhibits? The exhibits will be admitted. If no further questions of Mr. Knight, he may be excused.

(Witness excused.)

MR. PORTER: Mr. Buell.

MR. BUELL: May it please the Commission, in view of the substantial progress that I sincerely feel has been shown here



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today in the short interval since the August regular hearing, I would like to move that this case be continued until the regular October hearing. I don't see any sense in burdening the record with statements that we've already put in relative to the marginal nature of the economics of gathering and saving this gas. Actually, it can best be described as a conservation effort, strictly for the sake of conservation.

I believe the record is clear that neither the operators or Mr. Knight are going to make any significant amount of money out of saving this casinghead gas. It is simply a conservation effort. In view of the diligence that I feel the operators have shown, as well as the diligence of Mr. Knight in completing these systems, I would like to move for a continuance.

MR. BRATTON: Howard Bratton on behalf of Humble Oil and Refining. We would concur in the motion of Pan American and the statements of Mr. Buell; and on a personal note, I understand that we are going to have the pleasure of being host to this Commission in its October hearing at Roswell, and we would like to have the pleasure of Mr. Knight's company, and all these gentlemen that are interested in this matter. We urge this Commission to continue the matter until the October hearing.

MR. MASON: John Mason, El Paso Natural Gas Products Company. We likewise would like to support Mr. Buell's motion for continuance, and as has been seen from Mr. Knight's testimony this morning, that since overcoming that uncharted financial reef



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that he encountered, which was back in July sometime, that he has proceeded with diligence, and some gas is being moved today. However, Mr. Knight has been forced to work with some difficult problems and has been faced with these problems and will continue to be faced with them in the next few weeks, I think.

This has been almost an impossible and unprecedented task he has taken on, to try to construct and devise a gathering system in an area that is developing at a rapid pace.

In the past few months, the Commission has exhibited an understanding of the situation, and for that the operators are quite grateful. We would hope that the Commission would continue to recognize that in the Cha Cha and Totah areas we do have an unusual and difficult situation which requires the special consideration which the Commission has been giving it each month, and this month is no exception to that, inasmuch as we're not necessarily looking at the same situation this month as we were looking at last month.

The statements that have been made by Mr. Knight in previous hearings in July and August were not empty promises or predictions on his part, but I'm sure that they were made in good faith in view of the circumstances which were existing at that time.

We feel that the Commission should not base the decision today on the predictions which were made in view of the facts existing back last month. Those conditions have been changed, as



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we have seen from Mr. Knight's testimony, and therefore the decision rendered today with respect to this matter should be made after considering the facts as they exist today.

So we, in view of Mr. Knight's testimony and in view of what I have just said, would also like to urge that Pan American and Mr. Buell's request for a continuance be granted.

MR. PORTER: Does anyone else care to comment on counsel's motion?

MR. SWANSON: Clarence Swanson, Aztec Oil and Gas. We concur in the request for continuance of the case and wish merely to say that we have been delighted with the progress that has been made, and feel that it is significant.

We think that all parties have exhibited exceptional good faith, and the work has really gone better than could be expected in view of the changes. We, too, urge the Commission to consider the application for continuance of this case until the October hearing.

MR. PORTER: The Commission was wondering whether Mr. Bratton was speaking for his client or the Chamber of Commerce?

MR. BRATTON: That's an awkward question, because I have with me Mr. John O'Dell, the attorney for Humble out of Denver. I was speaking for my client.

MR. PORTER: The Commission will continue the case until the regular October hearing.



STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, 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 that the same was reduced to typewritten transcript under my personal supervision, and contains a true and correct record of said proceedings, to the best of my knowledge, skill and ability.

DATED this 20th day of September, 1961, in the City of Albuquerque, County of Bernalillo, State of New Mexico.


NOTARY PUBLIC

My Commission Expires:

June 19, 1963.

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BEFORE THE
OIL CONSERVATION COMMISSION
Roswell, New Mexico
October 18, 1961

REGULAR HEARING

IN THE MATTER OF:)

The hearing called by the Oil Conser-)
vation Commission on its own motion to)
consider the promulgation of an order)
prohibiting the flaring of casinghead)
gas from oil wells in the Cha Cha-)
Gallup and Totah-Gallup Oil Pools, San)
Juan County, New Mexico.)

CASE 2215

BEFORE: Mr. A. L. Porter

TRANSCRIPT OF HEARING

MR. PORTER: Case Number 2215; 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 the Cha Cha-Gallup
and Totah-Gallup Oil Pools, San Juan County, New Mexico.

MR. MORRIS: If the Commission please, Dick Morris,
appearing on behalf of the Commission. We will have one witness.

MR. PORTER: I would like to call for other appearances
in the case.

MR. BRATTON: Howard Bratton, appearing for Humble Oil
and Refining Company, Ewell Walsh for El Paso Natural Gas Products

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Company.

MR. SWANSON: Kenneth Swanson; Aztec Oil.

MR. MORRIS: We will call Mr. Arnold.

(Witness Sworn.)

EMERY ARNOLD,

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

DIRECT EXAMINATION

By MR. MORRIS:

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

A Emery Arnold; Supervisor, District 3 of the New Mexico
Oil Conservation Commission.

Q Are you the same Mr. Arnold who has testified in pre-
vious hearings of this case?

A Yes, I am.

Q Mr. Arnold, do you have figures at hand concerning the
total number of wells producing and the gas-oil ratio being
produced from the Cha Cha and Totah-Gallup Pools?

A Yes, sir. I do; as of October 15, 1961.

Q As of October 15, 1961?

A Right.

Q These pools come under the direct supervision of the
Oil Commission, is that correct?

A Yes, sir.



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Q Referring first to the Cha Cha-Gallup oil pool, would you tell the Commission, please, the total number of wells producing in that pool as of October 15th?

A As of October 15th, there was 80 wells producing.

Q Do you have the gas-oil ratio information on those wells?

A We have gas-oil ratio test on file for 77 of those wells.

Q Would you give us that information?

A Yes, sir. The total, calculated total gas of these 77 wells, using those tests, is 17,466 MCF per day. The average gas per well for those 77 wells was 227 MCF per day.

Q Now, you have used the average figures, then, from the 77 wells to arrive at an average figure for the other three untested wells?

A Yes, sir. That is right.

Q What was the total gas for all 80 wells that you arrived at?

A 18,160 MCF per day.

Q And that figure is based on the most recent information available?

A Yes, sir. That is based on the latest available tests in the Cha Cha Pool.

Q Now, would you give us similar information on the



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Totah-Gallup Oil Pool?

A Yes, sir. As of October 15th, there were 57 wells producing. We had available 49 gas-oil ratio tests. The calculated total gas from these 49 wells was 10,415 MCF per day. The average per well was 213 MCF per day. Therefore, the total gas available is 57 times 213 or 12,140 MCF per day.

Q So the total gas available was Cha Cha-Gallup, 18,160 MCF per day; Totah-Gallup 12,140 MCF per day; for a total of 30,000 MCF per day from the two pools?

A Yes, sir. That is correct.

Q Mr. Arnold, it might be of interest to the Commission to have the oil production of the two pools as of the most recent information available to you.

A Yes, sir. The latest month on which we had complete figures was July, in the Cha Cha Pool, total production was 253,750 barrels, for the daily average of 8,185 barrels. The Totah Pool total production was 212,980 barrels, for the month of July. Daily average was 6,870 barrels. The daily production from both pools was 15,055 barrels per day.

Q This amounts to a sizeable portion of the allowable in the northwest, is that correct?

A Yes, sir, it does.

Q Mr. Arnold, I realize that there will be other testimony in this case to the effect that some gas from these



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two pools is presently being gathered and put to beneficiary use; but, do you know, to your knowledge, that some of it is still being flared?

A Yes, a sizeable amount of it is still being flared.

Q Do you have any concrete figures as to how much is?

A No. That is changing every day. I think the Knight Manufacturing Company is setting up compressors. I don't know whether they are up to the schedule or whether they are behind schedule. I think the operator can probably testify to that more accurately than I can.

Q But, you do know that a substantial quantity is still being flared?

A Yes.

Q Mr. Arnold, in the event the Commission should decide to enter a no-flare order in this case, what recommendations would you have for excepting some wells from that no-flare order?

A Yes. I think there should be a provision for administrative exceptions written in the order; based upon economics.

Q In other words, where it would not be economically feasible to gather gas, you would recommend certain wells showing that, be excepted from the order?

A Yes.

Q Would you also recommend a 90 day period for new



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wells to be connected?

A Yes. I think new wells should have 90 days to get a connection.

Q Mr. Arnold, there are still a number of wells being drilled in these two pools?

A Yes. I believe the Totah, right at the moment has more rig activity than the Cha Cha. Actually, we are not adding wells very fast, at the present time, in the Cha Cha Pool.

Q Do you have anything further you would like to add, Mr. Arnold?

A No. I don't believe so.

MR. MORRIS: If the Commission please, that concludes the direct examination of Mr. Arnold.

MR. PORTER: Are there any questions of Mr. Arnold?

You may be excused.

(Witness Excused)

MR. PORTER: Does anyone else desire to present testimony?

MR. BUELL: If the Commission please, at this time, we operators had planned to present Mr. Knight, so that he could give the Commission a report on the progress of his efforts in installing and getting into operation his facilities in both of these pools. Unfortunately, Mr. Knight could not be with us today. He has personally asked me to convey to the Commission his extreme regret and assure the Commission that it took an



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occasion of significant importance to keep him from being here.

Actually, Mr. Knight is having his final meeting in Dallas with the various people who are financing his efforts in these two pools. Those people, some of them are from New York, some from Houston, and some from California. Due to the great number involved in financing this effort, it was impossible for him to schedule this final meeting any other day than today.

For that reason he cannot be here.

However, he has made available his Project Engineer, who is completely familiar with all efforts and the progress and circumstances, and if the Commission please, we operators would like to present Mr. Malernee to bring the Commission up-to-date on the efforts that have occurred since the September regular hearing.

MR. PORTER: Would you have your witness come forward and be sworn?

(Witness Sworn)

KENT MALERNEE,

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

DIRECT EXAMINATION

BY MR. RUEL:

Q Would you state, for the record, please, your complete name and your position with the Knight Manufacturing Company?



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A My name is Kent Malernee and my position is Project Engineer on the Cha Cha and Totah casinghead gas gathering facilities.

Q In that position, Mr. Malernee, have you been completely familiar with the efforts of the Knight Manufacturing Company from the inception, in those two pools?

A I have.

Q Mr. Malernee, are you familiar with the testimony of Mr. Knight, as presented to this Commission at the September regular hearing?

A Yes. I read the transcript of that hearing.

Q In that connection, do you recall the prediction of Mr. Knight's anticipated progress that would occur in the interval between the September hearing and today?

A Yes, sir.

Q Help me refresh my memory. It was his testimony that he was hopeful of adding, on an average incremental basis, about a half a million cubic feet per day delivery to El Paso?

A That was his testimony.

Q I believe he also testified that he was hopeful of adding in the field, installing in the field, on an average basis, over this same period of time, two and a half to three compressors a week. Is my memory correct?

A Yes, sir.



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Q Mr. Malernee, have you been able to meet these predictions of progress since September?

A No. We have not been able to completely meet them. We experienced some difficulties.

Q Have you made progress in that interval?

A We feel that we have made definite progress. The estimate of two and a half to three machines; machines shipped per week, shipped to the field, has been only about two machines per week. The incremental increase of a half-million cubic feet per day since the September hearing would be, the capacity at this time, approximately 20,000,000 cubic feet. I talked to our field-superintendent this morning and he advised me that as of 8:00 A.M. we are handling a little over 10,000,000 out of the two fields.

Q All right, sir. What has occurred, Mr. Malernee, to prevent you from meeting these predictions of progress made by Mr. Knight? What has caused the delay in progress?

A The delay has been caused from the necessity of re-designing our compressor equipment to handle larger volumes of gas from the --

Q Excuse me. Did Mr. Knight cover that in some detail in his testimony in September?

A He did. Yes, sir.

Q Did he do additional development in the field that he



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could see the reason for the required significant design modification in both gathering system and size of the compressors that you installed?

A Yes, sir.

Q All right. How did you change this design from the smaller compressor to a larger compressor? Was it the design work?

A Well, not strictly the design; that was the end result. It was necessary to change the cylinder size. Where we had anticipated one size machine, it was necessary to go to larger equipment that would handle the volume of gas, which is now being flared, from the field.

Q In other words, the delay actually has been caused by the inability to procure parts for these larger size compressors?

A That is true.

Q What efforts have been made, on the part of Knight Manufacturing Company to overcome this bottleneck; if we can term it "bottleneck?"

A Well, after he exhausted his efforts, he contacted the producers in the field and advised them of the situation and through their Purchasing Department assistance, they have been able to assist in getting things rolling.

Q Are you now receiving all the parts necessary to fabricate these larger size compressors?



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A Yes, sir. These have just recently started arriving in Tulsa. More are on the way.

Q Has your bottleneck in parts been broken and been cleared up?

A It has, yes.

Q I wonder Mr. Malernec, would you say that, at this time, your fabricating plant in Tulsa, is it operating -- What I would term on an assembly-line basis, do you have sufficient parts to get your line rolling again?

A We have parts to get our lines rolling. We are now on an assembly-line basis, in that when a finished machine is shipped out one door, component parts are brought in another door and a new machine is started.

Q When did your plant get back into operation in this manner?

A It was last Saturday.

Q Are you now getting compressors out of the plant and shipping them to the pools?

A Yes. We are.

Q Do you happen to know when the last one left the plant?

A The last one left the plant yesterday morning.

Q I wonder -- In view of the bottleneck in parts being cleared up, I wonder if you have given any consideration to working overtime or adding a fabricating plant crew so that you



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could turn those compressors out a little more rapidly?

A At the present time we are working one shift on an overtime basis. When additional component parts are available to sustain two shifts, Mr. Knight has told me that he is going on a two shift basis.

Q Let me ask you this, Mr. Malernee, do you feel that since this latest obstacle has been overcome, and you have an adequate supply of parts now, do you feel, say, over the next thirty days that you will be able to arrive at Mr. Knight's prediction of an incremental average basis of about a half-million cubic feet per day in your delivery?

A We cannot anticipate any difficulty in meeting that increment.

Q As of this morning you were delivering to El Paso at what rate?

A It was a little over 10,000,000: 10.1.

Q 10,000,000 per day?

A Yes.

Q Mr. Malernee, as I recall the September hearing, Mr. Knight felt that by November 1 the system would be installed effectively; 100 percent, completely installed and operating. In view of the bottleneck in parts, that has set you back, do you feel that you should revise that target date?

A I believe it will be necessary, yes, to revise that



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target date.

Q What, in your opinion, based on your knowledge of the operation and progress that is being made, at this time, what is your best estimate of the target date; being effectively, 100 percent complete?

A Our estimates, as the situation now stands, of actual completion, including the extension lines which we have added, is December 1.

Q All right, sir. Mr. Malernee, let me ask you now, to go over to the board where we have posted our exhibits and in that you will be a considerable distance from the reporter; please speak loud enough that he can get your testimony.

I will ask you to look now at the exhibit on the left, marked Operator's Exhibit 6. What does that show?

A That is the Cha Cha casinghead gathering system.

Q Would you briefly review for the Commission the status of that system as of the September hearing; so that we can compare the progress that has been made in the inter-period?

A The solid red line down through here, (indicating) including this solid red line, (indicating) and including this yellow line down through, to here, (indicating) was the same; it has not been changed. At this point in September we did not have a compressor installed; we have one installed there now.

Q Instead of saying, "this point", with your pointer,



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just give the section.

A Very well. In section 17, we have installed a compressor which was not located there at the time of the September hearing.

Q All right, sir.

A On into the main compressor station in Section 10, the point of delivery to El Paso Natural Gas main line. at the September hearing we had three machines: we now have six. On down into Section 15, we have installed a field compressor which was not in there at the time of the September hearing. Further on from it, between Section 22 and 23, an extension line that was shown in solid yellow at the September hearing, which denoted "survey made in" and has now been -- the right-of-way has been cleared. The ditches, I believe all the ditches now have been cut with pipe strung, as denoted by dashed red and white lines.

Q All right. Let's re-cap now, the Cha Cha from the standpoint of additional completions, at the time of the last hearing we had three, how many do we have now?

A We have a total of eight.

Q Five have been added this September in spite of the bottleneck?

A Right.

Q All right, sir. Go now to what has been marked Operator's Exhibit 7: what does that exhibit reflect?



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A That is the Totah casinghead gathering system.

Q Rather systems?

A Actually it is system.

Q We refer as to northwest system and southeast system.

Let's start out with the southeast; with respect to the system there, what has occurred since September?

A Since September our main line, represented by this horseshoe, has been completed and is ready for gas.

Q You are referring to the solid red line in the southeast system?

A That is correct.

Q At the time of the last hearing, although some work had been done, the pipe had not been put in the ground and tested and ready for operation?

A No, sir. It had not.

Q All right, sir. Let's go to the northwest system; has there been any substantial change in this system since September, significant change in the northwest, that is?

A There has been the addition of one compressor at the main compressor station for the northwest. This is located in Section 33 and one field and booster compressor in Section 20; otherwise, there has been no significant change.

Q All right, sir. Let me ask you this: Mr. Malernee, with respect to both systems, why hasn't more work been done in



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getting the pipe in the ground in these?

A These extensions, the rear part of the pipeline, has been designed to go out and get the new developments.

Q Why haven't you laid more pipe in that regard?

A We had enough pipe in the ground that we could handle all the gas for which we had compressor facilities available.

Therefore, we were more interested in devoting our time and attention to the installation of compression equipment; to conserve as much gas as we could rather than extend the pipelines for future use.

Q In other words, during this past month, your primary objective has been getting compressors into the field?

A That is true.

Q Let me ask you with respect to the pipeline; pipe extensions rather, is that pipe on order or enroute?

A It is.

Q Do you anticipate any difficulty at all in having pipe in the ground and ready to go by the time you get your compressor strength up sufficiently to handle gas from extensions?

A Weather permitting; we are anticipating no problem.

Q All right, sir. You want to go back to your seat, now? (Witness complies.) Mr. Malernec, adding up on my fingers, as you went through your testimony, as I recall, we had a total of five compressors in both pools at the time of the last hearing?



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A Yes, sir. We did.

Q We now have, if my arithmetic is correct --

A We have a total of 12; that I recall.

Q So, in spite of the bottleneck in parts that you encountered, you have been able to increase your compressor strength in these pools by over 100 percent?

A Right.

Q And with the bottleneck now broken and fabricating there in Tulsa on an assembly line basis, with one machine coming out one door, all completed and a frame on a skid coming in the back door; you certainly hope to do better in the time to come?

A We certainly do. It looks like there will be no difficulty in doing so.

MR. BUELL: May it please the Commission, I believe that is all the direct we have at this time. May I formally offer the Operator's Exhibits 6 and 7?

MR. PORTER: Without objection, the exhibits will be admitted.

(Whereupon Operator's Exhibits 6 and 7 were admitted in evidence.)

MR. PORTER: Anyone have any questions of Mr. Malernee?

MR. MORRIS: Yes, sir.



CROSS-EXAMINATION

BY MR. MORRIS:

Q Mr. Malernee, you say that you hope to add, roughly, a half-million feet of gas per day to your line?

A Yes. Now, that is on an average basis.

Q On an average basis?

A Right.

Q At that rate, with about 20,000,000 plus feet of gas being left to be collected, at the present level of production, according to my figures, if you attain that average level, that average rate of adding on, you should have your system complete somewhere around the 18th of November; does that about match your figures?

A 20,000,000 to a half-million is 40 days; I was figuring a month and a half to test it first, which would be, normally, 45 days.

Q December 1st would actually give you a little leeway on your half-million a day, would it not?

A On the estimated basis; yes, sir.

Q If the Commission should decide to enter an order in this case, a no-flare order and to make the effective date of the order around December 1st, do you foresee any difficulty in living under that order?

A Right now we could not foresee any. There have been other things that come into this that we did not foresee. We

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feel, right now, everything has been cleared; but, weather could be a material factor in effecting that.

Q Do you see any factor other than weather that you might be able to foresee; and reefs chartered or unchartered in the path?

A We do not see any; no, sir.

Q Mr. Arnold testified, I believe, that 90 days would be his recommendation for allowing exceptions for the new wells to be hooked up; do you believe that, on a normal step-out development well, do you feel that the well could be hooked up in the 90 day period; once the system is complete?

A Under normal conditions, it can; under normal every day conditions, if it is just a usual step-out of existing wells in the field, 90 days should be sufficient time.

MR. MORRIS: That is all I have.

BY MR. NUTTER:

Q Mr. Malernee, I don't have your name. Would you spell that for me?

A M-a-l-e-r-n-e-e.

Q E-e?

A Double e at the ending.

Q Mr. Malernee, I just wanted to ask you a couple of questions on the Cha Cha, Totah Pools, if I might. For one thing, you said last Saturday you really got to rolling and turned out



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a compressor; how many compressors did you turn out the week ending Saturday?

A We shipped two last week.

Q You got two made last week?

A Right.

Q How about the week before; how many did you make?

A Oh, Let's see, Mr. Nutter, I don't recall exactly how those things have been scheduled. I haven't been in the office very much of the time. I don't know. They --

Q Well, I was just wondering; since you got rolling Saturday, I was just wondering how you were rolling previous to that and how fast you were rolling now?

A We shipped two machines last week and then again Tuesday we shipped one more; which the average time, as we are set up, on running them through the shop on a production basis is about a day and a half per machine.

Q How many have you shipped this week?

A This week we have only shipped, the one yesterday. They are working on --

Q You got rolling Saturday and you have made one so far?

A Right.

Q Mr. Malernee, one thing you pointed out in your testimony when Mr. Buell was questioning you was the fact that you have changed the size of these compressors to meet the increased



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amount of gas that is available in the pools. How many of these compressors have been changed in size from the original plan?

A From the original plan? Just about every one has been.

Q What was the original capacity of those, of these that --

A On the original plans we were working at a line total, from the two fields, of approximately 20,000,000 feet on our line sizes. The thing that has effected us more than anything else on compressor size, has been the maximum rate of discharged pressure. To achieve the higher capacity, even with the pipe changes that we have put in there, most of the pipeline changes were on the insertion side where it would be extremely difficult to get to a compressor to service it, we have had to go to higher pressure machines which will operate the line at a higher operating system.

Q Are these one or two-phase compressors?

A Each individual compressor is finished single-phase, we are staging them in the field.

Q I see.

A Right now, in the field, we are running two stages with the third stage standing by.

Q What was the original --

A Single-phase.

Q Single-phase?



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A Our original plan was a total of three standing by, not having to go so high on the pressure on the first stage. The first stage ones are critical because they are allocated in the field. If you have 95 pound machine sitting out in the field and you have to have 150 pounds to get the gas through the line; that 95 pound machine just won't hack it and you have to replace it with a larger unit. In addition to which -- As an example

there is one installation where we had originally sized the compressor and facilities at 100 -- about 140 horses and our system was set up on that. Right now, in that system, we have had to resize it to over 300 horsepower at that one point.

Q This is one particular compressor?

A That is one particular installation. To get as much gas as we can, we are putting the machines in so they will be of the most benefit. At the present time there are some of them that will have to be moved and we realize it at this time.

Q Well, now, in the changing of compressors that you found necessary, you state that each of these stations is probably going to be a three-stage compressor facility with three separate compressors. Now, the big compressor has to be in the first stage; how about the second and third stage?

A The second and third stages are the ones primarily located at the station. The first stage is out in the field, they pump through the line into the station. That has been



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another factor there; on the second stage we had designed our plant for all wells on all three, what we classify as our fan compression station. We had sized up the station to handle a certain number of machines. But with the increased capacities, we have had to increase the size of machines that are put on each individual pad. An example of this change in size that we are talking about: the machines that we have out there, the twelve machines total value in horsepower is close to 1,000. Three machines that we have in the shop and scheduled through next, will deliver half that horsepower. Using three machines to deliver half the horsepower of the twelve existing machines. That is an example of the way we have had to go on this.

Q Well, is this typical of what you are -- How many compressors do you eventually plan to install?

A Originally we planned to install somewhere in the order of 35. By going to larger sizes and with the increased capacity; it looks like now we are going to be closer to 45. Although, again, the number of compressor units has nothing, only in that it is a physical number and it does not necessarily denote the quantity of gas which each individual one can handle because compressors are available that, if you have got the money to pay for them would handle the entire system with one machine.

Q They are available when you can get them?

A Well, it is an expensive way of putting in a system. The length of life does not justify that expense. If you have got



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a 25 or 40 year pay-out on the thing, then you can set up the system with big pipe and pull it all into one compressor and you don't have the problems that we have with a system such as this continuing in both directions, just about, with the development and short pay-out or the short predicted life, you might say, of the field.

Q Well, now, of the original 35 compressors that you planned; now you are thinking about 45, how many of these have actually been changed from the original design capacity?

A Mr. Nutter, I can give you that information with the data that I have in my briefcase; but, it would take a couple of hours to go through and check every one of them. Since the original design, I would estimate that, of the original 35, that we have changed about 20, substantially. We have changed locations due to two machines that are out there right now that are going to be moved. We had planned to leave them where they were originally set and we have changed the location on, I imagine, 30 of them. There has been that much of a change, either, I mean, on size or actual design.

Q Now, the location of compressor is in itself, going to make the compressors harder to get changed in design and back order conceivable, so --

A Right.

Q -- you changed the size of approximately 20 of the 35?

A We have changed the size of the cylinders on at least



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twenty of the original 35 planned.

Q Are you acquainted with Mr. Knight's testimony in August? I think you stated you read the one of September.

A Yes. I was at the August hearing.

Q Do you recall him saying there would be no difficulty in obtaining the compression?

A Yes. Right at that time we were looking at the machines that were originally designed for the plant. Right now we have cylinders in our stock which we cannot use because of the change.

Q Well, now, you have got parts available to assemble these new compressors; the ones that you are going to have to have with the increase in capacity and so forth. How many compressors can you assemble at the present time; how many parts do you have available?

A Available right now; we have about six as of today.

Q How long will it take to get those assembled and in the field?

A About two weeks.

Q Mr. Malernee, it seems as though a new uncharted reef may be appearing, too. You mentioned the weather; what effect is the weather going to have in getting in this installation?

A The effect of the weather will be, primarily, the foundation, pouring the foundation for the compressors and, of course, in that part of the country there are, as you are well aware,



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there are snow storms that just about keep you from doing anything except sticking your head out the door.

Q But, in reply to two questions of Mr. Buell's, you said you anticipated no difficulty?

A We anticipated no difficulty; the weather can delay us for a short time. Around the Farmington area, it is my understanding it hardly -- The concrete would freeze, for example, and it would be hard to get your foundation in.

Q We didn't anticipate these difficulties in August or September, did we?

A We did not.

MR. NUTTER: Thank you, Mr. Malernee.

MR. PORTER: Any further questions?

BY MR. BRATTON:

Q Mr. Malernee, what is the designed capacity of the complete system, with your 45 compressors that you now intend to install?

A We are looking for 30,000,000 cubic feet daily from both facilities at the present time; which is enough to handle the present amount of gas that the field is producing.

Q You have no plans for expanding the system?

A We are designing the system so that we can tie onto the end of it and go ahead and pick up out-lying developments.

Q And it is your testimony that you intend to have this system to 30,000,000 cubic feet capacity by the first of December?



A We are going to extend every effort to meet that date: yes, sir.

MR. BRATTON: Thank you very much.

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

(Witness Excused)

MR. BUELL: May it please the Commission, for those of us who have been in on this conservation effort from the outset, that is, we operators in the field as well as the Commission and the Staff; review of the evidence can only reveal only one thing and that is that is continuous and substantial progress. It is true that along the way we have hit, here and there, an unchartered reef; but, even in spite of that, progress has continued to be made. We have had testimony with regard to the set backs; but, over all, progress has been continued. We must realize that, at the outset, when the Commission looked at the flare situation in these two pools, back in March of this year, a contract had not even been negotiated. Since that time we have negotiated our contracts. Knight Manufacturing Company has made their effort to get their facilities installed. At this time, as of 8:00 o'clock this morning, we are saving and delivering to El Paso, over one third of the gas produced from these two pools. In my mind, that is a significant conservation effort. I think it is an effort of such magnitude as to warrant

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the Commission continuing this case until the November regular hearing; and, on behalf of Pan American, I would like to move that this case be continued until the November regular hearing.

MR. PORTER: Any comments?

MR. BRATTON: On behalf of Humble Oil and Refining Company; Howard Bratton. I will second the motion by Mr. Buell. I think we wish as strongly and more strongly than the Commission that this system were completed today; but, it has not been possible to be completed by today. There is one further aspect of the matter that I believe is worthy of the Commission's attention. At this point, as Mr. Malernee pointed out, this Knight Manufacturing has, of course, a contract with all the operators in the pools. They are placing the compressors, the Knight Manufacturing is, in the position to where they will conserve the most gas. Now, if the Commission should, at this point, enter a no-flare order, it would shut in some -- could shut in some leases in there and I would refer particularly to Humble's lease in there; although they are participating in progress on this. If compressors are placed elsewhere in an effort to conserve the most gas, now, this, of course, would result in a severalty of correlative rights of the pool anomalously.

I have addressed myself as to Humble's rights; the situation would be the same as to other operators in the pool. As I say, we wish just as strongly as the Commission that this

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system was completed. We have been attempting, through our traffic departments to help Mr. Knight in every way we could. We strongly urge that the Commission favorably consider Mr. Buell's motion.

MR. MORRIS: If the Commission please, Mr. Porter, I do not wish to either oppose or second Mr. Buell's motion; but, merely to comment on it and state for the record, the saga of the unchartered reef has been heard at several hearings now. It was heard first in March, then in May and July, August, September, and now; at the October hearing. The record in the case has been built up considerably. At the July and August hearings the target for the completion was stated by Mr. Knight to be October the first. Certain difficulties were encountered and in September at the regular hearing of the Commission, that target was revised to be November the first and was stated by Mr. Knight to be the final date. Now, today, at this hearing, we are told that December the first will be as soon as the gathering system can be completed.

Now, certainly, I would have to agree with Mr. Buell and Mr. Bratton on all the statements made here; progress has been made. A third of the gas is being collected and that is progress. At the same time, we are told that less than half of the gas will be collected by November first; which only a month ago was given as the final date for the total completion of the entire system. We are also told that weather might hamper



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activity; but, certainly the weather is not going to get any better as we progress into the coming winter. As I said, I offer no opposition to Mr. Buell's request for continuous; but, would only point out, if the Commission should decide to enter an order, it could make the effective date in the future, and somewhere around December 1st might be a good date for it.

MR. PORTER: Mr. Walsh, I believe.

MR. WALSH: Ewell Walsh for El Paso Natural Gas. Due to the evidence that has just been presented concerning this case for the Cha Cha-Gallup gas, El Paso Natural Gas Products Company would like to concur with Pan American in asking for continuance of the case to the next regular meeting.

MR. PORTER: Mr. Swanson?

MR. SWANSON: Kenneth Swanson for Aztec. On behalf of our company, we would like to point out that we have run into unexpected problems in this before, some of which, perhaps are not unique to the Totah-Cha Cha areas. These fields are in the stage of development and I think it creates a particular problem to your facilities that have engaged in this. The work has been made and this is the best period to present the speed, and for its continuance we appear, that is our hope. We hope the Commission will respond sympathetically to these efforts and problems, and will continue this case to the next regular scheduled hearing.



MR. PORTER: Anyone else have anything to say concerning Mr. Buell's motion?

Mr. Buell, the Commission will deny your motion for continuance and will, in the very near future, enter an order prohibiting and preventing the flaring of gas from these two pools after November 30.

The Commission, in continuing this case from March, successively through several other hearings, have considered a number of factors. We certainly appreciate the fact that progress has been made; but, as you brought out, a third of the total gas is being marketed through the system. The fact remains that two-thirds is being flared. We can appreciate the problems, and I think we have indicated that we can appreciate the problems that have been run into, that weren't anticipated from time to time, as these hearings went along. Nobody anticipated that either of the pools would expand as far and as rapidly as they have; nobody anticipated redesigning of the machinery and so forth. We have heard evidence here today that the system can be completed by a date of December 1st, and so we have to remember, of course, at all times, that we have -- This has borne heavily upon us; that is, our prevention of waste of oil and gas. So, the Commission will enter an order which prohibits the flaring of gas after November 30th of this year.

I anticipate that the order will be a standard no-flare

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order that will permit exceptions where it can be shown it is not economically feasible to market the gas and, also, it will carry a clause which will allow a period of 90 days for a connection of new wells.

MR. BUELL: May it please the Commission, I don't want to drag out or delay this hearing. I would like to urgently and sincerely request that the Commission consider making the effective date January 1st instead of December 1st.

As Mr. Bratton pointed out, this has been a team effort all the way through. We operators, when we executed the contract, we didn't just say that "our work is over; from now on it is up to Knight." It has been team work effort. As Mr. Bratton pointed out, the operators have neglected their own individual good from the standpoint of saving their gas, for the good of the whole pool. In fact; both of them. I would like to urgently request that the effective date be January 1, 1961, in order that we can be certain that no great loss in equities will occur.

Due sacrifice has been made today in allowing Mr. Knight to place compressors that are installed where they would do the most good; rather than, say, on Pan American's gas or Humble's gas. In view of that, I urgently request an effective date of January 1st.

MR. PORTER: Off the record.

(Off the record discussion held.)



MR. PORTER: Mr. Buell, the Commission has consented or agreed to consider your request prior to entering an order; but, an order will be forthcoming, within the next few days on this particular case. We will take a ten-minute recess.

(Whereupon, the hearing was concluded at 10:50 A.M.)

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON N. M.
PHONE 325-1182

ALBUQUERQUE N. M.
PHONE 243-6631



I N D E XWITNESSPAGE

EMERY ARNOLD

Direct Examination by Mr. Morris 2

KENT MALERNEE

Direct Examination by Mr. Buell 7

Cross-Examination by Mr. Morris 18

Cross-Examination by Mr. Nutter 19

Examination by Mr. Bratton 26

EXHIBITSFOR IDENTIFICATION

Operator's No. 6 13

Operator's No. 7 14

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

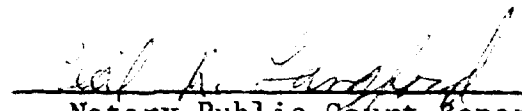
ALBUQUERQUE, NEW MEXICO



STATE OF NEW MEXICO)
) SS
 COUNTY OF BERNALILLO)

I, CECIL R. LANGFORD, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Roswell, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 20th day of November, 1960.


 Notary Public-Court Reporter

My commission expires:
 October 20, 1964.

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CN 3-6691

ALBUQUERQUE, NEW MEXICO



ROCANVILLE CORPORATION

1126 MERCANTILE SECURITIES BUILDING

DALLAS 1, TEXAS

October 19, 1961

*File
Case 2215*

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

Gentlemen:

Thank you for your letter of October 2, 1961 pertaining to the flaring of casinghead gas in the Totah and Cha Cha areas, San Juan County, New Mexico.

We greatly appreciate your continued action in this matter and are hopeful that some results were obtained in the hearing held on October 18, 1961.

Very truly yours,

ROCANVILLE CORPORATION

Billie Fuller

Billie Fuller

JBA:cyd

cc: Tenneco Oil Co.
P. O. Box 1714
Durango, Colorado

Oil Conservation Commission
1000 Rio Brazos Road
Aztec, New Mexico

GRANTHAM, SPANN AND SANCHEZ

ATTORNEYS AT LAW

914 BANK OF NEW MEXICO BUILDING

POST OFFICE BOX 1031

ALBUQUERQUE, NEW MEXICO

EVERETT M. GRANTHAM
CHARLES C. SPANN
MAURICE SANCHEZ

TELEPHONE
243-3525

August 11, 1961

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

Re: Case No. 2215

Dear Mr. Porter:

Please enter our appearance as local attorneys of record for El Paso Natural Gas Products Company in the above numbered cause which has been set for hearing at 9:30 a.m. on Wednesday, August 16, 1961. Mr. John Mason or some other representative of the Company will be present to make a statement.

Very truly yours,

GRANTHAM, SPANN AND SANCHEZ

By: 

CCS:rr

Handwritten notes:
Searched
Mailed
8/16/61
JL

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

EVERETT M. GRANTHAM
CHARLES C. SPANN
MAURICE SANCHEZ

TELEPHONE
243-3525

May 15, 1961

Mr. A. L. Porter
Oil Conservation Commission
P. O. Box 871
Santa Fe, N. M.

Re: Hearing on Commission's motion to consider
order preventing flaring of gas in Cha Cha-
Gallup, Totah-Gallup Oil Pool, San Juan
County, New Mexico - Case No. 2215

Dear Mr. Porter:

Please enter my appearance as local attorney for El Paso
Natural Gas Products Company in the above entitled and numbered
cause which will come on for hearing before the Commission on
May 17, 1961. Mr. John Mason, attorney, El Paso, Texas, will
be present personally to represent the Company.

Very truly yours,

GRANTHAM, SPANN AND SANCHEZ

By: 

CCS:MI

cc: Mr. John Mason

ATWOOD & MALONE
LAWYERS

JEFF D. ATWOOD (1883-1960)
ROSS L. MALONE
CHARLES F. MALONE
E. KIRK NEWMAN
RUSSELL D. MANN
PAUL A. COOTER
BOB F. TURNER

TELEPHONE MAIN 2-6221
ROSWELL PETROLEUM BUILDING
ROSWELL, NEW MEXICO

March 7, 1961

Oil Conservation Commission
P.O. BOX 571
Santa Fe, New Mexico

RE: Case No. 2215 before the Oil Conservation
Commission of the State of New Mexico

Gentlemen:

We are local counsel for Pan American Petroleum Corporation and as such wish to enter our appearance in the captioned case. Pan American will also be represented by either Guy Buell or C. G. Condra, members of the Texas Bar and company employees. The actual presentation for Pan American will be made by either Mr. Buell or Mr. Condra.

Very truly yours,

ATWOOD & MALONE

BY: 

PC:sam

cc: Pan American Petroleum Corporation

ATWOOD & MALONE
LAWYERS

JEFF D. ATWOOD (1983-1960)
ROSS L. MALONE
CHARLES F. MALONE
E. KIRK NEWMAN
RUSSELL D. MANN
PAUL A. COOTER
BOB F. TURNER

TELEPHONE MAIN 2-8221
ROSWELL PETROLEUM BUILDING
ROSWELL, NEW MEXICO

May 11, 1961

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

Re: Case No. 2215 in the matter of the hearing called
by the Oil Conservation Commission to consider pro-
hibiting the flaring of casinghead gas from oil wells
in the Cha Cha-Gallup and Totah-Gallup Oil Pools,
San Juan County, New Mexico.

Gentlemen:

We are local counsel for Pan American Petroleum Corporation
and as such wish to enter our appearance in the captioned case.
Pan American will also be represented by Guy Buell, a member
of the Texas Bar, and a company employee. The actual presen-
tation for Pan American will be made by Mr. Buell.

Very truly yours,

ATWOOD & MALONE

By: *E. Kirk Newman*

EKN:ps

cc/ Mr. Guy Buell
Mr. J. K. Smith

9/11/61

GEO. L. VERITY
ATTORNEY AT LAW
SUITE 152 PETROLEUM CENTER BUILDING
FARMINGTON, NEW MEXICO
TELEPHONE DAVIS 5-0203

March 2, 1961

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

Gentlemen:

Re: Case #2215 before NMOCC
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
the Cha Cha-Gallup and Totah-
Gallup Oil Pools, San Juan County,
New Mexico.
(My file #1284-C)

I should like to enter my appearance in the captioned case,
which is scheduled for hearing on March 15, 1961, in behalf of
Aztec Oil and Gas Company. Sitting with me in this case will be
Mr. Quilman B. Davis and Mr. Kenneth Swanson, of the Texas Bar.

I am not sure that I can be present at this hearing but
request that these gentlemen be accorded all the privileges of
out-of-state counsel in any event.

Yours very truly,

Geo. L. Verity
Geo. L. Verity

GLV/m

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

SETH, MONTGOMERY, FEDERICI & ANDREWS

ATTORNEYS AND COUNSELORS AT LAW
301 DON GASPAR AVENUE
SANTA FE, NEW MEXICO

POST OFFICE BOX 828
TELEPHONE YU 3-7315

March 22, 1961

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

Re: Case No. 2215

Gentlemen:

This letter will constitute our entry of appearance
as local counsel of El Paso Natural Gas Company in
the above case no. 2215.

We will be associated in this proceeding with Mr.
Ben Howell, Mr. Garrett C. Whitworth and other
company attorneys of El Paso Natural Gas Company.

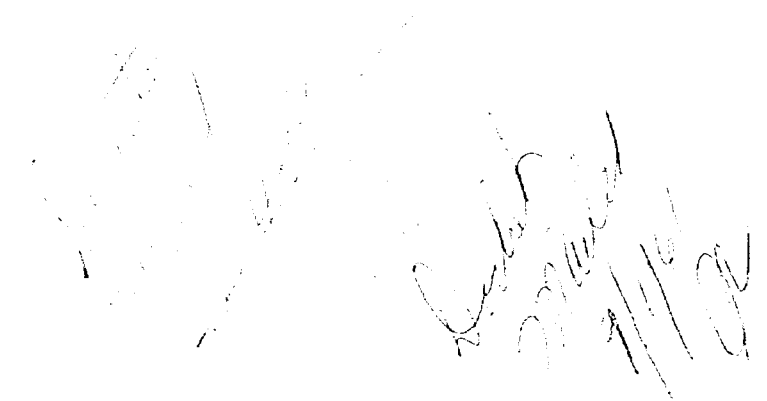
Very truly yours,

SETH, MONTGOMERY, FEDERICI & ANDREWS

By:



OS:dd



OIL CONSERVATION COMMISSION

P. O. BOX 871
SANTA FE, NEW MEXICO

*File Case
22/8*

October 2, 1961

C
O
P
Y

Rocanville Corporation
1126 Mercantile Securities Building
Dallas 1, Texas

Attention: Billie Fuller

Gentlemen:

Reference is made to your telegram and letter of September 29, 1961, regarding flaring of casinghead gas in Totah and Cha Cha areas, San Juan County, New Mexico.

The Commission first docketed a case to consider issuance of a no-flare order for these pools in March, 1961. In addition, this case has been heard several times, the most recent being at the regular hearing September 13, at which time the operators and the casinghead gas gathering company both assured the Commission that the facilities under construction would be in operation by November 1, 1961.

The Commission then continued the case, and it will be heard again at 9 a.m., October 18, 1961, at the Elks Club Building, Roswell, New Mexico.

All interested parties are welcome to appear at the Commission's hearings and express themselves on matters such as this.

Very truly yours,

DANIEL S. NUTTER
Chief Engineer

DSN/og

cc: Oil Conservation Commission
Aztec, N. Mex.

ROCANVILLE CORPORATION

1126 MERCANTILE SECURITIES BUILDING

DALLAS 1, TEXAS

29 September 1961

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

Gentlemen:

This will confirm telegraph of this date addressed to your Commission, reading as follows:

"ROCANVILLE CORPORATION IS THE OWNER OF ROYALTY INTERESTS UNDER SECTIONS 27, 28, 31 and 33, TOWNSHIP 29 NORTH RANGE 13 WEST WHICH ARE INCLUDED IN THE TOTAH AND CHA CHA GALLUP FIELDS, SAN JUAN COUNTY, NEW MEXICO STOP REQUEST IMMEDIATE ACTION TO PREVENT FURTHER WASTE OF NATURAL GAS AND RESERVOIR ENERGY NOW BEING FLARED TO ATMOSPHERE.

BILLIE FULLER, SECRETARY OF ROCANVILLE CORPORATION"

We will appreciate an early response from you in this regard.

Very truly yours,

ROCANVILLE CORPORATION



Billie Fuller
Secretary

BF..s

- cc Oil Conversation Commission
1000 Rio Brazos Road
Aztec, New Mexico
- cc Tennessee Gas Transmission Co.
Post Office Box 2511
Houston, Texas
- cc Benson-Montin-Greer Drilling Corp.
158 Petroleum Center
Farmington, New Mexico

CLASS OF SERVICE
This is a deferred message
unless its deferred character
is indicated by the
proper symbol.

WESTERN UNION TELEGRAM

W. P. MARSHALL, President

1201 (4-60)

SYMBOLS
DL = Day Letter
NL = Night Letter
LT = International
Letter Telegram

The time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of destination

LA143 DA407

1961 SEP 29 PM 2 26

D LL 16 1 PD=DALLAS TEX 29 248P CST=

OIL CONSERVATION COMMISSION, STATE OF NEW MEXICO=
SANTAFE NMEX=

ROCANVILLE CORP IS THE OWNER OF ROYALTY INTERESTS
UNDER SECTIONS 27 28 31 AND 33 TOWNSHIP 29 NORTH
RANGE 13 WEST WHICH ARE INCLUDED IN THE TOTAH AND
CHA CHA GALLUP FIELDS SAN JUAN COUNTY NEW MEXICO
STOP REQUEST IMMEDIATE ACTION TO PREVENT FURTHER
WASTE OF NATURAL GAS AND RESERVOIR ENERGY NOW BEING
FLARED TO ATMOSPHERE=

BILLIE FULLER SECTY OF ROCANVILLE CORP==

27 28 31 33 29 13 TOTAH CHA CHA... TRNS CONCERNING ITS SERVICE

BENSON-MONTIN-GREER DRILLING CORP.

GENERAL OFFICE:
2808 FIRST NATIONAL BLDG.
OKLAHOMA CITY 2, OKLAHOMA
PHONE CENTRAL 5-0546

158 Petroleum Center Building
Farmington, New Mexico
March 13, 1961

FARMINGTON, NEW MEXICO
PHONE DAVIS 5-8874

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

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

Re: CASE NO. 2215.
New Mexico Oil Conservation
Commission Hearing,
Wednesday, March 15th, 1961

Gentlemen:

In the event Benson-Montin-Greer Drilling Corp. is unable to have a representative present at the subject hearing, we are sending you with this letter information concerning operations of Benson-Montin-Greer Drilling Corp., which we request be filed with other statements relating to this case. We understand the information cannot be introduced as evidence, but that it might properly be accepted by the Commission along with other statements.

Benson-Montin-Greer Drilling Corp. operates seven wells in the Cha Cha-Gallup Field producing from the Gallup Formation. Six of these wells are on the Jones Lease, which covers the east half and the northwest quarter of Section 17, Township 28 North, Range 13 West, and one is on the Jones "A" Lease, which covers the southwest quarter of Section 17, Township 28 North, Range 13 West. The Jones "A" No. 1, SE/4 SW/4 Section 17, is a non-commercial well, currently producing about 15 barrels per day. We believe it economically not feasible to attempt to make useful disposition of the gas from this well, and in the event the Commission establishes a ruling whereby exceptions can be made for such wells, we will at a later date request such exception from a no-flare gas order.

The remaining six wells which we operate on the Jones Lease produce in a common tank battery, and the gas produced in connection with the oil is compressed at the tank battery by our own compressors and delivered through our own pipe line approximately one half mile, and is delivered to El Paso Natural Gas Company at its pipe line connection in the SE/4 SE/4 of Section 17. Gas compression and sales commenced February 28, 1961, and at

Handwritten:
Benson-Montin-Greer
2/28/61
2

BENSON-MONTIN-GREER DRILLING CORP.

GENERAL OFFICE:
2808 FIRST NATIONAL BLDG.
OKLAHOMA CITY 2, OKLAHOMA
PHONE CENTRAL 5-0546

FARMINGTON, NEW MEXICO
PHONE DAVIS 5-8874

New Mexico Oil Conservation Commission

Page No. 2
March 13, 1961

this time we are flaring no gas from the six wells on the
Jones Lease.


Attached to this letter are three exhibits
describing the following items:

1. Price paid for the casinghead gas sold.
2. Compressor installation.
3. Economics of gathering and selling
casinghead gas from Benson-Montin-Greer Drilling Corp.
Jones Lease.

Yours very truly,

BENSON-MONTIN-GREER DRILLING CORP.

BY:

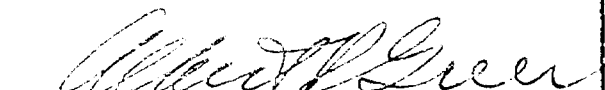

Albert R. Greer
Vice-President

ARG/nej

GAS SALE PRICE
BENSON-MONTIN-GREER DRILLING CORP. JONES LEASE
CHA CHA-GALLUP POOL
SAN JUAN COUNTY

Benson-Montin-Greer Drilling Corp. is currently compressing gas produced from Gallup Formation oil wells under its Jones Lease, Section 17, Twp. 28N, Rge. 13W, pursuant to Casinghead Gas Contract originally entered into with El Paso Natural Gas Company dated June 14, 1960, for a daily quantity of gas of 1 million cubic feet per day, which Contract was supplemented by Agreement dated November 30, 1960, to increase the volume to 2 million cubic feet per day.

The price for gas in this contract is 11¢ per thousand plus a share of the value of the liquids, for gas delivered at 250# per square inch gauge pressure, which is approximately the pressure of El Paso's gathering system in this area at this time. The contract contemplates that gathering pressures will later on be increased to 500#, at which time the price for the gas will be increased 1¢ per thousand for the additional delivery pressure. The contract carries an escalation provision of 1¢ increase for each five year period.


Albert R. Greer

3-13-61

ALBERT R. GREER

COMPRESSOR DATA
BENSON-MONTIN-GREER DRILLING CORP. JONES LEASE
CHA CHA-GALLUP POOL
SAN JUAN COUNTY


Benson-Montin-Greer Drilling Corp. has currently installed on its Jones Lease two compressors, each identified as follows:

Oil Well Model GBLU-150A Belt-Driven Natural Gas Compressor Unit, consisting of the following:

Chicago Pneumatic Tool Company 7" x 4 $\frac{1}{4}$ " x 13" tandem double-acting horizontal water-cooled gas compressor for two-stage operation, powered by Waukesha Model 6-NKRB 6-cylinder 7" bore x 8 $\frac{1}{4}$ " stroke gas engine.

Estimated performance data is as follows, for a discharge of 500 pounds per square inch gauge:

<u>Inlet Pressure psig</u>	<u>Cubic Feet per 24 hours each compressor</u>	<u>Cubic Feet per 24 hours Two compressors</u>
20#	395,000	790,000
40#	640,000	1,280,000
60#	925,000	1,850,000


Albert R. Greer

3-13-61

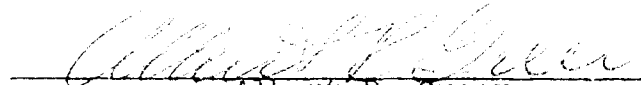
ALBERT R. GREER

ECONOMICS OF GATHERING, COMPRESSING AND SELLING
CASINGHEAD GAS FROM
BENSON-MONTIN-GREER DRILLING CORP. JONES LEASE
E/2 & NW/4 SECTION 17, TWP. 28N, RGE. 13W
CHA-CHA-CALLUP POOL
SAN JUAN COUNTY
(AN INDIVIDUAL SIX-WELL LEASE SYSTEM)

In Case No. 2069 before the New Mexico Oil Conservation Commission September 14th, 1960, I testified that in my opinion the casinghead gas produced in connection with the oil from the Gallup Formation under Benson-Montin-Greer Drilling Corp. Jones Lease would have negligible economic value, because the cost of gathering, compressing and marketing would approximate the total value of the gas. Since that date there have been no developments which would tend to change this opinion. I still estimate, on ~~40~~-acre spacing, an average recovery of 60,000 barrels per well primary production, which represents approximately 15% of the oil in place. I also estimate that there will be produced with this 60,000 barrels approximately 200 million cubic feet of gas per well. This represents an income, after royalties and taxes but before operating expense, of about \$18,000 per well.

We do not have all of our costs assembled for our compressor installation and high pressure pipe line system. However, it appears that our investment to date for these items will approximate \$12,000 per well. With this installation we can sell approximately 21% of the gas we will be allowed to produce with an oil allowable of 175 barrels per day and a gas-oil ratio limit of 2,000 cubic feet per barrel, and a separator pressure of 60# per square inch. We are currently operating with a separator pressure of 50# and compressing approximately 1,600,000 cubic feet of gas per day, with the present oil allowable of 863 barrels per day for the lease. As the wells decline, the investment of another \$6,000 per well, or a total investment cost equal to the anticipated value of the gas, will be required in order to reduce separator pressure to approximately 30#. Further reduction in separator pressure can then only be accomplished by restricting production to lower rates, or by installation of compressor equipment far in excess of the value of gas to be recovered. It is now our plan that when the stage in the producing life of our wells is reached at which they will not produce against separator pressures of 30#, to restrict total production from the lease, in order to accomplish reduction of separator pressure.

3-13-61


Albert R. Greer

ALBERT R. GREER

Ex-A 2 Page 2215
GAS-OIL RATIO INFORMATION

CHA CHA-GALLUP POOL

WELL	LOCATION	LATEST GOR BARRELS	GOR	DATE OF TEST	CALCULATED GAS AVAILABLE USING 164 BBLs. TOP ALLOWABLE
------	----------	-----------------------	-----	--------------	--

AZTEC OIL & GAS

Robinson "G"	# 5 P-15-28N-13W	173	515	1-7-61	84,460
"	# 6 J-15-28N-13W	183	944	1-18-61	154,816
"	# 7 N-15-28N-13W	208	928	2-12-61	152,192
"	# 8 B-22-28N-13W				

COMPANY TOTAL----- 391,468

BENSON-MONTIN-GREER

Jones	# 1 P-17-28N-13W	71	3102	2-5-61	220,242
"	# 2 J-17-28N-13W	136	1827	2-2-61	248,472
"	# 3 F-17-28N-13W	SI - Pressure Build-up			
"	# 4 O-17-28N-13W	181	2506	2-4-61	328,000
"	# 5 H-17-28N-13W	198	1835	2-3-61	300,940
"	# 6 B-17-28N-13W	199	1912	2-1-61	313,568
" "A"	# 1 N-17-28N-13W	17	3401	2-6-61	59,177

COMPANY TOTAL----- 1,470,399

EL PASO NATURAL GAS PRODUCTS CO.

Ojo Amarillo	# 1 A-27-29N-14W	205	878	1-26-61	143,992
"	# 2 C-27-29N-14W	205	1220	1-19-61	200,080
"	# 3 I-27-29N-14W	205	1863	1-30-61	305,532
"	# 4 K-27-29N-14W	205	1522	1-27-61	249,608
"	# 5 A-28-29N-14W	205	815	1-19-61	133,660
"	# 6 C-28-29N-14W	205	683	1-21-61	112,012

COMPANY TOTAL----- 1,144,884

HUMBLE OIL & REFINING CO.

Navajo "L"	# 1 E-26-29N-14W	187	702	2-12-61	115,128
"	# 2 M-26-29N-14W	186	1772	2-14-61	290,608
"	# 3 B-26-29N-14W	179	503	2-17-61	82,492

WELL	LOCATION	LATEST GOR BARRELS	GOR	DATE OF TEST	CALCULATED GAS AVAILABLE USING 164 BBLs. TOP ALLOWABLE
<u>HUMBLE OIL & REFINING CO.</u>					
Navajo "L"	# 4 O-26-29N-14W	200	502	2-18-61	82,328
"	# 5 E-36-29N-14W	199	326	2-19-61	53,464
"	# 6 M-25-29N-14W	182	371	2-21-61	60,844
"	# 7 G-35-29N-14W	199	600	2-25-61	98,400
"	# 8 B-36-29N-14W	204	327	2-26-61	53,628
"	# 9 O-36-29N-14W	188	321	2-15-61	52,644
COMPANY TOTAL-----					889,536
<u>PAN AMERICAN PETROLEUM CO.</u>					
C. J. Holder	# 2 N-8-28N-13W	182	1780	2-5-61	291,920
"	# 3 P-8-28N-13W	180	1890	2-5-61	309,960
"	# 4 D-16-28N-13W	179	1150	2-7-61	188,600
"	# 5 B-16-28N-13W	282	471	2-12-61	77,244
Navajo Tribal "E"	# 1 N-22-29N-14W	179	1208	2-10-61	199,122
"	# 2 I-21-29N-14W	204	1342	2-10-61	220,088
"	# 3 K-21-29N-14W	193	351	2-7-61	57,564
"	# 4 C-21-29N-14W	233	769	2-7-61	126,116
"	# 5 N-21-29N-14W	199	1529	2-10-61	250,756
"	# 6 O-22-29N-14W	167	682	2-5-61	111,848
"	# 8 E-22-29N-14W	207	1024	2-15-61	167,936
Navajo Tribal "G"	# 1 A-20-29N-14W	218	1431	2-8-61	234,684
"	# 2 I-20-29N-14W	182	909	2-6-61	149,076
"	# 3 C-20-29N-14W	192	1234	2-10-61	202,376
"	# 4 M-17-29N-14W	164	932	2-12-61	152,848
State "CA"	# 1 L-16-28N-13W	239	2414	2-15-61	328,000
State Holder Gas Unit # 1 J-16-28N-13W					
COMPANY TOTAL-----					3,068,138
POOL TOTAL-----					6,964,385

CHA CHA-GALLUP POOL

1. Total Gas Available
(wells with tests only) ----- 6,964,385 Cu. Ft.
2. Average Gas per well available
(40 wells with tests only) ----- 174,110 " "
3. Additional wells producing
(wells with no test) ----- 2
4. Additional gas available
(wells with no test) 2 x 3 ----- 348,220 Cu. Ft.
5. Total Gas Available, all wells 1 + 4 ----- 7,312,605 " "

PRESENT DISPOSITION

Total Gas Available ----- 7,312,605 Cu. Ft.

Total Gas being sold
(Benson-Montin-Greer, Jones & Jones A Leases ----- 1,470,399 " "

TOTAL GAS VENTED ----- 5,842,206 Cu. Ft.

Box #13 Page 22.5

GAS-OIL RATIO INFORMATION

TOTAH-GALLUP POOL

WELL		LOCATION	LATEST GOR		GOR DATE OF TEST	CALCULATED GAS AVAILABLE USING 94&164 BBLs. TOP ALLOWABLE	
			BARRELS				
<u>AZTEC OIL & GAS CO.</u>						94	164
Hagood	#6	D-34-29N-13W	117	628	12-6-60	59,032	102,992
"	"G"	#7	A-29-29N-13W	101	464	1-3-61	43,616
"		#8	G-29-29N-13W				76,096
"		#9	F-34-29N-13W	108	596	1-7-61	56,034
"		#10	J-34-29N-13W	101	392	2-21-61	36,848
"		#11	R-34-29N-13W	97	796	1-24-61	74,624
"		#12	L-34-29N-13W				128,904
"		#13	P-34-29N-13W				
"		#14	H-34-29N-13W	102	459	2-15-61	43,146
"		#15	N-34-29N-13W				75,276
"		#16	I-29-29N-13W				
"		#17	C-29-29N-13W				
COMPANY TOTAL-----						313,500	545,300
<u>PAN AMERICAN PETROLEUM</u>							
Gallegos Canyon Unit							
"	#86	H-35-29N-13W	14	4411	9-14-60	61,754	61,754
"	#87	F-34-29N-13W	17	5953	9-1-60	101,201	101,201
COMPANY TOTAL-----						162,955	162,955
<u>SOUTHWEST PRODUCTION CO.</u>							
Callow Federal	31	I-33-29N-13W	117	1310	9-10-60	123,140	214,840
COMPANY TOTAL-----						123,140	214,840
<u>TENNESSEE GAS TRANSMISSION</u>							
Callow	#8	O-27-29N-13W	110	2841	9-17-60	188,000	328,000
"	#9	I-28-29N-13W	216	1460	10-6-60	137,240	93,440
"	#10	K-27-29N-13W	37	2081	10-2-60	76,997	76,997
"	#11	F-28-29N-13W	116	570	12-2-60	53,580	93,480
"	#12	C-33-29N-13W	107	2234	9-13-60	188,000	328,000
"	#13	A-33-29N-13W	115	935	12-1-60	87,890	153,340
"	#14	K-33-29N-13W	110	400	1-12-60	37,600	65,600
"	#15	H-28-29N-13W					
COMPANY TOTAL-----						769,307	1,138,857
POOL TOTAL-----						1,368,902	2,061,952

TOTAH-GALLUP POOL

40 ACRE ALLOWABLES

1. Total Gas Available
(wells with tests only)----- 1,368,902 Cu. Ft.
2. Average Gas per well available
(16 wells with tests only)----- 85,556 " "
3. Additional wells producing
(wells with no test)----- 7
4. Additional gas available
(wells with no test) 2 x 3 ----- 598,892 Cu. Ft.
5. Total Gas Available, all wells 1 + 4 ----- 1,967,794 " "

TOTAH-GALLUP POOL

80 Acre Allowables

1. Total Gas Available
(wells with tests only)-----2,061,952 Cu. Ft.
2. Average Gas per well available
(16 wells with tests (only)----- 128,872 " "
3. Additional wells producing
(wells with no test)----- 7
4. Additional gas available
(wells with no test) 2 x 3 ----- 992,192 Cu. Ft.
5. Total Gas Available, all wells 1 + 4 -----2,964,056 " "

ESTIMATE OF GAS PRODUCTION
CHA CHA - TOTAH-CALLUP POOLS AS OF
10-15-61

Cha Cha Pool

Total Wells	80	
Total GOR Tests	77	
Total gas from tested wells	17,466	NEFPD
Average gas per well, tested wells	227	"
Total gas available, all wells, 80 x 227	18,160	"

Totah Pool

Total Wells	57	
Total GOR Tests	49	
Total gas from tested wells	10,415	"
Average gas per well, tested wells	213	"
Total gas available, all wells, 57 x 213	12,140	"
Total Gas Available, Both Pools,		
18,160 + 12,140	30,300	"

Oil Production, July 1961

Cha Cha, 74 wells	253,750 Bbls.	
Daily	8,185	"
Totah, 50 wells	212,980	"
Daily	6,870	"
Daily, Both Pools	15,055	"

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

CASE No. 2215
Order No. R-2103

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
THE CHA CHA-GALLUP AND TOTAH-GALLUP
OIL POOLS, SAN JUAN COUNTY, NEW
MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on March 15, 1961, May 17, 1961, July 13, 1961, August 16, 1961, and September 13, 1961, at Santa Fe, New Mexico, and on October 12, 1961, at Roswell, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 24th day of October, 1961, 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 a very substantial quantity of casinghead gas produced from oil wells in the Cha Cha-Gallup and Totah-Gallup Oil Pools, San Juan County, New Mexico, is presently being flared or vented.

(3) That a facility to gather said gas is presently under construction and should be completed by December 1, 1961.

(4) That there is a definite need for the promulgation of an order prohibiting the flaring or venting of said casinghead gas.

(5) That said no-flare order should be made effective December 1, 1961.

(6) That a ninety-day exception to said no-flare order should be allowed for each well following its date of completion.

-2-

CASE No. 2215
Order No. R-2103

(7) That further exception to said no-flare order should be allowed only upon a showing that waste or undue hardship would otherwise be caused.

IT IS THEREFORE ORDERED:

That no casinghead gas shall be flared or vented from any well in the Cha Cha-Gallup Oil Pool or in the Totah-Gallup Oil Pool, San Juan County, New Mexico, after November 30, 1961.

PROVIDED HOWEVER, That each well completed in said pools is hereby granted a ninety-day exception to this order, dating from the well's date of completion.

PROVIDED FURTHER, That any operator who desires to obtain an exception to this order shall submit to the Secretary-Director an application for such exception showing justification therefor. The Secretary-Director is hereby authorized to grant such an exception if he determines that it is reasonably necessary to prevent waste or to prevent undue hardship on the applicant.

IT IS FURTHER ORDERED:

That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



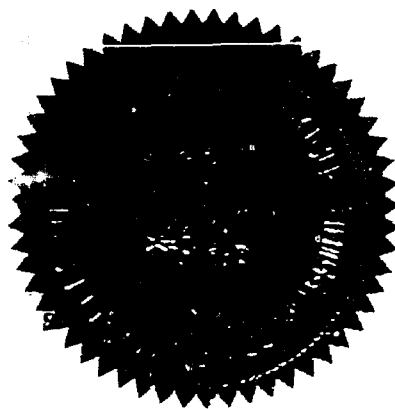
EDWIN L. MECHEM, Chairman



E. S. WALKER, Member



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



esr/

DOCKET: REGULAR HEARING - WEDNESDAY - OCTOBER 18, 1961

OIL CONSERVATION COMMISSION - 9 A.M., ELKS CLUB, 200 NORTH RICHARDSON
AVENUE, ROSWELL, NEW MEXICO

- ALLOWABLE: (1) Consideration of the oil allowable for November, 1961.
- (2) Consideration of the allowable production of gas for November, 1961, from ten prorated pools in Lea and Eddy Counties, New Mexico, also consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico, for November, 1961.

CONTINUED CASE

CASE 2215: 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 the Cha Cha-Gallup and Totah-Gallup Oil Pools, San Juan County, New Mexico.

CASE 2069: (Reopened)
In the matter of the application of Benson-Montin-Greer Drilling Corporation for the establishment of 80-acre oil proration units in the Cha Cha-Gallup Oil Pool, San Juan County, New Mexico. Case 2069 will be reopened pursuant to Order No. R-1800 to permit the applicant and other interested parties to appear and show cause why the Cha Cha-Gallup Oil Pool should not be developed on 40-acre proration units.

NEW CASES

CASE 2401: Southeastern New Mexico nomenclature case calling for an order creating new pools and extending, contracting, and abolishing certain existing pools in Eddy, Lea, and Roosevelt Counties, New Mexico.

- (a) Create a new oil pool for Ellenburger production, designated as the North Justis-Ellenburger Pool, and described as:

TOWNSHIP 24 SOUTH, RANGE 37 EAST, NMPM
Section 35: SE/4

BEFORE THE
OIL CONSERVATION COMMISSION
Roswell, New Mexico
October 18, 1961

REGULAR HEARING

IN THE MATTER OF:)
)

The hearing called by the Oil Conser-)
vation Commission on its own motion to)
consider the promulgation of an order)
prohibiting the flaring of casinghead)
gas from oil wells in the Cha Cha-)
Gallup and Totah-Gallup Oil Pools, San)
Juan County, New Mexico.)

CASE 2215

BEFORE: Mr. A. L. Porter

TRANSCRIPT OF HEARING

MR. PORTER: Case Number 2215; 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 the Cha Cha-Gallup
and Totah-Gallup Oil Pools, San Juan County, New Mexico.

MR. MORRIS: If the Commission please, Dick Morris,
appearing on behalf of the Commission. We will have one witness.

MR. PORTER: I would like to call for other appearances
in the case.

MR. BRATTON: Howard Bratton, appearing for Humble Oil
and Refining Company, Ewell Walsh for El Paso Natural Gas Products

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Company.

MR. SWANSON: Kenneth Swanson; Artec Oil.

MR. MORRIS: We will call Mr. Arnold.

(Witness Sworn.)

EMERY ARNOLD,

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

DIRECT EXAMINATION

By MR. MORRIS:

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

A Emery Arnold; Supervisor, District 3 of the New Mexico
Oil Conservation Commission.

Q Are you the same Mr. Arnold who has testified in pre-
vious hearings of this case?

A Yes, I am.

Q Mr. Arnold, do you have figures at hand concerning the
total number of wells producing and the gas-oil ratio being
produced from the Cha Cha and Totah-Gallup Pools?

A Yes, sir. I do; as of October 15, 1961.

Q As of October 15, 1961?

A Right.

Q These pools come under the direct supervision of the
Oil Commission, is that correct?

A Yes, sir.



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Q Referring first to the Cha Cha Pool oil pool, would you tell the Commission, please, the total number of wells producing in that pool as of October 15th?

A As of October 15th, there was 80 wells producing.

Q Do you have the gas-oil ratio information on those wells?

A We have gas-oil ratio test on file for 77 of those wells.

Q Would you give us that information?

A Yes, sir. The total, calculated total gas of these 77 wells, using those tests, is 17,466 MCF per day. The average gas per well for those 77 wells was 227 MCF per day.

Q Now, you have used the average figures, then, from the 77 wells to arrive at an average figure for the other three untested wells?

A Yes, sir. That is right.

Q What was the total gas for all 80 wells that you arrived at?

A 18,160 MCF per day.

Q And that figure is based on the most recent information available?

A Yes, sir. That is based on the latest available tests in the Cha Cha Pool.

Q Now, would you give us similar information on the



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Totah-Gallup Oil Pool?

A Yes, sir. As of October 15th, there were 57 wells producing. We had available 49 gas-oil ratio tests. The calculated total gas from these 49 wells was 10,415 MCF per day. The average per well was 213 MCF per day. Therefore, the total gas available is 57 times 213 or 12,140 MCF per day.

Q So the total gas available was Cha Cha Gallup, 18,160 MCF per day; Totah-Gallup 12,140 MCF per day; for a total of 30,000 MCF per day from the two pools?

A Yes, sir. That is correct.

Q Mr. Arnold, it might be of interest to the Commission to have the oil production of the two pools as of the most recent information available to you.

A Yes, sir. The latest month on which we had complete figures was July, in the Cha Cha Pool, total production was 253,750 barrels, for the daily average of 8,185 barrels. The Totah Pool total production was 212,980 barrels, for the month of July. Daily average was 6,870 barrels. The daily production from both pools was 15,055 barrels per day.

Q This amounts to a sizeable portion of the allowable in the northwest, is that correct?

A Yes, sir, it does.

Q Mr. Arnold, I realize that there will be other testimony in this case to the effect that some gas from these



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two pools is presently being gathered and put to beneficiary use; but, do you know, to your knowledge, that some of it is still being flared?

A Yes, a sizeable amount of it is still being flared.

Q Do you have any concrete figures as to how much is?

A No. That is changing every day. I think the Knight Manufacturing Company is setting up compressors. I don't know whether they are up to the schedule or whether they are behind schedule. I think the operator can probably testify to that more accurately than I can.

Q But, you do know that a substantial quantity is still being flared?

A Yes.

Q Mr. Arnold, in the event the Commission should decide to enter a no-flare order in this case, what recommendations would you have for excepting some wells from that no-flare order?

A Yes. I think there should be a provision for administrative exceptions written in the order; based upon economics.

Q In other words, where it would not be economically feasible to gather gas, you would recommend certain wells showing that, be excepted from the order?

A Yes.

Q Would you also recommend a 90 day period for new



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wells to be connected?

A Yes. I think new wells should have 90 days to get a connection.

Q Mr. Arnold, there are still a number of wells being drilled in these two pools?

A Yes. I believe the Totah, right at the moment has more rig activity than the Cha Cha. Actually, we are not adding wells very fast, at the present time, in the Cha Cha Pool.

Q Do you have anything further you would like to add, Mr. Arnold?

A No. I don't believe so.

MR. MORRIS: If the Commission please, that concludes the direct examination of Mr. Arnold.

MR. PORTER: Are there any questions of Mr. Arnold?
You may be excused.

(Witness Excused)

MR. PORTER: Does anyone else desire to present testimony?

MR. BUELL: If the Commission please, at this time, we operators had planned to present Mr. Knight, so that he could give the Commission a report on the progress of his efforts in installing and getting into operation his facilities in both of these pools. Unfortunately, Mr. Knight could not be with us today. He has personally asked me to convey to the Commission his extreme regret and assure the Commission that it took an



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occasion of significant importance to keep him from being here.

Actually, Mr. Knight is having his final meeting in Dallas with the various people who are financing his efforts in these two pools. Those people, some of them are from New York, some from Houston, and some from California. Due to the great number involved in financing this effort, it was impossible for him to schedule this final meeting any other day than today. For that reason he cannot be here.

However, he has made available his Project Engineer, who is completely familiar with all efforts and the progress and circumstances, and if the Commission please, we operators would like to present Mr. Malernee to bring the Commission up-to-date on the efforts that have occurred since the September regular hearing.

MR. PORTER: Would you have your witness come forward and be sworn?

(Witness Sworn)

KENT MALERNEE,

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

DIRECT EXAMINATION

BY MR. BUELL:

Q Would you state, for the record, please, your complete name and your position with the Knight Manufacturing Company?



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A My name is Vest Malernee and my position is Project Engineer on the Ohg Cha and Totole casinghead gas gathering facilities.

Q In that position, Mr. Malernee, have you been completely familiar with the efforts of the Knight Manufacturing Company from the inception, in those two pools?

A I have.

Q Mr. Malernee, are you familiar with the testimony of Mr. Knight, as presented to this Commission at the September regular hearing?

A Yes. I read the transcript of that hearing.

Q In that connection, do you recall the prediction of Mr. Knight's anticipated progress that would occur in the interval between the September hearing and today?

A Yes, sir.

Q Help me refresh my memory. It was his testimony that he was hopeful of adding, on an average incremental basis, about a half a million cubic feet per day delivery to El Paso?

A That was his testimony.

Q I believe he also testified that he was hopeful of adding in the field, installing in the field, on an average basis, over this same period of time, two and a half to three compressors a week. Is my memory correct?

A Yes, sir.



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Q Mr. Malernee, have you been able to meet these predictions of progress since September?

A No. We have not been able to completely meet them. We experienced some difficulties.

Q Have you made progress in that interval?

A We feel that we have made definite progress. The estimate of two and a half to three machines; machines shipped per week, shipped to the field, has been only about two machines per week. The incremental increase of a half-million cubic feet per day since the September hearing would be, the capacity at this time, approximately 20,000,000 cubic feet. I talked to our field-superintendent this morning and he advised me that as of 8:00 A.M. we are handling a little over 10,000,000 out of the two fields.

Q All right, sir. What has occurred, Mr. Malernee, to prevent you from meeting these predictions of progress made by Mr. Knight? What has caused the delay in progress?

A The delay has been caused from the necessity of re-designing our compressor equipment to handle larger volumes of gas from the --

Q Excuse me. Did Mr. Knight cover that in some detail in his testimony in September?

A He did. Yes, sir.

Q Did he do additional development in the field that he



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could see the reason for the required significant design modification in both gathering system and size of the compressors that you installed?

A Yes, sir.

Q All right. How did you change this design from the smaller compressor to a larger compressor? Was it the design work?

A Well, not strictly the design; that was the end result. It was necessary to change the cylinder size. Where we had anticipated one size machine, it was necessary to go to larger equipment that would handle the volume of gas, which is now being flared, from the field.

Q In other words, the delay actually has been caused by the inability to procure parts for these larger size compressors?

A That is true.

Q What efforts have been made, on the part of Knight Manufacturing Company to overcome this bottleneck; if we can term it "bottleneck?"

A Well, after he exhausted his efforts, he contacted the producers in the field and advised them of the situation and through their Purchasing Department assistance, they have been able to assist in getting things rolling.

Q Are you now receiving all the parts necessary to fabricate these larger size compressors?



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A Yes, sir. These have just recently started arriving in Tulsa. More are on the way.

Q Has your bottleneck in parts been broken and been cleared up?

A It has, yes.

Q I wonder -- Mr. Malernee, would you say that, at this time, your fabricating plant in Tulsa, is it operating -- What I would term on an assembly-line basis, do you have sufficient parts to get your line rolling again?

A We have parts to get our lines rolling. We are now on an assembly-line basis, in that when a finished machine is shipped out one door, component parts are brought in another door and a new machine is started.

Q When did your plant get back into operation in this manner?

A It was last Saturday.

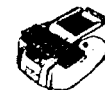
Q Are you now getting compressors out of the plant and shipping them to the pools?

A Yes. We are.

Q Do you happen to know when the last one left the plant?

A The last one left the plant yesterday morning.

Q I wonder -- In view of the bottleneck in parts being cleared up, I wonder if you have given any consideration to working overtime or adding a fabricating plant crew so that you



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could turn those compressors out a little more rapidly?

A At the present time we are working one shift on an overtime basis. When additional component parts are available to sustain two shifts, Mr. Knight has told me that he is going on a two shift basis.

Q Let me ask you this, Mr. Malernee, do you feel that since this latest obstacle has been overcome, and you have an adequate supply of parts now, do you feel, say, over the next thirty days that you will be able to arrive at Mr. Knight's prediction of an incremental average basis of about a half-million cubic feet per day in your delivery?

A We cannot anticipate any difficulty in meeting that increment.

Q As of this morning you were delivering to El Paso at what rate?

A It was a little over 10,000,000: 10.1.

Q 10,000,000 per day?

A Yes.

Q Mr. Malernee, as I recall the September hearing, Mr. Knight felt that by November 1 the system would be installed effectively; 100 percent, completely installed and operating. In view of the bottleneck in parts, that has set you back, do you feel that you should revise that target date?

A I believe it will be necessary, yes, to revise that



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target date.

Q What, in your opinion, based on your knowledge of the operation and progress that is being made, at this time, what is your best estimate of the target date; being effectively, 100 percent complete?

A Our estimates, as the situation now stands, of actual completion, including the extension lines which we have added, is December 1.

Q All right, sir. Mr. Malernee, let me ask you now, to go over to the board where we have posted our exhibits and in that you will be a considerable distance from the reporter: please speak loud enough that he can get your testimony.

I will ask you to look now at the exhibit on the left, marked Operator's Exhibit 6. What does that show?

A That is the Cha Cha casinghead gathering system.

Q Would you briefly review for the Commission the status of that system as of the September hearing; so that we can compare the progress that has been made in the inter-period?

A The solid red line down through here, (indicating) including this solid red line, (indicating) and including this yellow line down through, to here, (indicating) was the same; it has not been changed. At this point in September we did not have a compressor installed; we have one installed there now.

Q Instead of saying, "this point", with your pointer,



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ust give the section.

A Very well. In section 17, we have installed a compressor which was not located there at the time of the September hearing.

Q All right, sir.

A On into the main compressor station in Section 16, the point of delivery to El Paso Natural Gas main line, at the September hearing we had three machines, we now have six. On down into Section 15, we have installed a field compressor which was not in there at the time of the September hearing. Further on from it, between Section 22 and 23, an extension line that was shown in solid yellow at the September hearing, which denoted "survey made in" and has now been -- the right-of-way has been cleared. The ditches, I believe all the ditches now have been cut with pipe strung, as denoted by dashed red and white lines.

Q All right. Let's re-cap now, the Cha Cha from the standpoint of additional completions, at the time of the last hearing we had three, how many do we have now?

A We have a total of eight.

Q Five have been added this September in spite of the bottleneck?

A Right.

Q All right, sir. Go now to what has been marked Operator's Exhibit 7, what does that exhibit reflect?



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A That is the Totah casinghead gathering system.

Q Rather systems?

A Actually it is system.

Q We refer as to northwest system and southeast system.

Let's start out with the southeast; with respect to the system there what has occurred since September?

A Since September our main line, represented by this horseshoe, has been completed and is ready for gas.

Q You are referring to the solid red line in the southeast system?

A That is correct.

Q At the time of the last hearing, although some work had been done, the pipe had not been out in the ground and tested and ready for operation?

A No, sir. It had not.

Q All right, sir. Let's go to the northwest system; has there been any substantial change in this system since September, significant change in the northwest, that is?

A There has been the addition of one compressor at the main compressor station for the northwest. This is located in Section 33 and one field and booster compressor in Section 20. otherwise, there has been no significant change.

Q All right, sir. Let me ask you this: Mr. Malernee, with respect to both systems, why hasn't more work been done in



getting the pipe in the ground in these?

A These extensions, the rear part of the pipeline, has been designed to go out and get the new developments.

Q Why haven't you laid more pipe in that regard?

A We had enough pipe in the ground that we could handle all the gas for which we had compressor facilities available. Therefore, we were more interested in devoting our time and attention to the installation of compression equipment; to conserve as much gas as we could rather than extend the pipelines for future use.

Q In other words, during this past month, your primary objective has been getting compressors into the field?

A That is true.

Q Let me ask you with respect to the pipeline; pipe extensions rather, is that pipe on order or enroute?

A It is.

Q Do you anticipate any difficulty at all in having pipe in the ground and ready to go by the time you get your compressor strength up sufficiently to handle gas from extensions?

A Weather permitting; we are anticipating no problem.

Q All right, sir. You want to go back to your seat, now? (Witness complies.) Mr. Malernee, adding up on my fingers, as you went through your testimony, as I recall, we had a total of five compressors in both pools at the time of the last hearing?

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ELIZABETH, N. J.
PHONE 325-1132

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A Yes, sir. We did.

Q We now have, if my arithmetic is correct --

A We have a total of 12; that I recall.

Q So, in spite of the bottleneck in parts that you encountered, you have been able to increase your compressor strength in these pools by over 100 percent?

A Right.

Q And with the bottleneck now broken and fabricating there in Tulsa on an assembly line basis, with one machine coming out one door, all completed and a frame on a skid coming in the back door; you certainly hope to do better in the time to come?

A We certainly do. It looks like there will be no difficulty in doing so.

MR. BUELL: May it please the Commission, I believe that is all the direct we have at this time. May I formally offer the Operator's Exhibits 6 and 7?

MR. PORTER: Without objection, the exhibits will be admitted.

(Whereupon Operator's Exhibits 6 and 7 were admitted in evidence.)

MR. PORTER: Anyone have any questions of Mr. Malernee?

MR. MORRIS: Yes, sir.



CROSS-EXAMINATION

BY MR. MORRIS:

Q Mr. Molernee, you say that you hope to add, roughly, a half-million feet of gas per day to your line?

A Yes. Now, that is on an average basis.

Q On an average basis?

A Right.

Q At that rate, with about 20,000,000 plus feet of gas being left to be collected, at the present level of production, according to my figures, if you attain that average level, that average rate of adding on, you should have your system complete somewhere around the 18th of November; does that about match your figures?

A 20,000,000 to a half-million is 40 days; I was figuring a month and a half to test it first, which would be, normally, 45 days.

Q December 1st would actually give you a little leeway on your half-million a day, would it not?

A On the estimated basis; yes, sir.

Q If the Commission should decide to enter an order in this case, a no-flare order and to make the effective date of the order around December 1st, do you foresee any difficulty in living under that order?

A Right now we could not foresee any. There have been other things that come into this that we did not foresee. We

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feel, right now, everything has been cleaned; but, weather could be a material factor in effecting that.

Q Do you see any factor other than weather that you might be able to foresee; and reefs chartered or unchartered in the path?

A We do not see any, no, sir.

Q Mr. Arnold testified, I believe, that 90 days would be his recommendation for allowing exceptions for the new wells to be hooked up; do you believe that, on a normal step-out development well, do you feel that the well could be hooked up in the 90 day period; once the system is complete?

A Under normal conditions, it can; under normal every day conditions, if it is just a usual step-out of existing wells in the field, 90 days should be sufficient time.

MR. MORRIS: That is all I have.

BY MR. NUTTER:

Q Mr. Malernee, I don't have your name. Would you spell that for me?

A M-a-l-e-r-n-e-e.

Q E-e?

A Double e at the ending.

Q Mr. Malernee, I just wanted to ask you a couple of questions on the Cha Cha, Totah Pools, if I might. For one thing, you said last Saturday you really got to rolling and turned out

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a compressor; how many compressors did you turn out the week ending Saturday?

A We shipped two last week.

Q You got two made last week?

A Right.

Q How about the week before; how many did you make?

A Oh, Let's see, Mr. Nutter, I don't recall exactly how those things have been scheduled. I haven't been in the office very much of the time. I don't know. They --

Q Well, I was just wondering; since you got rolling Saturday, I was just wondering how you were rolling previous to that and how fast you were rolling now?

A We shipped two machines last week and then again Tuesday we shipped one more; which the average time, as we are set up, on running them through the shop on a production basis is about a day and a half per machine.

Q How many have you shipped this week?

A This week we have only shipped, the one yesterday. They are working on --

Q You got rolling Saturday and you have made one so far?

A Right.

Q Mr. Malernee, one thing you pointed out in your testimony when Mr. Buell was questioning you was the fact that you have changed the size of these compressors to meet the increased

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amount of gas that is available in the pools. How many of these compressors have been changed in size from the original plan?

A From the original plan? Just about every one has been.

Q What was the original capacity of these, of these that --

A On the original plans we were working at a line total, from the two fields, of approximately 20,000,000 feet on our line sizes. The thing that has effected us more than anything else on compressor size, has been the maximum rate of discharged pressure. To achieve the higher capacity, even with the pipe changes that we have put in there, most of the pipeline changes were on the insertion side where it would be extremely difficult to get to a compressor to service it, we have had to go to higher pressure machines which will operate the line at a higher operating system.

Q Are these one or two-phase compressors?

A Each individual compressor is finished single-phase, we are staging them in the field.

Q I see.

A Right now, in the field, we are running two stages with the third stage standing by.

Q What was the original --

A Single-phase.

Q Single-phase?



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A Our original plan was a total of three standing by, not having to go so high on the pressure on the first stage. The first stage ones are critical because they are allocated in the field. If you have 95 pound machine sitting out in the field and you have to have 150 pounds to get the gas through the line; that 95 pound machine just won't hack it and you have to replace it with a larger unit. In addition to which -- As an example, there is one installation where we had originally sized the compressor and facilities at 100 -- about 140 horses and our system was set up on that. Right now, in that system, we have had to resize it to over 300 horsepower at that one point.

Q This is one particular compressor?

A That is one particular installation. To get as much gas as we can, we are putting the machines in so they will be of the most benefit. At the present time there are some of them that will have to be moved and we realize it at this time.

Q Well, now, in the changing of compressors that you found necessary, you state that each of these stations is probably going to be a three-stage compressor facility with three separate compressors. Now, the big compressor has to be in the first stage; how about the second and third stage?

A The second and third stages are the ones primarily located at the station. The first stage is out in the field, they pump through the line into the station. That has been



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another factor there; on the second stage we had designed our plant for all wells on all three, what we classify as our fan compression station. We had sized up the station to handle a certain number of machines. But with the increased capacities, we have had to increase the size of machines that are put on each individual pad. An example of this change in size that we are talking about; the machines that we have out there, the twelve machines total value in horsepower is close to 1,000. Three machines that we have in the shop and scheduled through next, will deliver half that horsepower. Using three machines to deliver half the horsepower of the twelve existing machines. That is an example of the way we have had to go on this.

Q Well, is this typical of what you are -- How many compressors do you eventually plan to install?

A Originally we planned to install somewhere in the order of 35. By going to larger sizes and with the increased capacity; it looks like now we are going to be closer to 45. Although, again, the number of compressor units has nothing, only in that it is a physical number and it does not necessarily denote the quantity of gas which each individual one can handle because compressors are available that, if you have got the money to pay for them would handle the entire system with one machine.

Q They are available when you can get them?

A Well, it is an expensive way of putting in a system. The length of life does not justify that expense. If you have got



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a 25 or 40 year pay-out on the thing, then you can set up the system with big pipe and pull it all into one compressor and you don't have the problems that we have with a system such as this continuing in both directions, just about, with the development and short pay-out or the short predicted life, you might say, of the field.

Q Well, now, of the original 35 compressors that you planned; now you are thinking about 45, how many of these have actually been changed from the original design capacity?

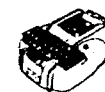
A Mr. Nutter, I can give you that information with the data that I have in my briefcase; but, it would take a couple of hours to go through and check every one of them. Since the original design, I would estimate that, of the original 35, that we have changed about 20, substantially. We have changed locations due to two machines that are out there right now that are going to be moved. We had planned to leave them where they were originally set and we have changed the location on, I imagine, 30 of them. There has been that much of a change, either, I mean, on size or actual design.

Q Now, the location of compressor is in itself, going to make the compressors harder to get changed in design and back order conceivable, so --

A Right.

Q -- you changed the size of approximately 20 of the 35?

A We have changed the size of the cylinders on at least



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twenty of the original 35 planned.

Q Are you acquainted with Mr. Knight's testimony in August? I think you stated you read the one of September.

A Yes. I was at the August hearing.

Q Do you recall him saying there would be no difficulty in obtaining the compression?

A Yes. Right at that time we were looking at the machines that were originally designed for the plant. Right now we have cylinders in our stock which we cannot use because of the change.

Q Well, now, you have got parts available to assemble these new compressors; the ones that you are going to have to have with the increase in capacity and so forth. How many compressors can you assemble at the present time; how many parts do you have available?

A Available right now; we have about six as of today.

Q How long will it take to get those assembled and in the field?

A About two weeks.

Q Mr. Malernee, it seems as though a new unchartered reef may be appearing, too. You mentioned the weather; what effect is the weather going to have in getting in this installation?

A The effect of the weather will be, primarily, the foundation, pouring the foundation for the compressors and, of course, in that part of the country there are, as you are well aware,



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there are snow storms that just about keep you from doing anything except sticking your head out the door.

Q But, in reply to two questions of Mr. Buell's, you said you anticipated no difficulty?

A We anticipated no difficulty: the weather can delay us for a short time. Around the Farmington area, it is my understanding it hardly -- The concrete would freeze, for example, and it would be hard to get your foundation in.

Q We didn't anticipate these difficulties in August or September, did we?

A We did not.

MR. NUTTER: Thank you, Mr. Malernee.

MR. PORTER: Any further questions?

BY MR. BRATTON:

Q Mr. Malernee, what is the designed capacity of the complete system, with your 45 compressors that you now intend to install?

A We are looking for 30,000,000 cubic feet daily from both facilities at the present time; which is enough to handle the present amount of gas that the field is producing.

Q You have no plans for expanding the system?

A We are designing the system so that we can tie onto the end of it and go ahead and pick up out-lying developments.

Q And it is your testimony that you intend to have this system to 30,000,000 cubic feet capacity by the first of December?



A We are going to extend every effort to meet that date; yes, sir.

MR. BRATTON: Thank you very much.

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

(Witness Excused)

MR. BUELL: May it please the Commission, for those of us who have been in on this conservation effort from the outset, that is, we operators in the field as well as the Commission and the Staff; review of the evidence can only reveal only one thing and that is that is continuous and substantial progress. It is true that along the way we have hit, here and there, an uncharted reef; but, even in spite of that, progress has continued to be made. We have had testimony with regard to the set backs; but, over all, progress has been continued. We must realize that, at the outset, when the Commission looked at the flare situation in these two pools, back in March of this year, a contract had not even been negotiated. Since that time we have negotiated our contracts. Knight Manufacturing Company has made their effort to get their facilities installed. At this time, as of 8:00 o'clock this morning, we are saving and delivering to El Paso, over one third of the gas produced from these two pools. In my mind, that is a significant conservation effort. I think it is an effort of such magnitude as to warrant

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the Commission continuing this case until the November regular hearing; and, on behalf of Pan American, I would like to move that this case be continued until the November regular hearing.

MR. PORTER: Any comments?

MR. BRATTON: On behalf of Humble Oil and Refining Company; Howard Bratton. I will second the motion by Mr. Buell. I think we wish as strongly and more strongly than the Commission that this system were completed today; but, it has not been possible to be completed by today. There is one further aspect of the matter that I believe is worthy of the Commission's attention. At this point, as Mr. Malernee pointed out, this Knight Manufacturing has, of course, a contract with all the operators in the pools. They are placing the compressors, the Knight Manufacturing is, in the position to where they will conserve the most gas. Now, if the Commission should, at this point, enter a no-flare order, it would shut in some -- could shut in some leases in there and I would refer particularly to Humble's lease in there; although they are participating in progress on this. If compressors are placed elsewhere in an effort to conserve the most gas, now, this, of course, would result in a severalty of correlative rights of the pool anomalously.

I have addressed myself as to Humble's rights; the situation would be the same as to other operators in the pool. As I say, we wish just as strongly as the Commission that this



system was completed. We have been attempting, through our traffic departments to help Mr. Knight in every way we could. We strongly urge that the Commission favorably consider Mr. Buell's motion.

MR. MORRIS: If the Commission please, Mr. Porter, I do not wish to either oppose or second Mr. Buell's motion; but, merely to comment on it and state for the record, the saga of the unchartered reef has been heard at several hearings now. It was heard first in March, then in May and July, August, September, and now; at the October hearing. The record in the case has been built up considerably. At the July and August hearings the target for the completion was stated by Mr. Knight to be October the first. Certain difficulties were encountered and in September at the regular hearing of the Commission, that target was revised to be November the first and was stated by Mr. Knight to be the final date. Now, today, at this hearing, we are told that December the first will be as soon as the gathering system can be completed.

Now, certainly, I would have to agree with Mr. Buell and Mr. Bratton on all the statements made here; progress has been made. A third of the gas is being collected and that is progress. At the same time, we are told that less than half of the gas will be collected by November first; which only a month ago was given as the final date for the total completion of the entire system. We are also told that weather might hamper

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activity; but, certainly the weather is not going to get any better as we progress into the coming winter. As I said, I offer no opposition to Mr. Buell's request for continuance; but, would only point out, if the Commission should decide to enter an order, it could make the effective date in the future, and somewhere around December 1st might be a good date for it.

MR. PORTER: Mr. Walsh, I believe.

MR. WALSH: Ewell Walsh for El Paso Natural Gas. Due to the evidence that has just been presented concerning this case for the Cha Cha-Gallup gas, El Paso Natural Gas Products Company would like to concur with Pan American in asking for continuance of the case to the next regular meeting.

MR. PORTER: Mr. Swanson?

MR. SWANSON: Kenneth Swanson for Aztec. On behalf of our company, we would like to point out that we have run into unexpected problems in this before, some of which, perhaps are not unique to the Totah-Cha Cha areas. These fields are in the stage of development and I think it creates a particular problem to your facilities that have engaged in this. The work has been made and this is the best period to present the speed, and for its continuance we appear, that is our hope. We hope the Commission will respond sympathetically to these efforts and problems, and will continue this case to the next regularly scheduled hearing.



MR. PORTER: Anyone else have anything to say concerning Mr. Buell's motion?

Mr. Buell, the Commission will deny your motion for continuance and will, in the very near future, enter an order prohibiting and preventing the flaring of gas from these two pools after November 30.

The Commission, in continuing this case from March, successively through several other hearings, have considered a number of factors. We certainly appreciate the fact that progress has been made; but, as you brought out, a third of the total gas is being marketed through the system. The fact remains that two-thirds is being flared. We can appreciate the problems, and I think we have indicated that we can appreciate the problems that have been run into, that weren't anticipated from time to time, as these hearings went along. Nobody anticipated that either of the pools would expand as far and as rapidly as they have; nobody anticipated redesigning of the machinery and so forth. We have heard evidence here today that the system can be completed by a date of December 1st, and so we have to remember, of course, at all times, that we have -- This has borne heavily upon us; that is, our prevention of waste of oil and gas. So, the Commission will enter an order which prohibits the flaring of gas after November 30th of this year.

I anticipate that the order will be a standard no-flare

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order that will permit exceptions where it can be shown it is not economically feasible to market the gas and, also, it will carry a clause which will allow a period of 90 days for a connection of new wells.

MR. BUELL: May it please the Commission, I don't want to drag out or delay this hearing. I would like to urgently and sincerely request that the Commission consider making the effective date January 1st instead of December 1st.

As Mr. Bratton pointed out, this has been a team effort all the way through. We operators, when we executed the contract, we didn't just say that "our work is over; from now on it is up to Knight." It has been team work effort. As Mr. Bratton pointed out, the operators have neglected their own individual good from the standpoint of saving their gas, for the good of the whole pool. In fact, both of them. I would like to urgently request that the effective date be January 1, 1961, in order that we can be certain that no great loss in equities will occur.

Due sacrifice has been made today in allowing Mr. Knight to place compressors that are installed where they would do the most good; rather than, say, on Pan American's gas or Humble's gas. In view of that, I urgently request an effective date of January 1st.

MR. PORTER: Off the record.

(Off the record discussion held.)



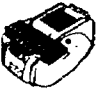
MR. PORTER: Mr. Buell, the Commission has consented or agreed to consider your request prior to entering an order; but, an order will be forthcoming, within the next few days on this particular case. We will take a ten-minute recess.

(Whereupon, the hearing was concluded at 10:50 A.M.)

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I N D E XWITNESSPAGE

EMERY ARNOLD

Direct Examination by Mr. Morris 2

KENT MALERNEE

Direct Examination by Mr. Buell 7

Cross-Examination by Mr. Morris 18

Cross-Examination by Mr. Nutter 19

Examination by Mr. Bratton 26

EXHIBITSFOR IDENTIFICATION

Operator's No. 6 13

Operator's No. 7 14


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STATE OF NEW MEXICO)
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 COUNTY OF BERNALILLO)

I, CECIL R. LANGFORD, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Roswell, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 20th day of November, 1960.


 Notary Public-Court Reporter

My commission expires:

October 20, 1964.

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BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 13, 1961

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 flar-
ing of casinghead gas from oil wells in the
Cha Cha-Gallup and Totah-Gallup Oil Pools,
San Juan County, New Mexico.

CASE 2215

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BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 13, 1961

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 the Cha Cha-Gallup and Totah-Gallup Oil Pools, San Juan County, New Mexico.

CASE 2215

BEFORE:

Mr. A. L. Porter
Mr. E. S. Johnny Walker
Honorable Edwin L. Mechem

TRANSCRIPT OF PROCEEDINGS

MR. PORTER: The meeting will come to order. We'll take next Case 2215.

MR. MORRIS: Case 2215: 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 the Cha Cha-Gallup and Totah-Gallup Oil Pools, San Juan County, New Mexico.

MR. PORTER: Mr. Buell.

MR. BUELL: May it please the Commission, Guy Buell with Pan American Petroleum Corporation. The Commission willing, we would like to present Mr. Knight again today to report for all the operators in both pools, as well as himself, on his progress since

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the August regular hearing.

MR. PORTER: That will be fine, Mr. Buell. Will you have Mr. Knight come forward, please, and be sworn?

(Witness sworn.)

DEAN KNIGHT

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

DIRECT EXAMINATION

BY MR. BUELL:

Q Mr. Knight, would you state your complete name for the record, please?

A My name is Dean Knight.

Q Where do you live, Mr. Knight?

A I live in Tulsa, Oklahoma.

Q What is your capacity with the Knight Manufacturing and Supply Company?

A I am President of that firm.

Q And I believe you stated at past portions of this hearing that your company is installing the field-wide gathering systems in both pools?

A That is correct.

Q Speaking generally, Mr. Knight, before we go into detailed discussions of these exhibits, you have attended past portions of these hearings and you've heard we operators tell the Commission that the effort we operators are making in these two pools, as

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well as the effort on your part, was unusual. Do you agree with that, generally?

A Yes, that is correct.

Q Why, in your opinion, is that unusual conservation effort, Mr. Knight?

A The main unusual thing about it is that usually when you start out to install a compression system in an oil field, which this is not a gas field, the field is drilled out and you know what you are doing. You can go to each wellhead, you can measure the gas, you can calculate it and you can design your system around that. That has not been true in this case.

Q I believe past testimony in this record will reflect that we've had a rapid rate of development in both pools, is that right?

A That is true.

Q Has that caused you to have to modify, revise, and change the design and pipe capacity of your system in both pools?

A Yes. Up to this point we have changed almost everything except the idea of doing it, everything in the pool has been changed at least once.

Q Have these changes been not only in extensions to your original design, but modification in the original designs themselves?

A Yes, they have.

Q It might be well for the record if we can make a



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comparison, so the record will reflect just how rapidly these two pools have grown. If memory serves me correctly, active contract negotiations to handle the casinghead gas began between you and the operators back in March of 1961?

A That is correct.

Q Do you happen to recall the number of wells completed in each pool as of March, 1961?

A Yes, in the Totah Pool in March there were twenty-one wells completed; and in the Cha Cha Pool there were forty-one wells completed, for a total of sixty-two wells in both pools.

Q As of March 1, 1961?

A That is correct.

Q Do you happen to know the number of wells completed in each pool as of September 1?

A Yes, in the Totah Pool there are now fifty-four wells; in the Cha Cha Pool there are now seventy-five wells, for a total of one hundred twenty-nine wells. This pool has more than doubled since we started our contract negotiations.

Q That's over a hundred percent increase in the number of wells in both pools since we started work in our efforts to save this gas?

A Yes, that is true.

Q All right. Do you happen to recall offhand how much footage of additional pipe you have had to add to the system as it was originally designed?



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A In round figures, the original system was about 100,000 feet, or converting it to miles, roughly twenty miles, and we have added to that roughly 25,000 feet, or a twenty-five percent increase in pipe length. Also there has been two or three increases in pipe diameters at various critical points.

Q Have you had to make these changes more or less on a day to day basis as the two pools have grown?

A Yes, we have had to, and sometimes we had to hold up. I know that during this last month we held up one piece of construction for about eight days to get in some ten-inch and some eight-inch pipe, which were going to be desperately needed, where originally the design called for six-inch.

Q Can you think of a good example we might use to point out to the Commissioners of one example of an extension area or a step-out development?

A Yes, we, when we started this in the four Sections up in the Northwest Section of Totah, there were no wells. Today Pan American on that four Sections has eight wells in Totah and two in the Cha Cha Pool. for a total of ten wells that didn't even exist and weren't even thought to be drilled in March, but they are now.

Q Was that a sizeable step out, a sizeable extension from the established production in Totah and Cha Cha?

A Yes, those ten wells represent roughly twenty percent of the whole Totah Pool today with their fifty-four wells.



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Q Before we go to the exhibits which we put on the wall to show the progress as of today, I'm going to direct your attention back to the exhibit that was offered at the August regular hearing portion of this case, I believe that's Operator's Exhibit 3, and ask you to briefly review for the record where we were, from the standpoint of progress as of that hearing.

A All right. I believe this is Exhibit 3, and as of that date this solid red line was the line that was welded, ditched, and in place, which was approximately a half of the Cha Cha or, oh, thirty-three and a third percent of the total system, or less.

Q That was the Cha Cha?

A That was all. There was nothing in Totah. This line here (indicating) was where the right-of-way had been cleared.

Q This line here?

A The dotted line, or the broken line. The right-of-way had been cleared, and I believe pipe had been strung over this area, and we were working right at this point as of the last meeting. This section here was all that was completed, which I would judge is about thirty percent of the total system.

Q Would you go now to what has been marked as Operator's Exhibit No. 4, and state for the record what that exhibit reflects?

(Whereupon, Operator's Exhibit No. 4 marked for identification.)

A This is the Cha Cha system as it is today. Now the solid red line is all the pipe that's completed, in the ground,



ditched, covered up, and frankly operating today.

Q The solid red line represents that portion of the system that is complete and ready to go?

A Yes.

Q Does that include all of the system as it was designed, or as it existed back in August?

A Yes. This was the system that we thought we would use in August. This is the red line.

Q What is the significance of the solid yellow lines on that exhibit? I notice one in the Southeast portion, and another up in the Northwest, what is that?

A These are extensions that are being made. We have run the surveys on them, we are waiting on right-of-way, I believe, on them; but these are necessary extensions to conserve the gas out of two wells called the Tribal H, 2, and about in round figures, six to eight wells in this area that have been added to this system since the last time.

Q These two factors represented by the yellow lines, that represents two examples of additions that you have had to make to your system as you discussed earlier in your testimony?

A Yes, those are just plain additions to get more gas that has been brought in since the original setup was made.

Q What is the significance of the three green dots in the Southeastern portion of that exhibit?

A These are three compressors that are sitting on this

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location, and today they are compressing gas and it is being sold to El Paso Natural Gas Company.

Q What's the significance -- is that arrow purple? I can't tell.

A Yes, it's purple. It's almost black, but let's call it purple, a purple arrow.

Q What does it designate?

A That is the tie-in to El Paso Natural, and that is actually the cash register or delivery point of gas.

Q Do you have an estimate, Mr. Knight, of the volume of gas that you are delivering to El Paso at that connection, say, today?

A Yes. As of eight o'clock this morning, the meters indicated that we were delivering at this point 1.9 million cubic feet per day. That was at eight o'clock this morning, and we should increase that before nightfall.

Q Before we go to the exhibit that reflects the Totah system, let me ask you to briefly review for the record the state of progress that existed at the August regular hearing.

A All right. The progress, of course, includes all of the line --

Q I believe you misunderstand me.

A All right.

Q I'm talking of Totah. Where were you in Totah at the time of the regular hearing?

A Excuse me. In Totah at the August hearing, there was

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no pipe in the ditch; there had been some right-of-way cleared and some ditches dug, but there was nothing beyond that in the Totah area as of that date.

Q Let me direct your attention now to what has been marked as Operator's Exhibit 5. What does that exhibit reflect?

(Whereupon, Operator's Exhibit No. 5 marked for identification.)

A This is a map of the Totah area.

Q It would appear from here, Mr. Knight, that actually in Totah you have two separate and distinct gathering systems, is that observation correct?

A That is correct.

Q For the purpose of simplification, in your testimony let's refer to the one in the southeastern portion of your exhibit as the Southeast system, and the other one the Northwest system. Generally speaking, did you find the terrain in Totah to be extremely rough and irregular?

A Yes, the terrain in this area is extremely rough and particularly right in here (indicating). The operators were not very careful where they drilled their wells when they drilled them.

Q They weren't thinking of you?

A No, they didn't think very much of us at that point.

Q Speaking of the Southeast system, what has necessitated the almost horseshoe shape of that system?

A Well, actually that was the only way we could put this

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going together. I couldn't go across there so when do they call them -- arroyos, we call them canyons in our part of the country. We had to come out the top of the hill, go down to the bottom and then follow the canyon out, and that's what we have done here.

These solid red lines here are part of the line that is already in place, because it involved this dropping off this 400 feet off the top of these bluffs, and that's why this is in in such a manner, because it's following the floor of a canyon. That's the only way we could get through.

Q And again on this exhibit, and with particular reference to the Southeast system, does the solid red indicate the portion of the system that is complete?

A Yes, the solid red, which is quite small in this particular one, that is in place and done.

Q What is the significance of the broken red and white portion?

A That is pipe that has been, the right-of-way has been cleared and the pipe is strung, the ditches are being dug and the work is in progress there.

Q Why haven't you made more progress in that Southeast system? Why don't we have more solid red there, Mr. Knight?

A Well, actually there is, we received a letter from El Paso Natural, who said that due to their having to redo this line completely in here, I think everybody is aware --

Q By "this line", you mean the El Paso?



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The El Paso line. They are adding the lines in here to be able to take the quantity of gas we have to deliver to them. Over in the other areas, they did not have to tear out a line and put in a new one, but in this area, I understand they're having to tear out and revise their line. They won't be ready until October 1, and possibly October 15. So we have dropped off our work here and been concentrating in this area here and here (indicating), so we could get some gas movement, which was of prime importance.

Q Do you anticipate any difficulty in having that portion of your system now reflected on that exhibit in broken red and white line, do you anticipate having any difficulty in having that complete by the time that El Paso is ready to tie in?

A No, I don't anticipate any, unless we have a rain and that washes the floors of the canyon in, but I don't anticipate that at this time of the year.

Q What is the significance of the yellow line, is that the same that we talked about on Exhibit 4?

A Yes, this is another extension necessitated by more drilling activity in this area, and another one down in this area, and we are planning to tie it in to here so we can go ahead and take care of this gas in this area (indicating).

Q What stage of work are you at now on that portion shown in yellow?

A That has been surveyed and right-of-way applications have again been made, and that's about the status of that one.



It's right at the very beginning, you might say.

Q Let's go now to what we have designed on the Hocking system in Totah. Briefly relate to the Commission and the record where you are on that system now.

A All right. The solid red line again represents a line that is in and complete, even including that little mark up here (indicating). Now you note that is no good up there, it doesn't tie in to anything. When we come out here to Pan American Tribal H-2, we had so much gas that it necessitated an entire change in the system up here, so we had to drop this line, which was scheduled for construction, the right-of-way was cleared; actually the right-of-way permits had been obtained and right-of-way cut across it. Then we had to deviate from that, go back and change that, increasing the size of this line. We came back down here, this all ties in to it, we had this all scheduled for six-inch; we come back in here, we had ten-inch here and eight-inch here, and extended the six-inch, which was originally four, to be able to take all of this, which leaves this piece isolated until we can clear this construction.

Q You have been discussing the northern portion of the Northwest system in Totah?

A Yes.

Q I believe that change in design or addition in design was necessitated by connecting up our Navajo Tribal H lease, which you used as an example earlier, as an example of an extension area?

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A Yes, there are now eight wells up here, which represent a very sizeable portion of the total in this particular Northwest section, so that necessitated actually a complete change out of our pipe sizes and thinking on this one situation.

Q Would it be fair to say that when you considered not only the change in the size of the pipe that has been necessitated in Totah, but as well as the extension areas themselves, that you have actually increased the size of your system about fifty percent in Totah? Would that be a fair observation?

A That's just about right, yes.

Q With the exception of that portion of the Northwest system shown in yellow, the remainder of the system is complete?

A Yes, it is complete.

Q Do the two green dots at the southern portion of the Northwest system again show compressors installed and on the line?

A Yes, sir, those are installed and operating today.

Q Are you delivering to El Paso there now?

A Yes, we're delivering here, as, again, of eight o'clock, 2.9 million feet a day, according to our meter, into El Paso's lines, at the purple arrow. This again is the cash register or El Paso's meters.

Q When you consider the gas that you are delivering in Cha Cha and Totah, what was the total delivery from both fields?

A The total delivery at eight o'clock was 4.4 million.

Q I believe you stated that you expected that to increase



before the day is over?

A Yes.

Q Do you have an estimate of the rate that you will be delivering by this afternoon?

A We should pick up close to another million before nightfall.

Q Mr. Knight, so we can get some idea, will your deliveries to El Paso remain at the rate that you have just discussed until you complete your system, or is it going to be a day by day incremental increase in deliveries to El Paso?

A Well, this will be almost a day by day increase, because every time we set a new compressor, it will increase the delivery, and all that we have to do on this system, outside of adding these extensions, are to add compressors as fast as we can do that. That will increase our delivery every day, so it will be a daily growth now, and not waiting for more system or more anything. The same thing, this work can go ahead and progress, and when that's done we can start producing there as well as here and over here. So actually, from now on this thing will grow every day.

Q How are you selecting the batteries you are connecting to first, Mr. Knight? Do you have any method in your selection?

A We are trying to select at the moment batteries that we can obtain the most gas from and get the most conserved. That's our attitude at the moment. We are, therefore, picking separators not necessarily that make the most gas, but ones that

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they're holding the most pressure, that enable us to make the maximum delivery and save the maximum amount of gas.

Q From the standpoint of compressors, as I recall your testimony in July and August, I believe you said you planned on putting in thirty-three, is that correct?

A That's roughly correct, yes.

Q The exhibit in your testimony shows that five are installed and on the line. Could you give the Commission some idea of your scheduled tie-in of compressors on the system?

A Yes, our compressors should be tied in at the rate of about two and a half to three per week. Now we've had to make some more changes here in our compressors, in that we have increased the system. In other words, this thing is growing so rapidly, and Mr. Mallarney is at the Farmington site now doing some re-engineering on sizes needed, and we are increasing the size per machine. We are trying to put in the large ones first and we have increased that by one size. We should be able to average about two and a half to three of those per week from now on.

Q How many crews or how many people do you have installing your compressors now?

A We have three of our key personnel that are doing the fine work, the precision work. We are using all the contract labor that we can use well, but contract labor, of course, is not available to do the precision work.

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Q You mean the ordinary roustabout or roughneck can't hook up a compressor?

A It can only go so far and then our men must finish, because at that point you can use labor that isn't good or it isn't quite competent, and you will run into headaches a little later down the line that you would have avoided had you done it with your own people. We have these three men out there working as hard as they can go.

Q Are they working seven days a week?

A I think they are working eight. from the reports I hear from them. They're telling me that, anyhow.

Q The July and August portion of this case, Mr. Knight, you estimated a target date of October 1 of being complete. Do you feel that you are going to need to revise that target date?

A Yes, we will have to, because of the extensions and additions that we have made. I think that a real target date for completion now should be around November 1st. We have so much more to complete than we had in August.

Q Were these changes and modifications in the design and the content of your system, were they time consuming, did they cause you delay?

A Yes, that sort of thing always causes delay, and you reduce your efficiency.

Q And you now estimate a target date of November 1?

A That's not everything, yes. As we have stated before,

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this thing will grow every day, but to be complete is another question and I would say that that must be now November 1.

Well, Mr. Knight, we -- by that I mean all the operators and yourself -- started from scratch on this in March. You estimate target date now of November 1. That's a little less than eight months. In your opinion, do you feel that the progress that has been made in these two pools, when you consider the myriad problems that you and we operators have encountered, do you feel that being as far as we are now and with a completion date by November 1 is a significant conservation achievement?

A I think it's very significant, because at this point we are five and a half months along from the start of negotiations. I have seen many of these things where the negotiations took longer than that. We have completed negotiations, we have put in the majority of the pipe in the ground, and we are actually delivering gas in five and a half months; and I think that's quite an achievement. And then your eight months that you are talking about is a completion date of everything, and that is, I believe, also quite rapid.

MR. SUELL: I believe that's all that we have at this time.

MR. PORTER: Any questions of Mr. Knight?

MR. MORRIS: Yes, sir.

MR. PORTER: Mr. Morris.

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CROSS EXAMINATION

BY MR. ALLEN:

Mr. Knight, you stated that most of the delay that's been caused has been due to the increase in the number of wells that have been brought in in these two pools. After the system that you have is fully installed and completely operative, how long do you think it will take for you to connect new wells that are brought in in these two pools, that might be brought in as normal extensions of the pool?

A In other words, you are talking about a complete new -- not a new well where we already have a battery, you are talking about extending the lines to reach a new battery that's even further away than it is now?

Q Yes, sir.

A I think we should have, from scratch, you've got your survey, permission to survey, of course, depending on which way you are going, whether on Indian lands or Federal lands, and then your permit to construct and your construction. I would think that the very minimum figure there should be sixty days, and would like to have ninety to make any sizeable extensions. If you were just running a few feet, then you might do it in less, but you have quite a lot of paper work that must be cleared before you can actually do anything.

Q Then if you had a normal step-out development, it still might take as much as sixty or ninety days to connect up a new well?

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A I think so.

Q As your facility is presently designed, what is the maximum amount of gas per day that you can handle, or is there a maximum figure?

A There's always a maximum. I would hate to state any certain maximum, because there are always little changes that you can make to increase that, but I would say with ease we should be able to process 30,000,000 plus.

Q I believe at the last hearing of this case Mr. Arnold gave us some figures that indicated there were some over 28,000 mcf per day of gas being flared at that time. Now that figure was some 6,000 mcf per day over the figure that he gave us for the month before. Now if the field continues to be developed at that rate, you are going to be over your 30,000 per day figure pretty fast.

A Yes, I think all of those instances merely necessitate running a higher pressure on our main line, and there also is another tie-in with El Paso up in the Northwest end of Cha Cha that can be made, which will help us if we have to go that way. I think that actually we can keep up with this pool.

Q I believe you stated that you had to abandon your ideas of using six-inch pipe in some places and using eight-inch. Do you think that you'll have to revise your program any more, will you have to increase the size of the pipe as new wells are brought in?



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That was made on the Northwest Total. Actually there isn't any place for anybody else to drill there, unless they jump the river. If they jump the river, the logical place to bring them in is on the Northwest of Cha Cha. I think we are adequate there, and there can be no extensions of the East end of the Northwest system, so we have no problem there; so I think that system is adequate at this point.

Q If development continues in these two pools at the present rate, do you think you can keep up with it?

A We are going to make every effort to.

Q You say November 1st is now your target date?

A For the extensions, completions, everything.

Q You foresee any more uncharted reefs in your course?

A I think not. I think everything is rolling pretty smooth, actually, and certainly there could be more extensions on the Southeast end up there that by the time of November 1 we're still not through, but I think that this system as it's shown here can be through on November 1st, and personally I hope they keep going down there because it's only money that we're after, and all that adds to it in the long run. I hope they keep drilling and go clear down to -- I don't know what's down here, but I'm ready.

DR. MORRIS: Thank you.

MR. MORRIS: We hope it does, too, Mr. Knight. Do you care to make an estimate about how much gas you think you'll be taking into the system by October 1st?



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Q I believe that we could add safely here an average of a half million feet per day for the next thirty days without any problem at all. In other words, by we did you say the end of October?

MR. PORTER: No, sir, I said October 1st.

A October 1st, that's roughly seventeen days. We should have another eight to ten million feet per day going in at that time. I'm being rather conservative in my thinking.

MR. PORTER: Mr. Nutter, did you have a question?

MR. NUTTER: No, sir.

MR. PORTER: Mr. Buell, do you have another question?

REDIRECT EXAMINATION

BY MR. BUELL:

Q I think it's pretty obvious in the record, since you are delivering to El Paso, you did get your F.P.C.'s?

A Yes, I hope so. So's El Paso. Yes, we received that.

MR. BUELL: That's all I have. I would like to formally offer Operators' Exhibits 4 and 5.

MR. PORTER: Any questions concerning the exhibits? The exhibits will be admitted. If no further questions of Mr. Knight, he may be excused.

(Witness excused.)

MR. PORTER: Mr. Buell.

MR. BUELL: May it please the Commission, in view of the substantial progress that I sincerely feel has been shown here



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today in the short interval since the August regular hearing, I would like to move that this case be continued until the regular October hearing. I don't see any reason to embellish the record with statements that we've already put in relative to the marginal nature of the economics of gathering and saving this gas. Actually it can best be described as a conservation effort, strictly for the sake of conservation.

I believe the record is clear that neither the operators or Mr. Knight are going to make any significant amount of money out of saving this casinghead gas. It is simply a conservation effort. In view of the diligence that I feel the operators have shown, as well as the diligence of Mr. Knight in completing these systems, I would like to move for a continuance.

MR. BRATTON: Howard Bratton on behalf of Humble Oil and Refining. We would concur in the motion of Pan American and the statements of Mr. Buell; and on a personal note, I understand that we are going to have the pleasure of being host to this Commission in its October hearing at Roswell, and we would like to have the pleasure of Mr. Knight's company, and all these gentlemen that are interested in this matter. We urge this Commission to continue the matter until the October hearing.

MR. MASON: John Mason, El Paso Natural Gas Products Company. We likewise would like to support Mr. Buell's motion for continuance, and as has been seen from Mr. Knight's testimony this morning, that since overcoming that uncharted financial reef



that he encountered, we are back in July sometime, that he has presented a plan of drilling, and some gas is being moved today. However, Mr. Knight has encountered some very difficult problems and has been faced with these problems and will continue to be faced with them in the next few weeks, I think.

This has been almost an impossible and unprecedented task he has taken on, to try to construct and devise a gathering system in an area that is developing at a rapid pace.

In the past few months, the Commission has exhibited an understanding of the situation, and for that the operators are quite grateful. We would hope that the Commission would continue to recognize that in the Cha Cha and Totah areas we do have an unusual and difficult situation which requires the special consideration which the Commission has been giving it each month, and this month is no exception to that, inasmuch as we're not necessarily looking at the same situation this month as we were looking at last month.

The statements that have been made by Mr. Knight in previous hearings in July and August were not empty promises or predictions on his part, but I'm sure that they were made in good faith in view of the circumstances which were existing at that time.

We feel that the Commission should not base the decision today on the predictions which were made in view of the facts existing back last month. Those conditions have been changed, as

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we have seen from Mr. Knight's testimony, and therefore the decision rendered today with respect to this matter should be made after considering the facts as they exist today.

So we, in view of Mr. Knight's testimony and in view of what I have just said, would also like to urge that Pan American and Mr. Buell's request for a continuance be granted.

MR. PORTER: Does anyone else care to comment on counsel's motion?

MR. SWANSON: Clarence Swanson, Aztec Oil and Gas. We concur in the request for continuance of the case and wish merely to say that we have been delighted with the progress that has been made, and feel that it is significant.

We think that all parties have exhibited exceptional good faith, and the work has really gone better than could be expected in view of the changes. We, too, urge the Commission to consider the application for continuance of this case until the October hearing.

MR. PORTER: The Commission was wondering whether Mr. Bratton was speaking for his client or the Chamber of Commerce?

MR. BRATTON: That's an awkward question, because I have with me Mr. John O'Dell, the attorney for Humble out of Denver. I was speaking for my client.

MR. PORTER: The Commission will continue the case until the regular October hearing.

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STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, ADA DEARNLEY, 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 that the same was reduced to typewritten transcript under my personal supervision, and contains a true and correct record of said proceedings, to the best of my knowledge, skill and ability.

DATED this 20th day of September, 1961, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Ada Dearnley

 NOTARY PUBLIC

My Commission Expires:

June 19, 1963.

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ALBUQUERQUE, NEW MEXICO



BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
AUGUST 16, 1961

IN THE MATTER OF

CASE 2215: 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 the Cha Cha-Gallup and :
Totah-Gallup Oil Pools, San Juan County, New :
Mexico. :

TRANSCRIPT OF HEARING

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ALBUQUERQUE, NEW MEXICO

REPORT OF
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
AUGUST 16, 1961

IN THE MATTER OF

CASE 2215: 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 casing-
head gas from oil wells in the Cha Cha-
Gallup and Totah-Gallup Oil Pools, San Juan
County, New Mexico.

BEFORE:

Edwin L. Rechen
E. S. (Johnny) Walker
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: We will take up next Case 2215.

MR. MORRIS: If the Commission please, the Staff will
have one witness, Mr. Arnold.

MR. BUELL: If the Commission would like to swear all
witnesses at this time, the operators will have one witness, Mr.
Knight.

(Witnesses sworn)

E. G. ARNOLD,

called as a witness, having been first duly sworn on oath, testi-
fied as follows:



DIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Arnold, would you please state your full name and position, for the record, please?

A E. C. Arnold, Supervisor of District 3, Oil Conservation Commission.

Q Mr. Arnold, you've testified in the previous hearings of this case, have you not?

A Yes, sir.

Q Do you have a statement prepared today reporting the gas vented as of August 1st, 1961 from the Cha Cha and Totah Pools in San Juan County, New Mexico?

A Yes.

Q Would you give us that statement, please?

A Prior to the July hearing, it was determined that there was an average of 262 MCF per day, per well, being produced by wells in the Cha Cha-Gallup Pool. As of August 1st, there were 73 wells producing, so I have calculated the volume as of August 1st to be 73 times 262, or 19,126 MCF per day. In the Totah Pool, the average amount of gas per well, per day, was 157 MCF per day. The new ratios were conducted in June and July, and I have calculated a new volume based upon the GOR tests of the 42 wells upon which we had tests. I found that the average in the Totah Pool freeze tests is 221 MCF per day. As of August 1st, there were 50 wells producing in the Totah Pool. Therefore, the total

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gas produced was 40 times 221, or 11,060 MCF per day. This gives a total figure of 30,156 MCF per day from the two Pools. Approximately 1500 MCF per day of this gas is being marketed. Therefore, the total gas vented as of August 1st was 28,636 MCF per day. This is approximately 6,000 MCF per day higher than the amount reported at the July hearing.

MR. MORRIS: If the Commission please, Mr. Arnold is also prepared to give the total oil production during the month of May, 1961, from both Pools, if it would desire that information.

MR. PORTER: I believe that the Commission would like to hear that information. We had it in the record at the last hearing, the figures as of that date.

Q That's, the May, 1961 production in the Cha Cha Pool was 273,248 barrels. This was a per day production of 8,814 barrels. In the Totah Pool, the May production was 175,566. This was a per day production of 5663. Total May production, both pools, was 448,814 barrels, which was a per day production from both Pools of 14,477 barrels.

Q Mr. Arnold, do you have anything further that you would like to state at this time with reference to the case that the Commission is considering at this time?

A No, sir, I don't believe so. I think the operators are prepared to give a progress report. I have visited the field and do know that the pipeline is under construction. I imagine



they can give a more accurate account of just how much has been done.

MR. MORRIS: That concludes the examination of Mr. Arnold.

MR. PORTER: Does anyone have any questions of Mr. Arnold? He may be excused.

(Witness excused)

MR. BUELL: May it please the Commission, Guy Buell with Pan American Petroleum Corporation. The operators have requested that I put Mr. Knight on the stand to let him review for the Commission the progress he has made since the July regular hearing.

DEAN KNIGHT,

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

DIRECT EXAMINATION

BY MR. BUELL:

Q Mr. Knight, would you state, for the record, please, your full name and place of residence?

A My name is Dean Knight, and I am from Tulsa, Oklahoma.

Q What is your connection with the Knight Manufacturing Company?

A I am president of that organization.

Q Now, the record of the July regular hearing will reflect that you briefly reviewed for the Commission your financial



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situation with respect to installing the gathering system in these two pools. I would like to direct your attention, now, Mr. Knight, to what has been marked as Operator's Exhibit 3. What does that Exhibit reflect?

A That is a map of our Cha Cha system, which was the same map that we used last time. However, this red line, we would like to point out -- well, anyway, the red line is what is done. This much pipe is on the ground, or in the ground, welded up, tested, and about ready to operate. In other words, if everything else was done, we would be in very good shape here.

Q Would it be a fair summary, Mr. Knight, to state that the solid red lines on Exhibit 3 are that portion of the Cha Cha system that are virtually complete?

A This is virtually complete, all except the minor job of hooking up the ends of it. In other words, actually hooking into Pan American's tank battery here (indicating) and here, and someone else here, et cetera. This line (indicating) is in the ground up to this point, now (indicating). Now, just the day before yesterday we finally got permission from the Indians to go on their ground, and since that day we have laid this much line complete (indicating). We have cut right away to this point up till last night (indicating). Now, today, the report I get from our field up there, that the right of way is now cut complete to this point (indicating), and that this pipeline has all been strung or is being strung, and will be finished today, and that the



welded line will be up in the middle of this section (indicating) somewhere before dark tonight. They're making rapid progress.

Q So the record will reflect, when you were speaking of the right of way, that had already been cleared, as reflected on this Exhibit, you were referring to the alternate red and white line, were you not?

A Yes. That is the right of way that was cleared just yesterday. They made that much progress just yesterday in one day, from the time we got the word to go from the Navajos.

Q You were delayed in getting your right of way approval from the Navajos. Was your application misplaced or mislaid, or something?

A Yes. It was slightly misplaced. We sent a bond out and went to the Legal Department, and they put it on their desk, and they wondered what it was supposed to be, and they let it stay there for a week until they found it. We finally dug it out and got it over to the Land Department and immediately got our right of way.

Q That has been cleared away and invaded the Navajo Reservation yesterday?

A Yes, sir. If we had gotten it out of the hands of the Legal Department, we would have had it a week ago.

Q The progress as depicted by the red, is that progress that had occurred up until yesterday afternoon, is that correct?

A Yes. This all happened up until yesterday afternoon.

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Then, I pointed out what had happened today, the rapidity with which we're going. These green dots that are hard to see are the compressor sites that have been cleared, and are ready to start pouring concrete on those for the compressor stations.

Q How many compressors do you now have on the site in Farmington?

A Roughly, ten percent in Farmington, and another ten percent are supposed to be shipped this week, which will make us about twenty percent on location at that time.

Q Has the location been cleared in the field for these compressors?

A Yes, it is cleared.

Q Are they permanent mount or skid mount type?

A The compressors are skid mounted. All that we will do in the field is pour a small concrete pad under each one, and make our piping hook-up, which is about a day's work for three men total.

Q Now, with respect to where we expect to be by quitting time this afternoon, could you pick a spot on that Exhibit 3 so that the record will reflect where you expect to be this afternoon?

A The right of way will be to the toe of the bluff, which is marked 86 plus 50. The top of the bluff, which is marked 91 plus 42. They expect to clear to the top of the bluff.

Q Clearing of right of way by this afternoon?



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A Correct. The ditching, then, is supposed to be up in the middle of 36, roughly, at 76½ plus zero zero.

Q In other words, by this afternoon you will have ditched some pipe in that area of the Exhibit that was only cleared right of way last night?

A That is correct.

Q With respect to the system in Totah, Mr. Knight, what is the status of your progress there?

A The system in Totah, the right of way has been completed, which I believe was quite rough, but it has all been done, and we have completed about 4,000 feet of ditch. They are to start stringing pipe on that tomorrow or next day, as soon as they have finished this.

Q Assuming no abnormal weather problems are encountered in the immediate future, how long do you think it will be before in all practical effect the Totah system will be virtually complete?

A I can only quote our pipeline contractor there, the Four-Way Company, and he says that it will be less than seven working days to be complete.

Q Of course, there will still be other things to do?

A Oh, many things.

Q But it will still be virtually complete?

A Yes, but that is the main heart of the thing.

Q Has anything occurred in the month's interim that has



changed your target date from one hundred percent completion of October 31.

Q. Later still, thinking that we will be on stream in full October .

Q. Based on the progress you have made to date and have testified to here, you feel that you can meet that target date?

A. Yes, I do.

It might be well to state, for the record, Mr. Knight, your progress with the Federal Power Commission. Have you made your filing with the Federal Power Commission?

A. The Federal Power Commission filing was made three weeks ago. It was carried by hand to Washington, D. C. by our attorney, and supposedly put on top of the stack.

Q. Have your people handling that given you an estimate of when they expect approval?

A. I talked to Mr. Gibson, our attorney, and he gave me a date of ten days, he thought.

Q. In an effort to expedite Federal Power Commission handling of your case, has your attorney made them aware of the hearings this Commission is holding on these two pools?

A. Yes. He obtained a copy of the hearings, and had that forwarded to Washington.

Q. By a "copy of the hearings," you mean the docket sheet of the Commission?

A. Yes, I mean that would be the technical word.

Q. He anticipates no trouble in getting the app



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Q We anticipate no trouble in getting the approval?

A No.

Q Assuming that you had Federal Power Commission's approval, -- now, let me direct your attention again back to Exhibit 3. Could you begin taking gas in the very near future from some of those batteries there in the southern area of Cha Cha?

A This is to be our main station right here (indicating). Now, this pipeline within a couple or three days could be made operative from this point here (indicating) where it crosses the Navajo land to this end here (indicating). Answering your question more directly, I would say that if we had Federal Power Commission's approval, that within five to seven days we could be passing some gas, only a minor quantity, but some.

Q But immediately after you get Federal Power Commission's approval, you are going to take gas as quickly as you can?

A Yes.

Q And you will take it by increments along your system?

A Yes.

Q And you will shake it down and get it all in operating order?

A Yes.

Q Do you have anything else you would like to add?

A I think not.

MR. BUELL: That's all we have at this time. May we formally offer Operator's Exhibit 3?



MR. PORTER: Without objection, the Exhibit will be admitted.

(Whereupon, Operator's Exhibit No. 3 was received in evidence)

MR. PORTER: Does anyone have a question of Mr. Knight?
Mr. Nutter.

CROSS-EXAMINATION

BY MR. NUTTER:

Q Mr. Knight, you stated that ten percent of the compressors are on hand in Farmington, --

A That is correct.

Q -- and ten percent will be shipped next week?

A Actually, I think they will be ready this week. However a couple are over wide and they will leave our office Monday.

Q Are those the compressors that you mentioned last Monday were on hand in Tulsa in your yards?

A Those are completed now, and ready to come out.

Q When is the delivery date for the other eighty percent of the compressors scheduled?

A Day by day. In other words, they are being completed every day or so; we get a truck load of them, and we ship them, or two truck loads.

Q When will the last ten percent come, in the latter part of September so you can be complete by October 1st?

A Yes, that is our date on that.

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Q By September the 1st, what would you estimate will be the total percent of this 23,000 MCF of gas that Mr. Arnold mentioned is being produced or vented per day? What percent of that gas will be transported in this pipeline to a gasoline plant by September 1st?

A That's fifteen days from today --

Q Yes. Approximately?

A -- or fourteen. That's rather difficult to answer, Mr. Wutter, because I don't have my Federal Power Commission approval. There are certain things I can't do until I get it. If we do have it, we should be processing around six to seven million feet a day.

Q Then, approximately how much by September the 15th with your delivery schedule for compressors?

A I don't have that figure at hand. I would have to sit down and try to work out my schedule of deliveries, and then see what each one would do. I haven't gone into that calculation at this moment.

Q Now, the total number of compressors you were talking about was Cha Cha as well as Totah?

A That is correct.

Q Now, the twenty percent that you have on hand, now, are for the Cha Cha area here?

A No. They will go into both fields. We are going to try to process gas in both fields simultaneously. More units will go into Cha Cha, of course, because it is larger, but there will be



gas taken from both fields, which seems to be the only fair way to do it.

Q At the present time you have no schedule of the amount of gas that will be processed at various times, except approximately six million by September 1st, and the full amount by October the 1st?

A That is correct.

MR. NUTTER: Thank you.

MR. PORTER: Anyone else have a question of Mr. Knight?

The witness may be excused.

(Witness excused)

MR. PORTER: Anyone else desire to present testimony here? Mr. Buell, did you have anything further?

MR. BUELL: May it please the Commission, in view of the substantial progress that Mr. Knight has made to date with this gathering system in Cha Cha as well as in Totah, I would like, on behalf of Pan American, to move that the Commission continue this case until the September regular hearing. I feel by then, and as Mr. Knight has testified here today, we, the operator, Mr. Knight, as well as the Commission, will be in a better position then to see the exact progress, the amount of gas we are able to take at that time, and on behalf of Pan American, I would like to move to continue this case until the September regular hearing.

MR. PORTER: Mr. Christy.

MR. CHRISTY: Sir Christy for Noble Oil & Refining

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Company, one of the operators in the pools in question. I might state initially in the July hearing Humble stated that informal reports of progress would be given to the Oil Conservation Commission's Farmington office every ten days to two weeks. Three of these reports were made between July 19th and August 2nd, and today's testimony is offered as the fourth progress report.

We believe that continued progress will be made by the contractor, and we believe that progress has been shown here today. There have been some minor delays, but steady and accelerated progress is being made here at this time, and we anticipate it to continue.

We recognize that the Commission -- the loss of this gas must weigh on the Commission's mind. However, and as Mr. Buell pointed out, in the July hearing, this Commission's duty is to prevent allowable waste, both for oil and for gas, and it should be remembered that we are here dealing with a marginal gas producing area within a major oil producing area. Any consideration as to the economics or as to avoiding allowable waste should be measured against -- the saving of the gas should be measured against the loss of taxable revenue by shutting in this field, which comprises some thirty-five to forty percent of all oil produced in Northwest New Mexico, plus the additional risk of loss of the West Coast market, which was mentioned in the July presentation hearing. Therefore, Humble would join in Pan American's request, and action that the case be continued to the September hearing, at which time we believe

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that the red line will be substantially further on the Operator's Exhibit 3. Thank you.

MR. PORTER: Mr. Mason.

MR. MASON: John Mason, El Paso Natural Gas Products Company. We wish to join in the motion made by Pan American, and by Humble's statement in support of that motion that the hearing be continued until the September hearing. We, too, feel that at that time the more up-to-date progress report will show the Commission better as to how much gas is being taken at that time, and then we will be able to predict with more reasonable accuracy when the balance of the gas will be taken, and can, from that information, better determine what effect a no-flare order, possibly no-flare order may have upon the oil production and Northwest market situation. We urge that the hearing be continued for another thirty days, until the September hearing.

MR. PORTER: Anyone else have anything to say concerning Mr. Buell's motion? The Commission has decided to continue the case until the regular September hearing, Mr. Buell.

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STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter, 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 machine shorthand and reduced to typewritten transcript under by personal supervision, 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 23rd day of August, 1961, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Ada Dearnley
 NOTARY PUBLIC

My Commission expires:

June 19, 1963

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ALBUQUERQUE, NEW MEXICO



BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 13, 1961

IN THE MATTER OF:

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 the
Cha Cha-Gallup and Totah-Gallup Oil
Pools, San Juan County, New Mexico.

CASE 2215

TRANSCRIPT OF HEARING

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ALBUQUERQUE, NEW MEXICO



BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 13, 1961

IN THE MATTER OF:)
)
In the matter of the hearing called by)
the Oil Conservation Commission on its)
own motion to consider the promulgation) CASE 2215
of an order prohibiting the flaring of)
casinghead gas from oil wells in the)
Cha Cha-Gallup and Totah-Gallup Oil)
Pools, San Juan County, New Mexico.)

BEFORE: Honorable Edwin L. Mechem
Mr. A. L. (Pete) Porter
Mr. E. S. (Johnny) Walker

TRANSCRIPT OF HEARING

MR. PORTER: We will take up next Case 2215.

MR. MORRIS: 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 the Cha Cha-Gallup and Totah-Gallup Oil
Pools, San Juan County, New Mexico.

MR. PORTER: This is a case which was continued from the
May regular hearing to this date. In May we had Mr. Arnold of the
Commission Staff bring us up-to-date as to the amounts of gas being
flared from the two pools under consideration. We also asked
Mr. Arnold to give us that same information at this time, and ask
him to stand and be sworn.

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(Witness sworn.)

MR. MORRIS: At the outset, Mr. Commissioner, I would like to offer the record at the hearing held May 17, 1961 in Case 2215 as part of the record of the proceeding today, inasmuch as I do not intend to ask Mr. Arnold to repeat the cumulative totals that were presented in that hearing.

MR. PORTER: The record of the May hearing will be included as far as this hearing, Case 2215.

E. C. ARNOLD

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

DIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Arnold, will you state your full name and position, please.

A E. C. Arnold, supervisor, District 3 of the Oil Conservation Commission.

Q Mr. Arnold, did you testify in Case 2215 at both the March and the May hearings of the Commission concerning the flaring of casinghead gas in the Totah and Cha Cha-Gallup Oil Pools?

A Yes, I did.

Q Mr. Arnold, I won't ask you to review your previous testimony, but if you will state for the record, first in the Cha Cha-Gallup Oil Pool, how many producing wells were producing

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as of July 1st, 1961.

A In the Cha Cha Pool, 67 wells were producing as of July the 1st.

Q What was the total production of gas per day from these 67 producing wells in the Cha Cha?

A 17,523 MCF per day.

Q Would you explain to the Commission how you arrived at this figure as the total production?

A Yes, new gas-oil ratio tests were conducted in the Cha Cha Pool in May of 1961 and these tests went into effect July 1st. I used these new gas-oil ratio tests to calculate the total gas available on 63 of the wells on which we had tests. Actually, we had four wells on which we didn't have tests.

Q How did you arrive at the production from those other four wells?

A Well, from the 63 wells I determined that we had 16,475 MCF per day. This was an average of 262 MCF per well per day. So, I used this average for the four wells on which tests weren't available. This gave me a total of 1,048 MCF per day, which was added to the 16,475 from the 63.

Q Giving you a total of 17,523 MCF per day for the Cha Cha?

A Right.

Q Now, in the Totah-Gallup Oil Pool, Mr. Arnold, how many



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producing wells were there in that pool as of July 1st, 1961?

A Forty-three.

Q What was the total daily pool production from those 43 wells?

A 6751 MCF per day.

Q How did you arrive at that figure as the total daily pool production?

A I used the 33 wells on which we had gas-oil ratio tests. These weren't, however, 1961 annual tests, because they will not be available for another thirty days. Actually, the gas-oil ratio tests used, which are the tests in effect in the July oil schedule, are probably incorrect. I imagine that the ratios have increased.

But, using those old tests, 33 wells having tests, calculated to have available 5181 MCF per day. This is an average of 157 MCF per day. So, I've used 157 MCF as the average figure for the ten wells on which we didn't have tests. This gives an additional 1570 MCF per day. So, that the total is 6,751.

Q You would say that total, Mr. Arnold, is probably a conservative estimate as to the amount of daily production in the Totah?

A Yes, because of the fact that the tests used were last year's tests.

Q Have you totaled the daily production for both the



Cha Cha and the Totah-Gallup Oil Pool?

A Yes, sir, that figure is 24,274 MCF per day.

Q Mr. Arnold, of this 24,274 MCF per day that's being produced in both of these pools, is any amount of this being put to beneficial use?

A Yes, approximately 1500 MCF per day is being gathered on the Benson-Montin Jones lease in the Cha Cha Pool.

Q Is there any other beneficial use being made at the present time?

A Not that I'm aware of, no.

Q What disposition, Mr. Arnold, is being made of the remainder of the gas being produced in these two pools?

A It's being vented.

Q Approximately how much per day is being vented from these two pools?

A 22,750 MCF per day.

Q Mr. Arnold, at the May hearing of this case there was testimony that Mr. Knight had a project under way to install a gathering system for this gas. Do you have knowledge of the progress of this Knight project?

A I understand that Mr. Knight encountered some difficulties and was delayed, so that the construction of the facilities hasn't gone according to plan. However, I also understand that he has overcome the difficulties and that they do



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intend to start construction of gathering facilities next week.

Q To your knowledge, Mr. Arnold, no gas is being gathered from Mr. Knight's project at the present time?

A No, sir, no pipe has been laid in the field at this time.

Q Mr. Arnold, if the Commission should see fit in this case to issue a no-flare order, would you recommend that some wells in these two pools be given exception to the order?

A Yes.

Q Under what conditions?

A Well, the usual conditions in cases where it's not economically feasible to gather the gas from particular wells or leases.

Q Also would you exempt new wells?

A Well, I would give new wells a ninety-day period in which to secure a gas connection.

Q Do you have anything further you would like to offer, Mr. Arnold?

A No, sir, I don't believe so.

MR. MORRIS: That concludes the direct examination of this witness, Mr. Commissioner.

MR. PORTER: Does anyone have any questions of Mr. Arnold on cross examination? Mr. Nutter.

CROSS EXAMINATION

BY MR. NUTTER:



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Q Is there any general similarity to the reservoirs as far as the Totah and the Cha Cha are concerned?

A Yes, sir, they're very similar.

Q I note that you have an average gas producing rate of 262 MCF in the Cha Cha and a hundred fifty-seven on the Totah. Would that difference, since the reservoirs are similar, be due to the fact that the tests in the Cha Cha are more recent than the tests in the Totah?

A I believe that's the case, yes. I have noticed that the Cha Cha ratios in many cases have about doubled since the 1960 gas-oil ratio tests.

Q The gas-oil ratios of some of the wells have doubled in the last year, is that correct?

A That's right.

Q Do you anticipate that there would be any decrease in the gas-oil ratios in this pool in the near future?

A I wouldn't anticipate it on the basis of anything I know at the moment.

Q Would you expect that the ratios in the Totah, if they were run today, or new tests that will be presented in the next month or so, will they indicate higher ratios in all probability than the 157 MCF per day average?

A I would certainly think they would, yes.

Q Would it be your opinion that if the 24,274 MCF per



day which is being produced from the two pools at the present time, if that figure is correct, would more gas than that be being produced, say ninety days from now?

A You ask this question without taking into consideration new development, you mean on the wells?

Q No, I'm talking about the wells that are completed at this time. If the 24,000 were correct today, would you expect that ninety days from now more gas would be produced?

A Yes, I believe I would expect that.

MR. NUTTER: Thank you.

MR. PORTER: Does anyone else have any questions of the witness?

BY MR. PORTER:

Q Mr. Arnold, do you have the figures on the oil production from these two pools?

A No, sir, I don't have. I believe it's probably in the neighborhood of thirteen or fourteen thousand barrels a day.

Q I notice the allowable is in excess of 15,000 for the two pools. You are probably close to right. However, I will ask you when you've concluded your testimony to get those figures for us from the latest tabulation for the month of May.

A All right.

Q You can get that from the monthly report.

MR. PORTER: Does anyone else have any questions?

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The witness may be excused.

(Witness excused.)

MR. PORTER: Anyone else desire to present testimony?

MR. BUELL: May it please the Commission, Guy Buell for Pan American Petroleum Corporation. We operators in these two pools in the past have pointed out to the Commission our efforts in attempting to gather and save and put this casinghead gas from these two pools to a beneficial use. We feel that the record will reflect that our efforts have been diligent.

We have also pointed out to the Commission several complicated factors in these two pools that have made our assignment, our job, considerably difficult. The primary complicating factor has been the submarginal economic nature of gathering and saving this gas. That has been a big hurdle.

Another complicating factor, and a highly complicating one, it's a mechanical one, an engineering one, one that we operators and Mr. Knight have had to deal with, is that in these two pools it is extremely unusual in that the operators are making an effort to gather and save the casinghead gas prior to complete development of the pools.

I'm sure if the Commission will recall any pools that they've looked at from the standpoint of saving casinghead gas, the pools have been substantially developed. Here, as has been reported to the Commission, development is going on at a highly rapid pace.

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That makes engineering system extremely difficult. Actually, in a sense of the word, in attempting to save the gas in these two pools we're a lot like Columbus in that we are sailing an uncharted sea and, of course, when you sail an uncharted sea, every now and then you hit a reef.

Well, we hit our reef, as Mr. Arnold mentioned, Mr. Knight encountered some difficulty. We advised the Commission about it, and honestly, in good faith, that we felt by July 1 that we would have some wells connected and be making substantial progress to physically handling the gas.

Unfortunately, as Mr. Arnold has testified, that is not the case. With the Commission's indulgence, we would like to present Mr. Knight as a witness so that he can relate for the record the reef that he hit sailing this uncharted sea.

MR. PORTER: The Commission will be interested in hearing Mr. Knight.

(Witness sworn.)

DEAN B. KNIGHT

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

DIRECT EXAMINATION

BY MR. BUELL:

Q Mr. Knight, while Mr. King is putting one of your exhibits on the board, I will ask you to state your full name and



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your place of residence for the record, please.

A My name is Dean B. Knight. I live in Tulsa, Oklahoma.

Q What is your position with the Knight Manufacturing Company?

A I am president of that firm.

Q I believe the record reflects that you are to be the gatherer of the casinghead gas in both the Cha Cha and the Totah-Gallup Pools, is that correct?

A That is correct.

Q Have you in your possession executed contracts from about what percent of the operators in each pool, do you recall off-hand?

A About 92% in Totah, it's roughly 92% in both fields.

Q That percent of committed operators to your system is more than enough for you to go forward with a fieldwide gathering system in both pools?

A Yes, it is.

Q What disposition have you planned to make of the gas once you gather it?

A We are selling that gas through three different connections to El Paso Natural.

Q Do you feel that your arrangement with El Paso is now firm?

A Our arrangement with El Paso is firm, yes.

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Q You were in the room, so I'm sure you are aware of the fact that we had advised the Commission at the May hearing that we expected to have some wells connected by July 1. You've also heard testimony to the effect that such has not happened. Why haven't we some wells connected at this time, Mr. Knight?

A Well, I hit that uncharted reef we were talking about and it had a great big dollar sign on it. When we wrote this contract with Pan American, when Pan American and I worked out the original contract in the Cha Cha Field, we wrote what we thought was a negotiable instrument so that it could be financed by some financing house.

Apparently we knew more about the gas business than we did the financial world, because when we took it to a bank they took a look at it and said "Mr. Knight, your contract only will return about one dollar for each dollar you spend, and that is not good enough for this type of an organization. You should have at least two or two and a half times cash flow over what you have expended."

So, then, we took it to what we would call a leasing house where you build a facility, they buy it from you and lease it back to you. We had a firm verbal commitment from a house in Boston when I was here for that May hearing. We then went ahead very rapidly, we stacked up pipe, we stacked up compressors, engines and other component pieces.

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Along the first part of June we received a very uncerimonious letter which stated they were withdrawing their commitment.

Q Mr. Knight, let me interrupt here. At the time of the May hearing did you have any reason to doubt the verbal commitment for financing that you had?

A None whatsoever.

Q All right. Go right ahead, what happened in June?

A We received this letter which cancelled their verbal commitment. We immediately, then, went to a couple of more houses and we called two of the firms involved and told them we were having difficulty and from that, then, the Pan American set up a meeting for Friday, June 30, I believe it was, in which we were all to sit down and discuss the possibilities of the oil companies putting up the money and we would go forth with it from there.

However, that meeting did not take place in that we received another commitment from a New York house, from Los Angeles, rather, I should say, through a New York house, committing them to buy this property from us and leasing it back.

We have gone forward from there at that point. I have that letter, or I believe you have a copy of that letter.

Q You now have your commitment in writing, do you not, Mr. Knight?

A Yes, we have it in writing this time.

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(Whereupon, Operator's Exhibit No. 1 was marked for identification.)

Q Mr. Knight, I now hand you a copy of what has been marked as Operator's Exhibit No. 1. What is that exhibit?

A Oh, this is the letter of commitment from Phoenix Enterprises of Beverly Hills, California, agreeing to purchase and lease this facility back to us in the Totah and Cha Cha Fields.

Q Mr. Knight, I notice that that commitment letter was dated July 6. When did you receive that?

A I received that letter Tuesday afternoon of this week, which would be the 11th, I believe.

Q Mr. Knight, now that our financial reef has been overcome, where do you stand now, what are your immediate plans?

A My immediate plans are to leave here this afternoon for the field at Farmington. We have a couple of meetings scheduled with pipeline contractors which we will make a deal with, one of them or two of them to start construction of this line. The pipe is all stored at either Fontana, California or Valley, Nebraska. That pipe will be shipped Monday.

Q Do you have any pipe on the ground in Farmington at this time?

A There's a mile of ten inch on the ground at Farmington now. It's stored, however, in a truck yard. We, at the moment,

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have run up about six hundred dollars in storage charges on pipe, so we know the pipe is there. That is in both places.

Q When would you anticipate that you will let your contract for the picking up, ditching of your gathering system?

A I plan to do that either this afternoon or tomorrow.

Q Immediately after that you intend to release the pipe for delivery, I'm speaking of the pipe now that's in California and Nebraska?

A Yes, we'll probably release that pipe tomorrow. However, it can not be shipped until Monday because of truck regulations over the week ends on highways. It actually should arrive in Farmington on Wednesday or Thursday.

Q Mr. Knight, assuming the normal delays that you encounter in installing a system of this type, when would you anticipate that you would have the majority of the wells in both pools connected to your system?

A We will have those wells connected probably by August 15. Now, this does not mean that we will be compressing the gas from all of those wells, but the line will be laid to the tank batteries, the tank batteries will be hooked up and they would be ready to process the gas. Then, of course, we have to add the compressors to this system.

Q What date would you feel, Mr. Knight, would you not only have your wells connected but you would have sufficient

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of your compressors installed such that you would be physically taking into the system most of the casinghead gas produced?

A Most of the casinghead gas? That is a majority of it?

Q Majority, yes, sir.

A We should have that by, oh, the first week in September. We should be rolling then.

Q Would you think, then, by October 1 of this year you should have your system shaken down, I don't know if that is the proper term that you gatherers use or not, most of the bugs worked out of it by October 1?

A Yes, I feel that we should be operating in good order by October 1.

Q I'll direct your attention now to what I'll have marked as Operator's Exhibit 2, the plat on the board there.

(Whereupon, Operator's Exhibit No. 2 was marked for identification.)

Q What is that exhibit?

A That is our certified survey from Scanlan Engineering of the Cha Cha Field system, which extends for quite some number of miles, eleven miles of it. It starts in the center here with ten inch pipe. Our delivery point will be in the East Half of Section 16, that's our final delivery to El Paso, whose line runs north-south through here.

Our central compressor station will sit here. This system



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is a little bit unusual for the average compressing system. Normally you would find all your compressors sitting here, your line would extend out like spider webs or feet or something, and you would field all the gas into here. This system economically would not stand for that. If we had done that we would have spent somewhere close to a million dollars in the fields. There isn't that much gas there. We had to change the thing completely around, there will be from 35 to 45 different compressors set in the two fields.

The other one, of course, is right here. We'll have a small central station here at every well head, every battery there will be another one, two or three compressors handling the gas from this system into the main line. The operators are holding approximately 40 to 20 pounds pressure on the tank batteries. We are picking up the pressure at that and boosting it to one hundred pounds through the entire system, which still requires the use of eight or ten inch line.

Had we used the conventional, we would have been looking at 6, 8, 10, 20 and even 24 inch line. If the line were long enough, if this were a five-year or ten-year project, well, to start with, I would never have seen the deal and secondly, it would stand that kind of pipe. This one it will not do that, and it must be done in this manner to actually come out with as many dollars income as you spent, which we will all like to do to at



least break even.

You say, "Why did you do it?" I'm taking this whole project, frankly, I will not make any money, it is cut that close, but out of the operation I do hope to break even. My money will come from being able in a few years to salvage the compressor and the line and using the compressors in different jobs over the country as rental units, that is my profit from this project in its entirety.

Q Now, Mr. Knight, Exhibit 2 shows your design for the system in Cha Cha. Is your system in Totah similar to the Cha Cha system?

A Similar only in certain ways. The Cha Cha system is cut into two pieces. There's one part of it along in here approximately, it looks like a horseshoe, and then there's another small system up here.

If you remember the Totah Field, I guess right on the edge of the cliff, or what do you call it in New Mexico? In Oklahoma we call it the cliff, it breaks and so forth through this field. It looks like we are going to lay almost as much line vertically as we do horizontally. It's a tough one to handle. They didn't show consideration of us when they drilled the wells. They didn't drill them on the flats where we could get to them.

This field, of course, is almost flat with only one cliff ~~crossing right here.~~ This one is a tough one, particularly for

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us flatlanders, to handle.

MR. BUELL: I believe that is all we have at this time. I would like to formally offer Operator's Exhibits 1 and 2, inclusive.

(Whereupon, Operator's Exhibits 1 and 2 were offered in evidence.)

MR. PORTER: Without objection the exhibits will be admitted.

(Whereupon, Operator's Exhibits 1 and 2 were admitted in evidence.)

MR. PORTER: Mr. Buell, when you were describing your trouble, the Chairman of the Commission suggested that you have a navigators license.

MR. BUELL: He has one, but it's a little tattered and torn right now.

CROSS EXAMINATION

BY MR. PORTER:

Q Mr. Knight, your Exhibit No. 1, which is a letter from Phoenix Enterprises, Inc. in which they have promised certain funds if certain conditions are met, I notice those conditions are listed under A and B, B has four parts. Would you explain what effort has been made to meet those conditions up to now?

A Shall we take them in order?

Q Yes, please.

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A A, now, I think is very easily explained in that that is the way they are going to pay me for installing this plant. They do not wish to have me go out there, spend the money and end up with the plant half done, so they have tied my hands to a certain extent, that they will pay me nothing until we are passing some gas to El Paso.

At that point all the work I have done is immediately payable. As we add compressors to the system, they will pay for those. That is what paragraph A says.

Now B, under one, contract, a gas purchase contract executed by El Paso for the purchase of gas gathered and compressed from the above-named fields. That lays in my attorney's office in Tulsa. It has my signature ready to return to El Paso.

It has one change in one point of delivery in the Totah Field. It's the moving of a line by a few hundred feet.

Paragraph two, contracts executed with the producers of the field representing a minimum of 80%. That has been done in its total, we are at the 92-94%. Equipment leased between Phoenix Enterprises and Knight Manufacturing has been done. Notice of assignment of runs from El Paso, that will be done just as quickly as we get the forms back from them and it is an assignable contract which it is very simple to do. All we would need is their contract back.

Q As soon as you get it back from El Paso?



A Yes, it will be assigned to these people and we will have everything completed.

MR. PORTER: Does anyone else have a question?

MR. MORRIS: Yes, sir.

MR. PORTER: Mr. Morris.

BY MR. MORRIS:

Q Mr. Knight, on a sale and lease-back arrangement such as you have worked out with Phoenix Enterprises, are you going to be the owner of the properties when the operation is completed or will Phoenix Enterprises be the owner?

A Actually, Phoenix Enterprises will own this equipment. We have the prerogative for leasing it for so long as we wish, or usually there is, and there is in this contract, hope there are no Internal Revenue men here, to be able to buy this thing at a figure some time.

Q Then it would be possible for you to obtain your profit from salvage?

A Yes.

Q Even though you wouldn't actually end up possibly as the owner of the property?

A Yes, that is true.

Q Now, Mr. Knight, I believe it's been stated here today that the overall economic picture is pretty bad in these two ~~poles at the present time.~~ Do you believe that that picture is

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going to get any better as more reserves are produced and more gas is vented?

A Yes, that is bound to improve by the increasing of reserves and drilling of new wells, which they are rapidly doing.

Q The drilling of new wells possibly will increase the overall economic picture, but certainly the production of reserves and the venting of gas at the present time is not going to enable you to recover that portion of the reserves that are already gone?

A No, that portion of the gas that is vented every day is certainly gone. However, my particular contract, the oil companies have guaranteed me a certain amount of gas to process.

Q So you'll come out on it?

A Yes.

Q But possibly it will hurt the amount they might have to indemnify you?

A Yes, I am covered, but not quite sufficiently enough to go to a bank with the thing.

Q I don't believe you ever gave us the name of the firm that gave and withdrew their verbal commitment.

A The name of that firm was Seaboard Leasing Company.

Q Where do they have their home office?

A Boston, Massachusetts.

Q What was the date of the letter, Mr. Knight that

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revoked their financial commitment?

A I am sorry, I didn't bring it with me.

Q Do you have any idea when it might have been?

A The first part of June.

Q The first part of June?

A Yes.

Q I believe you stated that you had a meeting set up with the operators to talk about possible finances, and that was June the 30th?

A That is correct.

Q Had any thought been given to an earlier meeting of the operators soon after you received your revocation, so to speak?

A Yes. Yes, there was. We were talking back and forth almost daily. We had another firm that was looking at this thing and it looked like it would develop any day and we were sitting on pins and needles waiting for a commitment, and then when it didn't look like it was going to come through in good order, why Pan American gave the notice for a hearing which they gave a week's notice on it, so, actually, that meeting notice was issued about the 22nd or 23rd of June for the June 30 meeting, so everybody could plan to be there.

There was no time wasted as such. Things like this seem to always take a little more time than you think they are going to at the moment, and things are developing, you are expecting

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them to develop, and like I said, I believe it was on the 27th actually, the 28th, that we actually did get this other commitment. Just a couple of days before the meeting. Then here I finally get it in writing on the 6th of July.

Q Were the operators notified of your difficulties both, well, with Seaboard and with the other people that you were in contact with, all along in the process of your negotiations?

A We didn't know we had difficulties until we got this revocation and then they were notified of it.

Q They were notified?

A Yes.

Q Did the operators at any time offer you financial assistance in your project?

A As such, for me to go ahead with it, no, and yet they sat down and said "We will work out something. We are going to do it and we will work out something if you can't work it out, but we would like for you to, it has been your job, it's assigned to you with contracts, and if you can't do it, then we will."

MR. MORRIS: Thank you.

MR. PORTER: Mr. Nutter.

BY MR. NUTTER:

Q Mr. Knight, you stated that you had some pipe on hand in Farmington and you also had some coming from California and from Nebraska?

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A Yes.

Q Has that pipe been fabricated to date?

A Yes, I'm paying storage charges on it.

Q I'm not talking about the pipe in Farmington.

A I am not either. I am talking about the pipe at the factory.

Q The pipe at Farmington?

A You mean at Fontana.

Q Fontana, and Nebraska.

Q Yes, and I am paying storage on it.

Q It's ready to ship on notice?

A Yes, it is.

Q You stated that you would have the pipe installed and the wells connected by August 15. Now, will any gas flow into the El Paso's system without compression?

A No, the average separator pressure is about 25 to 40 pounds. El Paso is holding 250 on their lines. It will take compression for every foot of it.

Q How many compressors do you anticipate installing for the --

A The final installation will have between 35 and 45 compressors.

Q What kind of delivery commitments do you have for the compressors?



A Well, we have, during the month of July and the first part of August, we have about 30 units committed for delivery.

Q How many in July?

A I can't tell you exactly. I have about ten sitting in Tulsa at the moment.

Q Ten compressors available to ship?

A I have, I think, three that are available. When I speak of compressors I am talking about the raw compressor and raw engine and then they must come through my shop and be fabricated into a unit. They have to be mounted on skids and scrubbers installed and so forth. I have three or four units that are ready to ship now. They could be shipped today or tomorrow. Then, the rest of the equipment, the basic component pieces are in Tulsa, but they have not been fabricated into a unit which we are starting now after we get this letter.

Q How long does it take to make a complete compressor unit if you have the component parts available?

A That will depend on the size, but from two to three days to assemble this. We call it the manufacturing. In reality it is an assembly job.

Q Do you expect that you will run into any difficulties as far as the capacity of the shop which will be doing this work to assemble one of these units? I realize they could assemble one in two or three days. How about assembling thirty, will it take ninety days to assemble thirty?

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A Roughly, to do that, yes.

Q Then, if some of the compressors are to be delivered in August, it will be ninety days after they are received before they are completed?

A No, that's starting from scratch, it would take roughly ninety days to do thirty, but by the time we have finished with the first ten, which will make fifteen in the field, the others will be there ready to work on. You set it up kind of like an automobile assembly, they're pouring off one end when the raw pieces are coming in on the other.

Q Now, you have ten available and commitments for delivery of some more in August --

A In July and August.

Q In the later part of July and August, how about the remainder?

A The total delivery from a new order is only four weeks. We can issue a new order today and get delivery in four weeks. That is without pulling on local stocks or sources which are available.

Q There is no shortage of compressors?

A There is no shortage, no, or engines.

Q Are these delivery commitments, are they verbal or are they written?

A They are verbal, but they're good, we have been doing business with these people for years.



Q I was wondering if we might run into other uncharted reefs.

MR. BUELL: Not when you are buying.

A Not when you are buying, only when you are trying to borrow money, or selling.

Q Now, this Phoenix Enterprises, is that a large institution, Mr. Knight?

A I have seen their financial statement. They show a net worth of about six hundred thousand dollars. They are neither large nor small. However, I do happen to know slightly the inner workings of this thing, it is much like you went down and bought a million dollar life insurance policy on yourself, they will farm out pieces of it to leasing corporations. No one of them will hold all of this itself. Our prime contract is with Phoenix, who are adequate to handle it.

Q Their commitment in Exhibit 1 is for what?

A Six hundred thousand.

Q Their net worth is six hundred thousand?

A That's right.

Q You don't anticipate another uncharted reef here?

A They're in trouble if there is.

Q They may not voluntarily present a reef. Now, you have 92% of the operators in each of the fields contracted at the present time.

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A That is an approximate figure, yes.

Q Has the contract been signed with El Paso for selling of gas?

A It is all agreed upon, it is waiting for my signature in Tulsa.

Q What is the price of the sale of the gas to El Paso?

A Twelve cents plus liquids.

Q What is your anticipated total volume that you'll be handling upon the completion of the facilities October 1st, and assuming no additional wells were drilled?

A We are setting up to handle between twenty and twenty-five million; if there's more there we will handle more, but my figures are from 35 to 45 compressors will handle up to twenty to twenty-five million.

Q What would your delivery pressure to El Paso be?

A It starts at 250 and then jumps to 500. There's also a difference in the price, as long as we are going in the 250 line the price is eleven cents. I forgot to put that in.

Q Now, the operators in the pools have given you a guarantee of so much gas that you would have available to you, and if you don't get that gas, they pay you for it anyway, is that correct?

A To a certain extent, yes. My income from gas not processed is considerably less than gas I do process.

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Q The marginal nature of this project which appeared to be important in the early negotiations, did that include secondary recovery gas that might be available also?

A As I understand it, the method that they are planning to use for secondary actually cuts the gas quantity. You are asking me questions, I'm not a production man, I only know machinery and I have seen the curves and I do know that this water injection system will cut the capacity of gas. Now, why, I can't tell you.

Q Well, now, how long is it intended that this facility will be in operation, until the complete completion of the pool?

A So long as there are commercial quantities of gas that can be handled.

MR. NUTTER: I believe that's all.

BY MR. PORTER:

Q Mr. Knight, as I understand it, you have the wells hooked up by August 15 and then you would add compression progressively? In other words, after August 15, as soon as your first compressors are installed, you will start taking some gas?

A Correct.

Q And you would anticipate having the entire field going to market around October 1st?

A That is correct. Actually, there's a little difference than you explained it there. The line will be in, in its entirety,

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by August 15, but we will be processing gas before then because as quickly as this little short segment here is in place, this short segment is in place and this one, we can set one compressor which we already have and start the compressing of gas.

As the line is extended out there will be another compressor set and this piece of line put in use. So, actually, by August 15 when the line is complete, we will be compressing considerable gas, but it will be utilized as the line is built from the central point out.

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

(Witness excused.)

MR. PORTER: Mr. Davis.

MR. DAVIS: Quilman Davis, appearing on behalf of Aztec Oil and Gas Company. The Commission has heard the difficulty that we encountered in this gathering system up in Totah and the Cha Cha area. We think that we're on the right course now. We're sure of it to the extent that Mr. Knight now has the money available and plans to start work this week end in letting contracts.

Further, I would assure the Commission insofar as Aztec is concerned in the Totah area, if there is a breakdown we'll be in there financing the thing, as we had planned to do in late June, at least our share of it, so that it will go forward

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on this present timetable. In other words, we are now of the opinion that this thing is on a scale where we can continue it.

It was a difficult problem there to get all the operators involved to get together and designate an operator, also to finance the thing, and since we had delegated Mr. Knight to do it, we felt that we should do everything to help him along.

Now that we see his timetable, and in my opinion am convinced that it will go forward in view of the fact that we understand there is a very strong market for oil from this area from the West Coast market, and I think was confirmed here today by the testimony in the oil allowable hearing, we urge this Commission not to take any action at this time that would impair that market. We don't feel that any immediate action will expedite the installation of this line.

I think all of the operators will stay on top of this thing day by day to see that the work is being done. In view of those circumstances, we ask this Commission to continue this Case 2215 till the September hearing, at which time we hope that everything will be in full operation and that we won't have any more flaring, or shortly after that.

MR. PORTER: Mr. Bratton.

MR. BRATTON: If the Commission please, Howard Bratton appearing on behalf of Humble Oil and Refining Company. We would join in the suggestion and request of Mr. Davis.

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I need not amplify on that.

I do want to emphasize two facts to the Commission. One, we have tried to our utmost to demonstrate to the Commission when we appeared in May, and the statements we made we made in good faith, and we thought everything we said there was the truth and would happen, this was an unexpected development. Hind sight is a great thing, and looking back now, I wish we had, the operators had collectively come in to the Commission some time in June when this problem developed. It was not because we weren't doing anything, it was because we were hopeful and the operators kept trying and hoping that the thing would work out day to day.

It would be my suggestion, I believe I can say on behalf of all the operators, that if the Commission were to continue the case on its docket until the September hearing, aside from that we would certainly furnish to the Commission informally at this office, to Mr. Arnold's office, a report every ten days or two weeks as to progress, in addition to which Mr. Arnold could actually observe, of course, the progress in the field.

We would be glad to do that in an informal way or by written letter, however the Commission might desire it. It is our earnest desire to convey to the Commission that we have been and are sincere that we are working and that we have tried to do this job as well and as fast as we could, and we will continue to do that.

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MR. PORTER: Mr. Buell.

MR. BUELL: May it please the Commission, speaking in support of Mr. Davis's motion for continuance, I'm sure that the statutory charge on this Commission to prevent waste is weighing heavily on all your minds. Normally you think the flaring of casinghead gas is waste. It is. Actually, the production of every barrel of oil that comes out of New Mexico ground is waste.

Really the Commission is only charged with preventing avoidable waste. In my opinion, the economics of saving this gas in these two pools is so marginal that there is a great doubt in my mind if we operators, by flaring this gas, are causing avoidable waste. Actually, I think it's an extremely close question.

I feel that in good conscience this Commission can continue this case until September, because in my opinion it is not avoidable waste.

MR. PORTER: Mr. Mason.

MR. MASON: John Mason of the El Paso Natural Gas Products Company. I think the position of El Paso and the other operators in the Cha Cha and Totah areas has been very ably stated by the representatives of the other companies here, so I won't attempt to add anything. I only wish to say that El Paso also joins in the request that this hearing be continued until the September hearing.

MR. PORTER: Anyone else have any comments to make?



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MR. BRATTON: I might add, Mr. Porter, that the statements I have made, I have been authorized to make also in behalf of Tenneco Oil Company who are a substantial operator in the Totah.

MR. PORTER: Any further statements? The Commission will take administrative notice of the figures supplied by Mr. Arnold that the May production for both pools was 13,480 barrels a day.

Mr. Davis, in regard to your motion, the Commission will continue the case until the regular hearing in August, which will be August 16, at which time we would like to have another look at it.

MR. DAVIS: Thank you.

MR. PORTER: We are going to have a very short recess at this time. If the applicant in the next case desires to have any exhibits posted, he might do so at this time.

(Whereupon, a short recess was taken.)

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STATE OF NEW MEXICO)
 : SS
 COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 15th day of July, 1961.

Ada Dearnley
 Notary Public-Court Reporter

My commission expires:

June 19, 1963.

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PHONE CN 3-6601



BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 17, 1961

IN THE MATTER OF:)

The hearing called by the Oil Conserva-)
tion Commission on its own motion to)
consider the promulgation of an order)
prohibiting the flaring of casinghead)
gas from oil wells in the Cha Cha-Gallup)
and Totah-Gallup Oil Pools, San Juan)
County, New Mexico.)

Case 2215

TRANSCRIPT OF HEARING

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 17, 1961

IN THE MATTER OF:)
)

The hearing called by the Oil Conserva-)
tion Commission on its own motion to)
consider the promulgation of an order)
prohibiting the flaring of casinghead)
gas from oil wells in the Cha Cha-Gallup)
and Totah-Gallup Oil Pools, San Juan)
County, New Mexico.)

Case 2215

BEFORE: Mr. A. L. Porter
Mr. Murray Morgan

TRANSCRIPT OF HEARING

MR. MORRIS: 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 the Cha Cha-Gallup and Totah-Gallup Oil Pools,
San Juan County, New Mexico.

MR. PORTER: At the outset I would like to ask for
appearances in Case 2115.

MR. BUELL: For Pan American Petroleum Corporation, Guy
Buell.

MR. BRATTON: For Humble Oil and Refining Company,
Howard Bratton.

MR. DAVIS: For Aztec Oil and Gas, Quilman Davis.

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MR. WALSH: Swell Walsh for El Paso Natural Gas Products Company.

MR. KNIGHT: Will Knight for Southern Union Gas, and in connection with resident counsel Manuel Sanchez.

MR. SETH: Oliver Seth and Mr. Ben Howell for El Paso.

MR. PORTER: Mr. Morris.

(Witness sworn.)

E. C. ARNOLD

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

DIRECT EXAMINATION

BY MR. MORRIS:

Q Will the witness please state his name and position?

A E. C. Arnold, supervisor District 3 of the Oil Conservation Commission.

Q Mr. Arnold, did you testify in case 2215 presented at the March, 1961 Regular Hearing concerning the flaring of casing-head gas in the Cha Cha and Totah-Gallup Oil Pools?

A Yes, I did.

Q Would you review the testimony that you gave in that case, first in the Cha Cha-Gallup Oil Pool?

A At that time in the Cha Cha-Gallup Oil Pool there were 42 completed producing oil wells in the Gallup formation. I estimated at that time that there was about 7300 MCF of gas per

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day being produced in the pool.

Q Mr. Arnold, how many additional wells have been put on production since that time?

A Nineteen additional wells have been drilled in the Cha Cha Pool since that time as of May the 15th.

Q Including those new wells, how much gas is now being produced from all the wells in the Cha Cha-Gallup Oil Pool?

A Approximately 10,600 MCF per day. This figure is determined by using the average gas per well figure from the March hearing and multiplying by the total number of wells producing as of May 15.

Q Would you review the testimony that you gave at the previous hearing concerning the number of wells producing and how much gas they produced in the Totah-Gallup Oil Pool?

A At the time of the March hearing there were 23 wells producing in the Totah Pool and the amount of gas produced was estimated at 2964 MCF per day.

Q Would you state how many new wells have been completed in the Totah-Gallup and how much gas is now being produced per day in that pool?

A An additional 16 wells have been drilled in this pool as of May 15, and the total amount of gas now being produced is estimated at 5,000 MCF per day.

Q What is the total amount of gas that is now being

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produced from both the Totah and the Cha Cha-Gallup Oil Pools?

A I estimate that there is approximately 15,650 MCF per day being produced in both pools combined.

Q Now, Mr. Arnold, is any of this total amount being put to beneficial use at the present time.

A Yes, approximately 1500 MCF per day from the Benson-Montin John Lease is being compressed and sold to El Paso Natural Gas Company. This leaves about 14,000 MCF per day being flared at the present time.

Q Do you have any knowledge of gathering facilities that are planned or any other use that's being planned for the gas that's being vented at the present time?

A Yes, it's my understanding that the Knight Engineering Company has signed contracts with the majority of the operators in both these pools to gather and compress the gas and sell it, I believe, to the El Paso Natural Gas Company. Their surveying, as I understand it, in the Cha Cha Pool, is just about complete and they are presently at work in the Totah Pool. I think that significant progress has been made since the March hearing toward the problem of gathering this gas. They intend, I believe, by the first of July, to be taking gas, although I doubt that they're taking all of it by that time.

Q At the present time, however, all of the gas except the million and a half a day that you mentioned is being flared or

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vented, is that correct?

A Yes, that's correct.

Q Mr. Arnold, if the Commission saw fit to issue a no flare order at the present time, would you recommend that some of the wells in these pools be given exceptions?

A Yes, I think the order should provide that an operator can get administrative exception for any wells from which it's not economic to gather the gas. I also think that there should be a provision in any order which would allow ninety days from the date of first oil production for a new well to get a gas connection.

Q Mr. Arnold, do you have anything further you wish to state in this case?

A No, sir, I don't believe so.

Q Did you refer to your exhibit in your testimony or was that just a picture?

A Exhibit No. 1 is an area map showing the Totah and Cha Cha Pool. The wells have been spotted on this map up through May 15.

(Whereupon, Commission's Exhibit No. 1 was marked for identification.)

Q Did you prepare this exhibit, Mr. Arnold?

A Yes.

MR. MORRIS: We will offer this exhibit in this case,



and that concludes the direct examination of this witness.

MR. PORTER: Without objection, the exhibit will be admitted to the record. Does anyone have any questions? If no questions, the witness may be excused.

(Witness excused.)

MR. PORTER: Anyone else desire to present testimony? Any statements? Mr. Buell.

MR. BUELL: May it please the Commission, Guy Buell for Pan American Petroleum Corporation. I would like to briefly comment on the progress that has been made in both of these pools. I would like to state at the outset that I speak only for Pan American, but as Mr. Arnold has testified, the operators in these two pools are attacking the problem as a whole, so it's almost impossible to talk about progress unless you talk about not one pool as a whole but actually both pools.

As Mr. Arnold has testified, the operators, sufficient number of operators in both pools have committed their gas to Knight such that he can go ahead with his plans for a fieldwide gathering system in both pools.

As Mr. Arnold testified, Mr. Knight is diligently working at that right now, so actually, we, as operators, have done everything that we can do except to wish Mr. Knight God speed in his work. We don't need a shut down order to spur us to diligence.

MR. PORTER: Could you help him a little maybe?

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MR. BUELI: Sir?

MR. PORTER: Could you help him a little maybe?

MR. BUELL: We're helping him in every way that we can.

We have been diligent, I sincerely feel that we have. All the operators realize when we first started evaluating the problem of this produced casinghead gas that it was going to be a marginal economic deal for everyone involved. So, actually, the efforts that have been made, I believe, could be termed strictly a conservation effort. From the economic standpoint there's going to be very little economic gain to anyone involved.

In addition to the surveys that Knight is conducting in the Cha Cha that Mr. Arnold mentioned, he has already ordered his pipe for the gathering line. He advises us that some of his compressors are currently being fabricated at their shops in Tulsa. He's diligently pursuing the administrative route with the federal agencies involved.

We feel that everyone is doing everything that they can. This is an unusual situation. The testimony of Mr. Arnold, we're dealing with two unique and novel pools. At the present time there are probably six drilling rigs active in this area. In Cha Cha since March we've had nineteen wells completed, in Totah, sixteen. The field is on the move, it's being actively developed.

We feel, actually, that if the Commission would hold off any action until after the July hearing, by that time, if everything

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goes well for Mr. Knight, we should be taking gas out of these pools. We feel with that factual data before it, the Commission will be in a better position to intelligently issue an order that will properly regulate the production and disposition of casing-head gas in these two pools.

For these reasons Pan American would respectfully move that this case be continued until the regular July hearing.

MR. PORTER: Before we rule on the motion, I would like to hear any other comments concerning the progress that has been made.

MR. NUTTER: I would like to ask Mr. Buell a question before any other statements. Mr. Buell, will Mr. Knight actually be buying the gas from the producers?

MR. BUELL: Yes, the producers' contract is with Mr. Knight.

MR. NUTTER: It's with Mr. Knight?

MR. BUELL: Yes.

MR. NUTTER: Are these contracts being made under the Federal Power Commission price scale?

MR. BUELL: I rather doubt it, if they are I feel sorry for the area.

MR. NUTTER: Is there any possibility there might be a long delay in getting approval for the contracts?

MR. BUELL: They're considerably below the area price.



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Mr. Knight is not anticipating any difficulty with the Federal Power Commission.

MR. NUTTER: Has he made his application with the Federal Power Commission?

MR. BUELL: He advised me yesterday that he was currently preparing the papers for the application.

MR. NUTTER: Has Pan American made the application yet to the Federal Power Commission to sell their gas?

MR. BUELL: No, to my knowledge, no. Frankly, I don't even know if it will be required.

MR. NUTTER: Thank you.

MR. PORTER: As I understand it, I don't understand it fully, the Federal Power Commission, at least at the present time there seems to be a state of confusion concerning this area pricing, but you can operate under this area pricing, as I understand it, if your prices that you are asking for do not exceed the ceiling set for the area, is that right?

MR. DAVIS: That's my understanding.

MR. BUELL: I don't know. I can say this, Mr. Porter, if the area price is the price we're getting for our gas, I feel sorry for the area.

MR. PORTER: There's another question, Mr. Buell, and that is this: is this the quickest way that gas can be disposed of, made beneficial use of in this area as ^{proposed} ~~proposed~~ to the



gasoline plant?

MR. BUELL: Yes, sir, of all the possibilities that we have evaluated, and Pan American evaluated several; of course I can't speak for the other operators; of all the possibilities that we evaluated, this is the best from an economic standpoint to the operators in that they will get a slight return for their gas. It is the most expeditious, it will allow us to save the gas quicker than any other possibility that we investigated. So, both from the standpoint of economics and expediency, Pan American certainly feels that the proposal with Mr. Knight is the best of any that we evaluated.

MR. PORTER: Mr. Bratton.

MR. BRATTON: Howard Bratton on behalf of Humble. I would like to second everything that Mr. Buell has said here and, as to your question, Mr. Porter, we also evaluated several approaches to this and this was the quickest way the problem could be resolved, the quickest one we could discover.

We also entered into a contract with Mr. Knight. We wish him God speed and we certainly will help him in every way that we possibly can, and it is our understanding that the, as Mr. Arnold said, that gas will be started to be purchased by July 1st, and possibly it will not all be completed, I don't know, but certainly in view of that and in view of the fact that the operators have done, the matters are beyond their control except to assist in any

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way possible at the present time.

We feel that Mr. Buell's motion is in order that the Commission look at this matter at the July hearing. For that reason we certainly would second his motion.

MR. PORTER: Mr. Davis.

MR. DAVIS: Quilman Davis, on behalf of Aztec Oil and Gas Company. I, too, want to second Mr. Buell's request and motion and, Mr. Porter, I might add that Aztec secured an outside consultant to look into this matter, particularly in the Totah area where we have a large percentage of the acreage. We found that Mr. Knight's proposal was the fastest and the most economical way for us to produce the gas. We feel, in answer to Mr. Nutter's question, that it will not be necessary to the producers to file any application on their contracts with Mr. Knight. We have made two, one in the Totah and one in the Cha Cha. I have seen Mr. Knight's proposal from El Paso and even that contract should pass Federal Power Commission area pricing, so it looks like that everything, as far as it can, will go smoothly. All we're asking is that we be permitted to continue this hearing.

MR. PORTER: You say the only thing that the Federal Power Commission would have to approve would be the installation, the gathering system, the compressor system and so forth?

MR. DAVIS: Under the terms of this whole arrangement, I can't understand how they will have any objection to that

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situation, because the price that El Paso is paying for the gas is within the area pricing standard. Insofar as Mr. Knight is concerned, he's got a hundred percent guarantee that so much gas is going to move through the system from we and the other operators.

Secondly, to make this thing work, we have conceded some of our contractual rights on other gas up in the Basin for the time being until the larger El Paso line is being put into operation. We are doing everything we can to get it rolling. I can't see how Federal Power Commission can make any objection to the system that Mr. Knight will put in when his price for the public consumption is less and certainly not any more than gas well gas.

Secondly, Mr. Knight has a hundred percent guarantee of his operation.

MR. PORTER: Mr. Walsh.

MR. WALSH: Mr. Walsh, El Paso Products; we would like to concur with Mr. Buell's suggestion for a continuance, and we have been advised also by Mr. Knight on his progress and we fully believe that he should have the system in in a relatively short time. We have also evaluated the different type contracts and markets that's available for that gas and we feel that Mr. Knight has offered us the best program.

MR. PORTER: Anyone else like to make a statement? I guess we had better rule on Mr. Buell's motion. The Commission wishes to express its appreciation for the diligent effort that



has been made by the producers in these two fields, since this matter was brought up in March, toward getting a market for the gas. We, too, feel that the plan that you have adopted is the quickest way of getting this gas on market. We're going to continue the case until the regular July hearing, which is July 13, I believe. It's fairly early in the month.

By that time, according to the record here this afternoon, why some of this gas, at least, should be going to market by that time. So, we will continue the case until the July regular hearing and remind the producers here that if necessary, at that time we could issue an order on pretty short notice. So the case will be continued until that time.

MR. BUELL: I would like to thank the Commission for their consideration in this matter.

MR. PORTER: Right at this point I have a note from Mr. Nutter that he has been advised by Nearburg and Ingram in connection with the Bluit system, that they had Federal Power Commission approval for their gathering system and plant down there and I was assured by Mr. Ingram that they could be taking gas in sixty days. They were assured at first of Federal Power Commission approval by April 1st and then it was postponed until the 15th, and I think it came through last month or last Saturday.

We'll take up next Case 2277.

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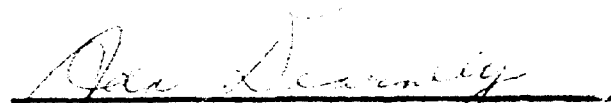
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STATE OF NEW MEXICO)
: SS
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 26th day of May, 1961.


Notary Public-Court Reporter

My commission expires:

June 19, 1963.

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BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 15, 1961

IN THE MATTER OF:)
)

The hearing called by the Oil Conserva-)
tion Commission on its own motion to)
consider the promulgation of an order)
prohibiting the flaring of casinghead)
gas from oil wells in the Cha Cha-)
Gallup and Totah-Gallup Oil Pools, San)
Juan County, New Mexico.)

Case 2215

BEFORE: Mr. A. L. Porter, Chairman
Honorable Edwin L. Mechem
Mr. E. S. (Johnny) Walker

TRANSCRIPT OF HEARING

MR. PORTER: The hearing will come to order, please.

The Commission will next take up Case 2215.

MR. PAYNE: 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 the Cha Cha-Gallup and Totah-Gallup Oil
Pools.

MR. PORTER: San Juan County.

MR. PAYNE: I am glad you called that to our attention.

MR. BUELL: Pan American Petroleum Corporation, Guy
Buell.

MR. DAVIS: Aztec Oil and Gas Company, Quilman E. Davis.

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MR. BRATTON: Humble Oil and Refining Company, Howard Bratton.

MR. HOWELL: El Paso Natural Gas Company, Ben Howell, and in association with New Mexico counsel Mr. Montgomery and Mr. Federici.

MR. PLUMB: Tenneco Oil Company. I. B. Plumb.

MR. PAYNE: We have one witness, Mr. Emery Arnold.

MR. PORTER: Will you stand and be sworn, please.

(Witness sworn.)

E. C. ARNOLD

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

DIRECT EXAMINATION

BY MR. PAYNE:

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

A E. C. Arnold, Supervisor of the Division 3, Oil Conservation Commission.

Q Are you generally familiar with the matters involved in Case No. 2215?

A Yes, sir.

Q And have you made a study in this connection?

A Yes.

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(Whereupon, Commission's Exhibit No. 1 was marked for identification.)

Q Now, referring to what has been designated as Commission's Exhibit No. 1, will you explain to the Commission what that depicts?

A Exhibit No. 1 is an area map showing the Cha Cha-Gallup, Totah-Gallup and Kutz-Gallup Pools. Also shown are all presently producing Gallup oil wells as of February 28, 1961.

Q How many wells are in the Cha Cha Pool and in the Totah?

A Forty-two on this map in the Cha Cha and twenty-three in the Totah.

Q Mr. Arnold, have any dry holes been drilled in either pool?

A No, sir.

Q Is it your opinion there will be other productive wells in one or both of these fields?

A There are presently several rigs operating in both fields and neither pool has been defined, particularly on the Northwest and Southeast ends.

Q What was your purpose in depicting the Kutz Pool on Exhibit 1?

A The Kutz Pool falls within this area, also is a producing pool in the Gallup formation, so we put the Kutz Pool boundary on it. There is actually not enough available gas from

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the Kutz Pool at the present time in my opinion to call for a no-flare order. I do think we should watch this area.

Q Are the Cha Cha and Gatah Pools dry gas reservoir?

A Yes.

Q Is there reason to assume the gas-oil ratios will rise?

A Yes, they will rise as more oil is processed as the bubble point is reached.

Q What is the present situation in regard to making additional recovery of casing-head gas in these two pools?

A In the Cha Cha, one operator has installed compressor facilities and is selling gas. This amounts to about 1,470,399 cubic feet of gas being sold on the Benson-Montin-Greer Jones lease. The balance of gas in both reservoirs being vented at the present time.

(Whereupon, Commission's Exhibit No. 2 was marked for identification.)

Q In that connection, will you please refer to what has been designated as Exhibit 2 which deals with the Cha Cha-Gallup Pool, and explain the information that you have compiled thereon?

A Exhibit No. 2 is a summary of the gas-oil ratio information on the Cha Cha-Gallup Pool as of February 28, 1961. I have listed all the wells producing in the Cha Cha-Gallup Pool as of that date shown on this exhibit, or gas-oil ratio tests



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taken in late January and early February of 1961. We had at that time forty tests available to the wells on this exhibit and didn't have tests available on two.

Q Mr. Arnold, will you give the company totals of available gas and then give the total gas available that you have compiled?

A Yes, sir. First, I might say, the way I have calculated the gas available is by multiplying the top oil allowable times their gas-oil ratio. On penalized wells, I have multiplied oil allowable to these pools, time 2,000, which is the limiting gas-oil ratio. On non-penalized marginal wells I have multiplied the producing capacity times the well's oil-gas ratio. This gives a fairly accurate figure as to the amounts of gas being vented.

Q What did you use to the situation of the two wells that had no tests?

A I average the gas available per well on the forty wells on which we had tests and simply multiplied that figure times the remaining two wells.

Q I see.

A This study shows that the Aztec Oil and Gas Company has available 391,468 cubic feet; Benson-Montin-Greer, 1,470,399 cubic feet; El Paso Natural Gas Products Company,



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1,144,884 cubic feet.

Q 884 or --

A 884. Humble Oil & Refining Company, 889,536 cubic feet; Pan American Petroleum Company, 3,068,138 cubic feet, for a pool total, well, actually that is upon the forty wells upon which we have tests, of 6,964,385 cubic feet.

The third page of Exhibit 2 is a summary of this information and it indicates that we have arrived, as an average per well, with your figure multiplied times the two with the remaining wells on which we didn't have tests, we come up with a total gas available of 7,312,605 cubic feet.

Now, the gas, as I said, on Benson in the Jones lease is being presently sold. Actually on this exhibit they were also selling the gas from Jones A, but I received notice yesterday, this is in error. The one well on the Jones A lease produces 59,177 cubic feet, which would change these totals, but not significantly.

At any rate, I have shown Benson 1,470,399, leaving vented gas 5,842,206 cubic feet.

Q In your opinion, is this amount great enough to make the gathering of the gas economical?

A Yes, I believe so.

Q You say these tests, as reflected on Exhibit 2, were all taken in '61?



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A Yes, sir, January and February, 1961.

Q In all probability, the gas-oil ratios have not gone up a great deal?

A No, should be fairly accurate.

(Whereupon, Commission's Exhibit No. 3 was marked for identification.)

Q Referring to Exhibit 3, would you go through that and explain to the Commission what you have shown on that?

A Exhibit 3 is a summary of the Totah-Gallup Pool showing twenty-four wells producing. As of February 28 we had available sixteen gas-oil ratio tests. Several of these tests date back as far as September, 1960, so the actual situation may not be as accurate as in the Cha Cha Pool, because the ratios probably were increased on several wells since that time.

Q So, any change in your figure would result in more gas available?

A That's right. Also on this exhibit I have calculated gas available using 94 and 164 barrels top allowable. The reason for this, presently the pool is producing on areas based on 40-acre spacing; 40-acre allowables effective April 1st will be 80 acres, and the allowable will be 164 barrels a day. I have calculated available gas using both these oil allowable figures.

Q Then, for practical purposes, your 80 figure would be the one that would be controlling in this particular case?



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A That, yes. On one other, assuming the oil withdrawals on gas-oil tests available were not at high enough rates for a 164 barrel allowable, so, actually, I assumed that each well which was top allowable at 40-acre allowable would also be top allowable with 80-acre allowable.

Q Realizing in some cases that couldn't be true?

A That's right.

Q Now, would you go through the company totals?

A Yes, sir. The Aztec Oil & Gas Company total is on 40-acre spacing, 313,500 cubic feet, on 80-acre, 545,300 cubic feet. Pan American Petroleum Corporation, 162,955 on either 40 or 80-acre allowables. That is because both are marginal wells. Southwest Production Company, 40 acre, 123,140 cubic feet; on 80 acre, 214,840 cubic feet. Tennessee Gas Transmission, 769,307 cubic feet on 40-acre allowable and 1,138,857 on 80-acre allowables. That gives a pool total to 40-acre allowables of 1,368,902 cubic feet and for 80 acre, 2,061,952 cubic feet.

Q Now, page 2 of Exhibit 3 summarizes that information?

A Yes. It also shows that amount of gas again as shown on the first page of Exhibit 3. Those wells with tests only, which was sixteen wells, derived by dividing that figure by sixteen, and I arrived at a figure of 85,556 on 40-acre allowables. Then by multiplying this by an additional seven wells in the pool with no tests, we got an additional gas available figure of



598,892 cubic feet, or a total of gas available figure of 1,967,794 cubic feet for 40-acre allowables. 80-acre allowable average gas per well is 128,872 cubic feet; multiplying this by seven we got 902,104 cubic feet for a pool total on 80 acre of 2,964,056 cubic feet.

Q In regard to these gas-oil water tests, were some of them witnessed by Commission Staff members?

A Yes, several of the tests in the Cha Cha and in both pools were witnessed.

Q If the Totah were geographically situated like the Cha Cha is, would there be some question that it would be economically feasible to gather that gas?

A It would make it less difficult because of the fact the Totah and Cha Cha are in close proximity to each other. The gas can be gathered cheaper because you don't need as many gathering process facilities.

Q Would you be able there to look at a total available for both in determining if it is economically feasible to gather gas in this area?

A Yes, sir, I believe so. That total figure for both pools is 8,826,262 cubic feet.

Q Do you know, of your own knowledge, of any plans for going forward at the present time that make additional use of this gas?

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A Well, as I said before, Benson-Montin-Greer has installed compressor facilities and are selling gas from the Jones lease in the Cha Cha Pool.

Q What date did that sale start?

A March 1st of this year. I have also heard of at least two other parties that have been studying the pool with the idea of putting in gasoline plants and gathering this gas.

MR. WALKER: That is hearsay?

A I have actually talked to both parties.

Q Is it your testimony that in your opinion it would be economically feasible to gather this gas? What did you have in mind to recommend to the Commission as to the time and so forth?

A I would recommend that the Commission direct all operators in these pools to immediately start the construction of gathering facilities so that that gas might be gathered and sold. I would also recommend that this particular case be continued for sixty days so we can look at the situation at that time to see what progress has been made.

Q If you know at this time, could you tell the Commission after a period of sixty days you would recommend that it be continued again?

A Would you repeat the question, please?

Q This is the only continuance you want, is it not?

A Yes, sir, the problem in this kind of reservoir is



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economics or marginal to begin with, and you only aggravate that progress of putting off the time you are going to gather the gas. In six month's time this additional volume, you imagine you are going to vent could be some 3180,000 worth of gas. So from an economic standpoint, the faster we move the better, I would say.

Q The operators would move forward in this sixty-day period?

A Yes, sir, I believe they will.

Q Do you have anything else you would like to explain to the Commission in regards to this case?

A No, sir, I don't believe so.

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

MR. PORTER: Anyone have any question of Mr. Arnold? The witness may be excused.

(Witness excused.)

MR. PAYNE: At this time I offer in evidence Commission's Exhibits 1 through 3.

MR. BUELL: Guy Buell with Pan American. May it please the Commission, Pan American would like to concur in Mr. Arnold's sixty-day continuance with respect to the Cha Cha Pool. I can tell the Commission the operators have been diligently working several months on a field-wide gathering compression facility. We sincerely believe that within sixty days we can finalize



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those plans. With respect to Totah, Pan American operates only two wells there. They are both marginal. Actually candidates for exception from a flare order, if any is ever issued. We are prepared to present testimony to show the economic situation with respect to those wells, if the Commission would like to receive it.

MR. PAYNE: Mr. Puell, I want to see at this time whether there is any further testimony to be used here today by other interested parties and then we will decide whether we want you to go ahead and put your testimony on.

MR. DAVIS: Quilman Davis appearing on behalf of Aztec Oil and Gas Company. Aztec has acreage and production on both the Cha Cha and Totah Pools. I believe we are the major holder in the Totah area. We would like to, Oliver, to change the names of the pools. We do find a different situation in the areas, particularly with respect to the gathering of this casing-head gas, Aztec and other operators in the Totah area have been actively engaged in this sort of operation to find a way to gather and save that gas, and will continue in this line, Mr. Arnold recommended. We certainly concur in his recommendation that this case be postponed or continued for sixty days and I think we will be able to give the Commission some very definite information on the Totah area particularly.

MR. PORTER: Mr. Bratton.

MR. BRATTON: Howard Bratton, Humble Oil and Refining



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Company. Humble owns an interest approximating 25 percent in the Cha Cha. We would concur with Mr. Arnold's recommendation to the Commission. Mr. Buell has stated on the matter of the operators, we can report on the progress of that within sixty-day time and show definite progress of fieldwide disposal.

MR. PORTER: Anyone else have a statement to make?
No further questioning to be presented?

MR. PAYNE: The Commission received communication from Benson-Montin-Greer which we would like to have you read into the record.

MR. PORTER: Mr. Payne, in regard to Mr. Buell's statement, did you wish him to proceed with his testimony?

MR. PAYNE: Well, the Commission has decided to continue the case, according to Mr. Arnold's recommendation, for sixty days. The matter will be brought up again at the regular May hearing, at which time we certainly want to urge all the operators in this pool to use every effort to expedite the marketing of this gas, and at that hearing we will expect some definite progress reports as to what has been accomplished in these sixty days. Did you want to enter Mr. Greer's letter for the record?

MR. PORTER: In view of the fact Mr. Arnold testified it is economically feasible to gather this gas, and in view, further, of the fact that's the essence of Benson-Montin and



Greer's statement, perhaps it should be read in the record.

"Gentlemen: In the event Benson-Montin-Greer Drilling Corp. is unable to have a representative present at the subject hearing, we are sending you with this letter information concerning operations of Benson-Montin-Greer Drilling Corp., which we request be filed with other statements relating to this case. We understand the information cannot be introduced as evidence, but that it might properly be accepted by the Commission along with other statements.

Benson-Montin-Greer Drilling Corp. operates seven wells in the Cha Cha-Gallup Field producing from the Gallup Formation. Six of these wells are on the Jones Lease, which covers the east half and the northwest quarter of Section 17, Township 28 North, Range 13 West, and one is on the Jones "A" Lease, which covers the southwest quarter of Section 17, Township 28 North, Range 13 West. The Jones "A" No. 1, SE/4 SW/4 Section 17, is a non-commercial well, currently producing about 15 barrels per day. We believe it economically not feasible to attempt to make useful disposition of the gas from this well, and in the event the Commission establishes a ruling whereby exceptions can be made for such wells, we will at a later date request such exception from a no-flare gas order.

The remaining six wells which we operate on the Jones Lease produce in a common tank battery, and the gas produced in connection

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with the oil is compressed at the tank battery by our own compressors and delivered through our own pipe line approximately one half mile, and is delivered to El Paso Natural Gas Company at its pipe line connection in the SE/4 SE/4 of Section 17. Gas compression and sales commenced February 28, 1961, and at this time we are flaring no gas from the six wells on the Jones Lease.

Attached to this letter are three exhibits describing the following items:

1. Price paid for the casinghead gas sold.
2. Compressor installation.
3. Economics of gathering and selling casinghead gas from Benson-Montin-Greer Drilling Corp. Jones Lease." Signed Albert R. Greer.

"GAS SALE PRICE, BENSON-MONTIN-GREER DRILLING CORP., JONES LEASE, CHA CHA-GALLUP POOL, SAN JUAN COUNTY.

Benson-Montin-Greer Drilling Corp. is currently compressing gas produced from Gallup Formation oil wells under its Jones Lease, Section 17, Twp. 26N, Rge. 13W, pursuant to Casinghead Gas Contract originally entered into with El Paso Natural Gas Company dated June 14, 1960, for a daily quantity of gas of 1 million cubic feet per day, which Contract was supplemented by Agreement dated November 30, 1960, to increase the volume to 2 million cubic feet per day.

The price for gas in this contract is 11¢ per thousand



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plus a share of the value of the liquids, for gas delivered at 250# per square inch gauge pressure, which is approximately the pressure of El Paso's gathering system in this area at this time. The contract contemplates that gathering pressures will later on be increased to 500#, at which time the price for the gas will be increased 1¢ per thousand for the additional delivery pressure. The contract carries an escalation provision of 1¢ increase for each five year period." Signed Albert R. Greer.

"COMPRESSOR DATA
BENSON-MONTIN-GREER DRILLING CORP. JONES LEASE
CHA CHA-GALLUP POOL
SAN JUAN COUNTY

Benson-Montin-Greer Drilling Corp. has currently installed on its Jones Lease two compressors, each identified as follows:

Oil Well Model GBLU-150A Belt-Driven Natural Gas Compressor Unit, consisting of the following:

Chicago Pneumatic Tool Company 7" x 4½" x 13" tandem double-acting horizontal water-cooled gas compressor for two-stage operation, powered by Waukesha Model 6-NKRB 6-cylinder 7" bore x 8½" stroke gas engine.

Estimated performance data is as follows, for a discharge of 500 pounds per square inch gauge:

<u>Inlet</u> <u>Pressure</u> <u>psig</u>	<u>Cubic Feet</u> <u>per 24 hours</u> <u>each compressor</u>	<u>Cubic Feet</u> <u>per 24 hours</u> <u>Two compressors</u>
20#	395,000	790,000
40#	640,000	1,280,000
60#	925,000	1,850,000

Signed Albert R. Greer.



"ECONOMICS OF GATHERING, COMPRESSING AND SELLING
CASINGHEAD GAS FROM
BENSON-MONTIN-GREER DRILLING CORP. JONES LEASE
E/2 & NW/4 SECTION 17, TWP. 28N, RGE. 13W
CHA CHA-GALLUP POOL
SAN JUAN COUNTY
(AN INDIVIDUAL SIX-WELL LEASE SYSTEM)

In Case No. 2069 before the New Mexico Oil Conservation Commission September 14th, 1960, I testified that in my opinion the casinghead gas produced in connection with the oil from the Gallup Formation under Benson-Montin-Greer Drilling Corp. Jones Lease would have negligible economic value, because the cost of gathering, compressing and marketing would approximate the total value of the gas. Since that date there have been no developments which would tend to change this opinion. I still estimate, on 40-acre spacing, an average recovery of 60,000 barrels per well primary production, which represents approximately 15% of the oil in place. I also estimate that there will be produced with this 60,000 barrels approximately 200 million cubic feet of gas per well. This represents an income, after royalties and taxes but before operating expense, of about \$18,000 per well.

We do not have all of our costs assembled for our compressor installation and high pressure pipe line system. However, it appears that our investment to date for these items will approximate \$12,000 per well. With this installation we can sell approximately all of the gas we will be allowed to produce with an oil

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allowable of 175 barrels per day and a gas-oil ratio limit of 2,000 cubic feet per barrel, and a separator pressure of 60# per square inch. We are currently operating with a separator pressure of 50# and compressing approximately 1,600,000 cubic feet of gas per day, with the present oil allowable of 365 barrels per day for the lease. As the wells decline, the investment of another \$6,000 per well, or a total investment cost equal to the anticipated value of the gas, will be required in order to reduce separator pressure to approximately 30#. Further reduction in separator pressure can then only be accomplished by restricting production to lower rates, or by installation of compressor equipment far in excess of the value of gas to be recovered. It is now our plan that when the stage in the producing life of our wells is reached at which they will not produce against separator pressures of 30#, to restrict total production from the lease, in order to accomplish reduction of separator pressure." Signed by Albert R. Greer.

MR. PORTER: Anyone else?

MR. HOWELL: If the Commission please, Ben Howell.

I would like to make a brief statement. We have no testimony to offer at this time in this hearing. We are making studies relating to the economics of this gas and we are in the process of negotiating contracts, as the records show, one which has at this time been entered with the Benson-Montin-Greer group,



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and we have made firm offers of contracts to other producers. However, I think it should be pointed out that the existing gathering and lateral facilities which we have in the area are loaded to almost capacity at the present time. It will probably be necessary, in order for us to take this gas, to construct some additional facilities to handle the gas.

Now, we have not progressed to the point we are able to make any announcement or remarks as to the length of time in which such facilities will be connected. We will be glad to inform the Commission as soon as the other contracts are able to be negotiated.

MR. PORTER: Anyone else have any comments? The Commission recognizes in new pooling and rapidly ^{developing} ~~depleting~~ pools ^{that sometimes} ~~at the same time~~ it is necessary to ^{have} ~~acquire~~ a certain amount of gas until facilities can be built to handle this gas. But certainly for the past several years the Commission has been making every effort to limit it as much as possible to cut it to the bare minimum. Certainly I appreciate your effort to do something about this and give us a report at the May hearing. We will continue the case until the regular May hearing. I would like to remind you at this time the April hearing will be held in Hobbs. At that time we expect to have on the docket several cases concerning administrative approval.


The next case on the docket is Case 2216.



STATE OF NEW MEXICO)
) SS
COUNTY OF BERNALILLO)

I, PAT GOMIA, Notary Public, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 25 day of April, 1961.



Notary Public

My commission expires:

DEARNLEY-MEIER REPORTING SERVICE, Inc.

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ALBUQUERQUE, NEW MEXICO



RSM
10/20
Jan

DRAFT

RSM/esr
October 20, 1961

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

10/24

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

CASE No. 2215

Order No. R- 5103

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
THE CHA CHA-GALLUP AND TOTAH-GALLUP
OIL POOLS, SAN JUAN COUNTY, NEW
MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on March 15, 1961, May 17, 1961, July 13, 1961, August 16, 1961, and September 13, 1961, at Santa Fe, New Mexico, and on October 18, 1961, at Roswell, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this _____ day of October, 1961, 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 a very substantial quantity of casinghead gas produced from oil wells in the Cha Cha-Gallup and Totah-Gallup Oil Pools, San Juan County, New Mexico, is presently being flared or vented.

(3) That a facility to gather said gas is presently under construction and should be completed by December 1, 1961.

(4) That there is a definite need for the promulgation of said an order prohibiting the flaring or venting of casinghead gas.

(5) That said no-flare order should be made effective December 1, 1961.

(6) That a ninety-day exception to said no-flare order should be allowed for each well following its date of completion.

(7) That further exception to said no-flare order should be allowed only upon a showing that waste or undue hardship would otherwise be caused.

IT IS THEREFORE ORDERED:

That no casinghead gas shall be flared or vented from any well in the Cha Cha-Gallup Oil Pool or in the Totah-Gallup Oil Pool, San Juan County, New Mexico, after November 30, 1961.

PROVIDED HOWEVER, That each well completed in said pools is hereby granted a ninety-day exception to this order, dating from the well's date of completion.

PROVIDED FURTHER, That any operator who desires to obtain an exception to this order shall submit to the Secretary-Director an application for such exception showing justification therefor. The Secretary-Director is hereby authorized to grant such an exception if he determines that it is reasonably necessary to prevent waste or to prevent undue hardship on the applicant.

IT IS FURTHER ORDERED:

That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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