CASE 3517: Application of PAN AM. for a VAPOR RECOVERY SYSTEM, SAN JUAN COUNTY, NEW MEXICO.

CASE NO.
3517

Application,
Transcripts,
Small Exhibits
ETC.

FORM 470 2-57

PAN AMERICAN PETROLEUM CORPORATION

P. O. Box 480, Farmington, New Mexico
March 2, 1967

File: E-41-986.510.1

Subject: Operation of Vapor Recovery Unit at Tocito Dome-Penns. "D" Pool San Juan County, New Mexico

File Case 3517

Mr. E. C. Arnold
New Mexico Oil Conservation Commission
1000 Rio Brazos Road
Aztec, New Mexico

Dear Sir:

Pursuant to the requirements of Order R-3190 permitting the operation of a vapor recovery unit in the Tocito Dome-Pennsylvanian "D" Pool, San Juan County, New Mexico, we are hereby reporting the results of the oil gravity tests required by Rule 1 of the above order.

The production portion of the test was commenced at 1:30 P.M., on February 23, 1967, with the separator and treater operation conditions as specified in the order. The tank battery was shut in at 1:30 P.M. on February 24, 1967. At 11:15 A.M. on February 25, 1967, a sample of oil was obtained and the gravity was measured at 44.4° API corrected to 60° F.

Yours very truly,

PAN AMERICAN PETROLEUM CORPORATION

L. O. Speer, Jr.
Area Superintendent

GWE:ep

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

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 3517
Order No. R-3190

APPLICATION OF PAN AMERICAN PETROLEUM
CORPORATION FOR A VAPOR RECOVERY SYSTEM,
SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 25, 1967, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 13th day of February, 1967, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Pan American Petroleum Corporation, seeks permission to install, at its central tank battery for the Navajo Tribal P, N, and U Leases in the Tocito Dome-Pennsylvanian "D" Pool, San Juan County, New Mexico, a vapor recovery system including facilities for extracting the liquids from said vapor.

(3) That the applicant also requests that said liquids not be chargeable to the oil allowable for said leases.

(4) That vapors from the heater treater and from the stock tanks serving said leases are of such quality, quantity, and pressure as to be non-commercial at this time.

(5) That the proposed project should result in the recovery of otherwise unrecoverable hydrocarbons.

(6) That recovery of hydrocarbons from vapors that would otherwise be vented to the atmosphere is in the interest of conservation, the prevention of waste through the recovery of otherwise unrecoverable hydrocarbons, and will not violate correlative rights.

(7) That the applicant should be authorized to install, at its central tank battery for the Navajo Tribal P, N, and U Leases in the Tocito Dome-Pennsylvanian "D" Pool, San Juan County, New Mexico, a vapor recovery system including facilities for extracting the liquids from said vapor and that said liquids should not be chargeable to the oil allowable for said leases provided such operation does not cause the average gravity of the stock tank oil to be reduced below a limiting gravity for such stock tank oil as established by an average oil-gravity test.

IT IS THEREFORE ORDERED:

(1) That the applicant, Pan American Petroleum Corporation, is hereby authorized to install, at its central tank battery for the Navajo Tribal P, N, and U Leases in the Tocito Dome-Pennsylvanian "D" Pool, San Juan County, New Mexico, a vapor recovery system including facilities for extracting the liquids from said vapor.

(2) That liquids extracted from said vapor shall not be chargeable to the oil allowable for said leases.

IT IS FURTHER ORDERED:

(1) That the operator shall apply heat or vacuum to the oil only to the extent the average gravity of the stock tank oil will not be reduced below a limiting gravity for such stock tank oil as established by an average oil-gravity test conducted under the following conditions:

(a) The separator system that is used to separate the hydrocarbons shall be operated at not less than 200 pounds per square inch.

(b) The heater treater shall not be operated at a temperature in excess of 130° Fahrenheit.

(c) The test interval shall be for a minimum of 24 hours, and the average oil gravity after weathering for not

more than 24 hours shall then become the limiting gravity factor for applying heat or vacuum to unmeasured oil on the tested lease.

(2) That initial gravity tests shall be made by the operator before the facilities herein authorized are first used. Subsequent tests shall be made at the request of either the Commission or any interested party; and such subsequent tests shall be witnessed by the requesting party. Any interested party may witness the tests.

(3) That the operator shall enter on the face of Commission Form C-115 the gravity of the oil delivered to market from the lease reported, and it is provided that should a volune of oil delivered to market from the subject facilities not meet the gravity requirement established by the described test, adjustment shall be made by charging the allowable of the lease on the relationship of the volume and the gravity of the particular crude.

(4) That Form C-111 shall be filed each month in accordance with Rule 1111 of the Commission Rules and Regulations.

(5) 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

DAVID F. CARGO, Chairman

GUYTON B. HAYS, Member

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

S E A L

esr/

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Drawer 1857
Roswell, New Mexico 88201

February 17, 1967

Pan American Petroleum Corporation
P. O. Box 480
Farmington, New Mexico 87401

Attention: Mr. L. O. Speer

Gentlemen:

Your letter of February 1 with attachments requests our approval to install and operate a vapor recovery unit at your central tank battery in the NE¼ sec. 20, T. 20 N., R. 18 W., N.M.P.M., Tocito Dome Pennsylvanian "D" pool, San Juan County, New Mexico. This battery includes commingled production as approved by this office by letter of September 9, 1964, for Navajo tribal leases 14-20-603-5033, -5034, and -5035.

The method you propose for the installation and operation of the vapor recovery system is hereby approved. For royalty purposes the volume of liquid hydrocarbons and gas obtained from the vapor recovery unit should be prorated back to the leases based upon a well test split. Form 9-361(a), Lessees Monthly Report of Sales and Royalty, must show all computations used in determining and allocating such production to each lease involved. Any change in this system must receive prior approval of this office.

Please notify our Farmington office when the installation is complete so that a field inspection can be made.

Sincerely yours,

(ORIG. SGD.) JOHN A. ANDERSON

JOHN A. ANDERSON
Regional Oil and Gas Supervisor

cc:
NMOCC - Santa Fe
Farmington
Accounts

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

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

P. O. BOX 2088
SANTA FE

February 13, 1967

Mr. Lewis C. Ross
Pan American Petroleum Corporation
Security Life Building
Denver, Colorado 80202

Re: Case No. 3517
Order No. R-3190
Applicant:
PAN AMERICAN PETROLEUM CORP.

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC x
Other Mr. Phil McGrath, U. S. Geological Survey, Farmington, N.M.

Docket No. 3-67

DOCKET: EXAMINER HEARING - WEDNESDAY - JANUARY 25, 1967

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

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

CASE 3516: Application of Texas Pacific Oil Company for several non-standard gas proration units, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the rededication of certain acreage and the establishment of the following non-standard gas proration units in Township 23 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico:

A 200-acre non-standard unit comprising the SE/4 of Section 20 and the NW/4 SW/4 of Section 21, dedicated to its State "A" A/c-1 Well No. 2 located 2260 feet from the South line and 330 feet from the West line of said Section 21;

A 160-acre non-standard unit comprising the E/2 SW/4, SW/4 SW/4, and SW/4 SE/4 of Section 21 dedicated to its State "A" A/c-1 Well No. 8 located 660 feet from the South line and 1980 feet from the East line of said Section 21;

A 160-acre non-standard unit comprising the SW/4 of Section 4, dedicated to its State "A" A/c-1 Well No. 18 located 660 feet from the South and West lines of said Section 4;

An 80-acre non-standard unit comprising the S/2 NW/4 of Section 4 dedicated to its State "A" A/c-1 Well No. 15 located 1980 feet from the North and West lines of said Section 4;

A 120-acre non-standard unit comprising the N/2 NW/4 and NW/4 NE/4 of Section 4, dedicated to its State "A" A/c-1 Well No. 23 located 660 feet from the North line and 2310 feet from the East line of said Section 4;

A 160-acre non-standard unit comprising the W/2 SW/4, SE/4 SW/4, and SW/4 SE/4 of Section 9 dedicated to its State "A" A/c-1 Well No. 12 located 660 feet from the South line and 1980 feet from the East line of said Section 9.

CASE 3517: Application of Pan American Petroleum Corporation for a vapor recovery system, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to install, at its central tank battery for the Navajo Tribal P, N, and U Leases in the Tocito-Dome Pennsylvanian "D" Pool, San Juan County, New Mexico, a vapor recovery system including facilities for extracting the liquids from said vapor, with a provision that said liquids would not be chargeable to the oil allowable for said leases.

CASE 3518: Application of Pan American Petroleum Corporation for an unorthodox location and possible directional drilling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the Tocito Dome-Pennsylvanian "D" Pool rules as promulgated by Order No. R-2758 to permit the drilling of its Navajo Tribal "N" Well No. 9 at an unorthodox location 600 feet from the North line and 1200 feet from the West line of Section 20, Township 26 North, Range 18 West, Tocito Dome-Pennsylvanian "D" Pool, San Juan County, New Mexico. Applicant further seeks authorization, if the Pennsylvanian "D" producing section is found above the gas-oil contact or below the oil-water contact, to intentionally deviate said well in such direction and to such extent as necessary to obtain a commercial well, provided that said well would not be bottomed any nearer than 100 feet to the outer boundary of the 160-acre proration unit.

CASE 3519: Application of Robert N. Enfield for compulsory pooling, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order force-pooling all mineral interests in the Chaveroo-San Andres Pool underlying the NW/4 NW/4 of Section 11, Township 8 South, Range 33 East, Chaves County, New Mexico.

CASE 3520: Application of Southern Natural Gas Company for the creation of a new pool and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new pool for Wolfcamp production for its State "C" Well No. 1 located in Unit C of Section 11, Township 11 South, Range 33 East, Lea County, New Mexico, and for the promulgation of special rules therefor, including a provision for 80-acre proration units.

CASE 3521: Application of Sinclair Oil & Gas Company for three waterflood projects, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute three waterflood projects in the Grayburg-Jackson Pool by the injection of water into the Grayburg-San Andres formations through two wells on its Russell Lease, eight wells on its Turner "A" lease, and nine wells on its Turner "B" lease in Sections 17, 18, 19 and 20, Township 17 South, Range 31 East, Eddy County, New Mexico.

CASE 3522: Application of Texaco Inc. for suspension of cancellation of underproduction and extension of deliverability test deadline, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order suspending the scheduled cancellation of the underproduction attributable on July 31, 1966, to its H. J. Loe Federal B Wells Nos. 2 and 3, located in Section 23, Township 29 North, Range 12 West, Basin-Dakota Gas Pool, San Juan County, New Mexico, said underproduction not having been made-up during the 6 months period ending January 31, 1967, due to said wells having been shut-in November 10, 1966,

(Case 3522 continued)

upon the transfer of the connecting pipeline from an intrastate status to an interstate status and delay in obtaining FPC approval for the sale of gas from said wells in interstate commerce. Applicant further seeks an extension of time in which to conduct the 1966 deliverability test of the Loe Well No. 3 until after FPC approval for gas sales has been received, and the well restored to production.

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

REQUEST FOR AN ORDER AUTHORIZING THE OPERATION OF A STOCK TANK VAPOR RECOVERY UNIT AND PERMIT THE LIQUID RECOVERY FROM SUCH UNIT TO BE PRODUCED WITHOUT AFFECTING THE CRUDE OIL ALLOWABLE IN THE TOCITO DOME-PENNSYLVANIAN "D" POOL, SAN JUAN COUNTY, NEW MEXICO

Case 3517

A P P L I C A T I O N

COMES NOW Pan American Petroleum Corporation and respectfully presents this Application to the Oil Conservation Commission of the State of New Mexico and requests the Commission to issue an Order authorizing the placing in operation by the Applicant of a Stock Tank Vapor Recovery Unit in the Tocito Dome-Pennsylvanian "D" Pool, San Juan County, New Mexico and permit the liquid recovered from such Unit to be produced without affecting the crude oil allowable allocated to the leases served by such Unit. In support of this Application, Pan American Petroleum Corporation states:

1. That the Applicant, Pan American Petroleum Corporation (hereinafter called Pan American or Applicant) is a Delaware Corporation and is duly authorized to transact business in, and is transacting business in the State of New Mexico.

2. That Pan American is Operator and sole Working Interest Owner of the battery equipment associated with the production of hydrocarbons from the Navajo P, N, and U Leases within said Tocito Dome-Pennsylvanian "D" Pool limits as specified in Order R-2758, for which the wholely owned Stock Tank Vapor Recovery Unit is proposed for operation. The commingled battery was authorized by Administrative Order CTB-123.

3. That Pan American represents that the operation of said Stock Tank Vapor Recovery Unit will result in the collection of liquid products not otherwise recoverable from the stock tanks serving said leases and therefore the proposed operation will contribute to conservation above and beyond operations normally carried out to comply with the policy of this State and Commission. The said Stock Tank Vapor Recovery Unit will consist of a small rotary compressor, a cooler, scrubbers, and storage tank. Early commencement of the operation of the Stock Tank Vapor Recovery Unit is desirable because the Unit is most economic while initial crude oil production is high.

4. That Pan American has determined by flash calculations that sufficient liquid products are available to economically justify the installation of the Unit. The Stock Tank Vapor Recovery Unit is proposed due to unusual conditions, because in most fields, the stock tank vapors do not contain sufficient products to economically permit processing and therefore such products are vented to the atmosphere and forever lost.

5. Applicant further represents that the liquid products recovered from the Stock Tank Vapor Recovery Unit will be of such high gravity, or high vapor pressure, that the only economic disposition thereof must be to a refining outlet which is available in this area. The liquid products when processed cannot be sold to a common crude oil pipeline.

6. Applicant therefore states that the liquid products proposed to be recovered by the Stock Tank Vapor Recovery Unit should not be considered to be the same as crude oil production nor should they be deducted from the crude oil allowable. The Stock Tank Vapor Recovery Unit is in the nature of a gas processing plant, and products derived therefrom can be reported on Commission Form C-111, Gas Purchaser's Monthly Report.

7. Applicant is of the opinion that the income derived from the sale of such liquid products from the Stock Tank Vapor Recovery Unit will always be less in terms of dollars per barrel paid for such liquid products than could be realized per barrel of crude oil produced. Therefore the crude oil production cannot be economically reduced to allow for including the liquid products recovered by the Stock Tank Vapor Recovery Unit. If such liquid products recovered from stock tank gas vapors are held to be a part of the crude oil production and therefore chargeable against the crude oil allowable, operation of the Stock Tank Vapor Recovery Unit cannot economically be conducted and the project must be abandoned.

8. That Pan American is the sole owner and operator of all of the stock tanks and other battery equipment serving the Navajo P, N, and U leases and no other person except Pan American and the royalty owners under these leases will be affected if this Application is favorably considered by the Commission.

WHEREFORE, Pan American Petroleum Corporation respectfully requests that it be authorized to commence the operation of the proposed Stock Tank Vapor Recovery Unit in the Tocito Dome-Pennsylvanian "D" Pool and that the liquid products from the Stock Tank Vapor Recovery Unit be held to be not a part of the crude oil production from said leases and therefore not chargeable against the crude oil allowable allocated to such leases.

Respectfully submitted,

PAN AMERICAN PETROLEUM CORPORATION

By H. T. Hunter
Its Attorney-in-Fact

STATE OF COLORADO)
) ss
COUNTY OF DENVER)

H. T. HUNTER, of lawful age, being first duly sworn on oath, deposes and says: That he is Division Production Manager and an Attorney-in-Fact of PAN AMERICAN PETROLEUM CORPORATION. That he has read the foregoing Application and knows the contents thereof, and states that the matters therein set forth are true to the best of his information, knowledge and belief.

H. T. Hunter
H. T. Hunter

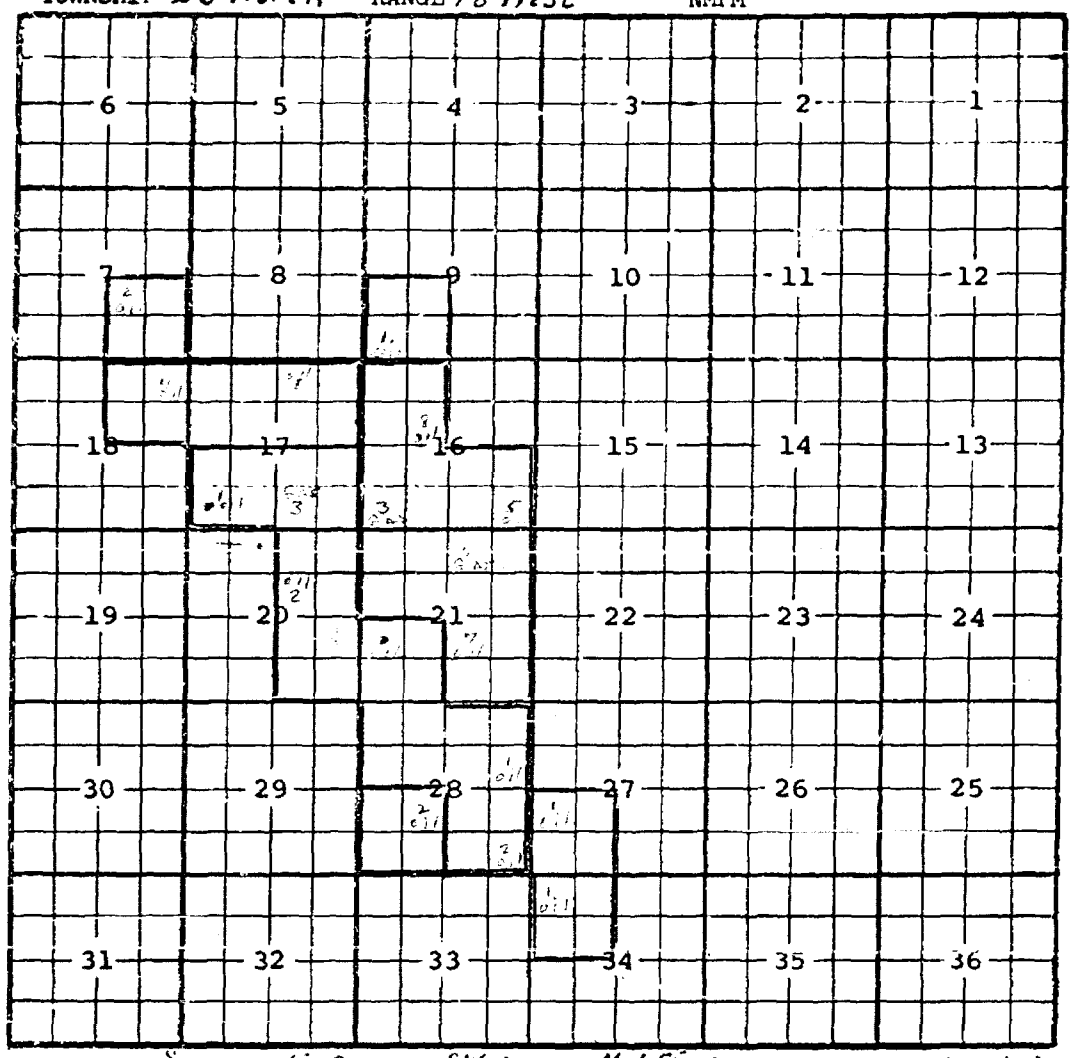
Subscribed and sworn before me this 5th day of January, 1967.

Kathleen L. Allison
Notary Public

My Commission expires 7/26/70.

COUNTY San Juan POOL Tocito Dome - Pennsylvanian "D" Oil

TOWNSHIP 26 North RANGE 18 West NMPM



Description: $\frac{N}{2}$ Sec. 17; $\frac{E}{2}$ Sec. 20; $\frac{SW}{4}$ Sec. 21; $\frac{N}{2}$ & $\frac{SE}{4}$ Sec. 28 (R-2758, 8-3-64)
Ext: $\frac{N}{2}$ Sec. 17; $\frac{NE}{4}$ Sec. 18 (R-2858, 2-1-65) - $\frac{SE}{4}$ Sec. 7; $\frac{SW}{4}$ Sec. 27; $\frac{SW}{4}$ Sec. 28; $\frac{NW}{4}$ Sec. 34 (R-2896, 5-1-65) - $\frac{W}{2}$ & $\frac{SE}{4}$ Sec. 16; $\frac{N}{2}$ & $\frac{SE}{4}$ Sec. 21 (R-2786, 11-1-65) - $\frac{SW}{4}$ Sec. 9 (R-3167, 1-1-67)

BEFORE THE OIL CONSERVATION COMMISSION

OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF PAN AMERICAN PETROLEUM CORPORATION FOR A VAPOR RECOVERY SYSTEM, SAN JUAN COUNTY, NEW MEXICO.	)))))	No. 3517

ENTRY OF APPEARANCE

The undersigned, Atwood & Malone, of Roswell, New Mexico, a firm of attorneys whose members are duly licensed to practice law in the State of New Mexico, hereby enters its appearance in this cause as New Mexico counsel for Pan American Petroleum Corporation.

DATED at Roswell, New Mexico, this 16th day of January, 1967.

ATWOOD & MALONE

BY _____

Attorneys for Pan American
Petroleum Corporation
Post Office Drawer 700
Roswell, New Mexico

ATWOOD & MALONE
LAWYERS

P. O. DRAWER 700
TELEPHONE 505 622-6221
SECURITY NATIONAL BANK BUILDING
ROSWELL, NEW MEXICO
88201

JEFF D. ATWOOD (1883-1960)
ROSS L. MALONE
CHARLES F. MALONE
RUSSELL D. MANN
PAUL A. COOTER
BOB F. TURNER
ROBERT A. JOHNSON
JOHN W. BASSETT, JR.

January 16, 1967

Mr. A. L. Porter, Jr.
Secretary-Director
Oil Conservation Commission
Post Office Box 2088
Santa Fe, New Mexico

RE: Cases Numbers 3517 and 3518 on the January 25, 1967, docket

Dear Mr. Porter:

Would you please file the enclosed Entries of Appearance on behalf of Pan American Petroleum Corporation in the captioned cases. The actual presentation for Pan American Petroleum Corporation will be made by Louis C. Ross, Esquire, of the Colorado Bar.

Very truly yours,

ATWOOD & MALONE

Paul A. Cooter

PAC:sah

Encl.

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
January 25, 1967

Application of Pan American Petroleum Corporation for a vapor recovery system, San Juan County, New Mexico.	Case No. 3517

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 3517.

MR. HATCH: Case 3517. Application of Pan American Petroleum Corporation for a vapor recovery system, San Juan County, New Mexico.

MR. ROSS: Gentlemen, I am Lovis C. Ross for the Law Department of Denver, 65, of Pan American Petroleum Corporation in Denver, Colorado. Mr. Examiner, I believe the record shows that Atwood and Malone in Roswell have entered their appearance. Is that correct?

MR. UTZ: Yes, they have.

MR. ROSS: Before proceeding with this case and the explanation that we must make of our Exhibits, I would like to state a few of the principal points that we expect to present to the Commission.

No. 1. What we propose to do here is something that isn't in the usual oil field practice where you have a reservoir of oil.

No. 2. That the vapors that we propose to process with this unit, which is a stock tank vapor recovery unit, are presently being entirely lost and are being flared. We believe that this system will, -- right now the products that are being flared are not fit for use for field purposes, but in this unit will give us field gas that is fit for field usage, and an important point is that there is a big difference in the

products that we expect to recover. In other words, they are not oil, there is a difference between oil and the products that we expect to recover. This system would probably be only feasible where you have a volume and where you have liquids in the vapor that are sufficient and, lastly I will have to say that unless the Commission favorably considers our proposed unit, we certainly will not be able to start it up and must abandon it because it is not economical unless it is free of all oil allowables and I understand that the Commission is concerned with that question.

Now, I have two witnesses whom I would like to have sworn at this time.

(Witnesses sworn)

MR. ROSS: Our first witness is Mr. H. A. Sommer, S-o-m-m-e-r. We sometimes call him, Bud Sommer and if I call him Bud you will know who I mean.

***

H. A. SOMMER, called as a witness on behalf of the applicant, having first been duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. ROSS:

Q Mr. Sommer, may I ask, have you ever testified before this Commission before?

A No, I haven't.

Q Who do you work for? Well, first, state your name?

A H. A. Sommer.

Q Who is your employer?

A Pan American Petroleum Corporation.

Q How long have you been employed by Pan American?

A Approximately ten years.

Q What is your profession?

A I am a Petroleum Engineer.

Q And what educational background do you have?

A I have a B.S. Degree in Petroleum Engineering from the Montana School of Mining.

Q When did you receive that degree?

A In 1957.

Q Have you ever been employed -- is Pan American your sole employer?

A Yes.

Q Would you state your experience that you have had with Pan American as an Engineer? Speak up, I'm not sure that they can hear you. Can you hear him all right, Mr. Utz?

MR. UTZ: Yes, I can hear him all right.

A Well, I worked six years in the area office as a Production Engineer and the last four years in the division office as an Equipment and Reservoir Engineer.

Q Are you familiar with this proposed project that we have here?

A Yes, sir, I am.

Q How familiar are you with it? Did you have any hand in developing it?

A Yes, I designed and recommended the installation.

Q Have you ever had any experience with this type of installation before?

A Yes, I worked two years in a gasoline plant and I also attended Pan American's process school.

MR. ROSS: Is the Commission satisfied with the Witness's qualifications?

MR. UTZ: Yes, he is qualified to testify in the Case.

Q (By Mr. Ross) Now, where is this project, where is the field and the general vicinity of this project and would you explain Exhibit One over here?

A Yes.

(Whereupon, Applicant's Exhibits 1, 2 and 3 were marked for identification)

MR. ROSS: Mr. Commissioner, I am going to wait until the end to produce these Exhibits because I think we ought to explain them first.

A We have as Exhibit One the location of the Tocito

Dome Field. The area outline in green is the approximate productive area in which Pan American has battery facilities. The green wells are oil, are presently oil producing wells. The red are the gas wells. Shown in the northeast,northeast of Section 20 in red is our commingled battery. All of the leases in this field are a hundred percent working interest Pan American. There are three distinct leases, but all have the same royalty. The production from all of the wells is commingled and is serviced by one battery. There are other producing wells in the area with other operators, but these are not connected to this battery. It is the battery shown in Exhibit One that we are primarily concerned with.

On Exhibit Number Two we have shown how our present battery facilities are installed. The productions from all of the wells in the field from the PAU Leases, is combined and routed to two stages of separation. We have our two stages of separation designed to minimize the amount of compressor hose power that we have to install to dispose of the produced gas. The produced oil in the Casing Head gas is routed to your first stage operator which operates at 900 pounds. The gas is routed directly to the cells. The oil is then routed to a 200 pound separator. Gas from the 200 pound separator is compressed back up to 900 pounds and tied into the sales gas line. Oil from the second stage separator is routed to a

treater which operates at thirty-five pounds. The function of the treater, of course, is to remove all of the water that is produced, gas from the treater because of the high water content cannot be economically used and is therefore routed to vents or flare lines.

Oil from the treater is routed to the crude oil stock tank where it is stored. We have a volume shown of the various gas streams in the battery and because of the large volume of associated casing head gas, we evaluated each individual stream for the desirability of installing equipment to recover any of the available liquids.

We have shown on the table at the bottom of Exhibit Two, each one of these streams; the volume and the amount of liquid product available above C-5 plus. Now, the C-5 is the Pention project we have shown in this GPM in, which is gallons of liquid products per thousand cubic feet of gas. As you can see the two separator volumes which are quite substantial, contain a very small amount of GPM. With the small volume of GPM, we cannot necessarily process the gas to recover these liquids. The treater volume which is substantially less, has about 1.6 GPM of available products. Now, this stream cannot be processed for the available liquids, however, the stock tank vapor has about 9.3 gallons of liquid per thousand cubic feet of gas and it is this gas that we are

primarily interested in on this proposed installation.

We have shown the lines that are under consideration in red in Exhibit Number Two. I wish to point out specifically, that these volumes from the, these gas volumes, from the treater and the stock tanks under normal operations are vented and they have no economical use. It is only because of the condition that exists in this field of the high volume of liquid products that we can justify installing additional equipment. Now, these gas volumes from the treater and the stock tanks also are flared and once they are flared, of course, any products that exist with the gas are lost forever. We have shown --

Q Before leaving this Exhibit, to which is the existing system and going to Exhibit Three, I want to point out that on Exhibit Three the part above the green line is a duplication of Exhibit Two and I have handed the Commission some smaller replicas of these Exhibits. Now, Bud, why is this gas up here unsuitable for field use? Now, I wish you would stress that point?

A There are two reasons the gas is not suitable for field use. One is that the treater gas especially has a large volume of water. It must be dehydrated before it can be used in full because of the low volume. We can't economically afford to dehydrate the gas to make it useable.

On the stock tank vapors this gas also has a high water content, but primarily it is because of the extremely low pressure. It exists at some two to three ounces of pressure and you can't afford to pick it up and sent it throughout your system because of the low pressure.

Q Bud, isn't it a fact, don't those vapors just kind of bubble offof the oil?

A That is true, that is exactly what happens.

Q Isn't it true that you must, that this isn't -- that the pipe line doesn't like it when it is first produced? In other words, do you have to weather it?

A Yes, the oil.

Q I'm talking about the oil pipe line?

A Yes, the oil that we accumulate in our stock tanks is sent to a pipe line company who also stores it in tanks similar to this or similar to our stock tanks and they buy a certain volume and they expect to have a certain volume in their tank. If this gas is not allowed to evolve from the oil in our stock tanks, it will evolve in their stock tanks and they will come up short. Of course they will want a summary.

Q These vapors are coming off of this stuff all the way from the well head clear through this system and even some of it still comes out after the pipe line gets it, doesn't

it?

A Yes. This gas is in solution with the oil in the reservoir, but as you reduce the pressure, the gas, because of its nature, will evolve from the oil and it becomes what we call "casing head gas." It just separates and oil is collected in the stock tank and of course the gas is then disseminated throughout the system by some means.

Q Very good. I wish you would explain Exhibit Three to the Commission and I would like for you to emphasize about what we propose to do in the unit we propose to place in operation?

A We have shown on Exhibit Number Three the present battery facilities and how the proposed stock tank vapor recovery unit will be tied into the existing facilities. Above the green line, we have shown the existing facilities. Below the green line are the proposed facilities. We have taken the stock tank vapors as they come off of our tanks, routed them through to a suction scrubber. The function of this suction scrubber is to remove any entrapped liquids; the gas is then routed to a compressor where the pressure is increased from some few ounces of pressure to thirty-five pounds.

Q At this point, I wish you would explain that compressor and particularly with regard to how scarce they are?

A This is a rotary type of compressor. It is not a

piston, it is a rotary type and it is -- the scarcity is primarily because of the fact we are, it has to operate with a suction pressure of less than one pound. It is down in the ounce range where very few manufacturers make a compressor of this type. This compressor, as I said, compresses the gas from a few ounces of pressure to thirty-five pounds. Because of this compression, the temperature of the gas is increased. The gas is then routed to a cooler where the temperature is reduced. The liquid products are condensed and are collected in our discharge scrubber.

Now, as a result of this condensation we have available to us gas now that is useable in our fuel field system. This is the same that, which we showed in Figure Two as being unsuitable for use. The liquids recovered in the suction scrubber and the discharge scrubber are then routed to a stock tank which we call our natural gas liquid tank. Now the nature of this liquid that we recover, prohibits the normal sale of the gas accrued, it cannot be disposed of in a pipe line.

Q Is that tank like a regular oil stock tank?

A No, it is a pressurized tank where it can hold pressure on the products. These products have vapor pressure or should have a vapor pressure of approximately twenty pounds. It is necessary to keep a higher pressure on this tank to keep the products in their liquid stage. Now, as I said, this very nature of this liquid cannot be disposed of in a normal pipe line.

Q Do you have that for the --

A It has to be disposed to a refinery outlet which we have under contract. They will truck this product to their refinery and use it as a blending stock. Now we have shown the installation and how it is concerned with the stock tank vapors. Now, the economics of the installation were derived on processing just this gas. However, once the installation was justified we could afford to increase the size of the cooler to handle the treater gas and make it economically possible to obtain any liquid products that were in the treater gas vent or treater flare line. Then, we have shown how we come off the treater and have combined this gas, which is at thirty-five pounds, as the discharge of the rotary compressor combines the two streams and routes both of them through the cooler. In this manner, we maximize the amount of liquid we extract from the vapor. Now, as I said, the economics of this thing or this installation is derived on the sale of the liquid products collected. It is necessary to sell this product to be able to recoup our capital expenditure that we have made.

Q About what will this cost?

A The installation cost, installed?

Q Estimated?

A It is approximately 21 thousand -- 21 thousand 700 dollars.

Q This isn't a very large operation then, really, is it?

A Well, it is a relative term.

Q Yes.

A As I said before, the ability to recoup our investment depends upon the products that we sell. If this product has the same volume as the crude oil which we sold and the liquid was charged against our allowable, then the total income derived from this installation and the oil production would be the same. Consequently we have made a capital investment here which is not being recovered and we cannot show any economic justification. In actuality, this liquid that we recover in this tank is about 40¢ a barrel less in price than the oil that we sell to the pipe line. Consequently, if we are faced with cutting our allowable by the amount of product that we make in this vessel, then we will end up negative in our operation. We will never be able to justify the installation. Now, as it stands if the liquid is charged against the allowable, we cannot justify the installation, therefore it will not be installed.

Q Bud, what is the nature of this operation? How would you describe it?

A This is, I would have to describe technically, it is a plan of limited size. This is the same type of

operation that exists where we sell the gas to El Paso. El Paso or some other pipe line company will take this gas, run it through a retraction plant and recover some of the liquid product. This is the same type of installation. It has a plant, it has pressure and it has cooling. Any time you have this type of installation, you have to consider it as a plant. Now, normally, we talk about the plant in large volumes. These are relative low volumes, sometimes we construe it as something different than a plant, but it is a plant.

Q I notice you have an outlet over here marked "Field Fuel." Where do you get Field Fuel now?

A Under our present system, it is necessary to take gas off our sales line. Now, once this gas is compressed and tied back or once the second stage, separation gas is compressed and tied into the sales line, the total stream is dehydrated.

We now take our field fuel system off of the sales line down stream of the dehydrator. Under our present operations, this is the only location where we have gas that is dry enough to be used in our field fuel system.

Q I would like to inquire a little more about how this things operates. Supposing someplace back in the background here in your present operation, something happens. The gas declines, I mean, the oil declines in volume or you have a breakdown that shuts it off, what happens to this thing?

A This installation is completely automated. When the liquid volumes are accumulated in the suction and in the discharge scrubber to a point where they actuate a level float, a diaphram valve is opened. The gas from the discharge of the rotary compressor is routed into the vessel. We increase the pressure on this vessel and we blow the liquid product into our natural gas liquid storage tank. Now, if the volume of oil or volume of gas routed to the battery decreases, we have the engine on this rotary compressor tied into the vent pressure or vent line and we actuate this or run this engine on the pressure from this vent line. On increasing pressures the compressor will speed up and be able to take more gas, if the volume exceeds the capacity of the pressure, then a valve on the vent line is tripped open and the gas, access gas is routed to flare. If the volume decreases, the pressure comes down, the rotary engine on the rotary compressor is slowed down. If the volume is lower than the engine can run, when it reaches a minimum, the gas is bypassed and is circulated around. If the volume continues to go down and the pressure reaches about one ounce pressure, then this unit is, or the rotary compressor is shut off.

Q It is automoatic, isn't it?

A Yes.

MR. ROSS: I believe that ends our direct with this

witness here. Does the Commission have any questions about it?

MR. UTZ: Yes, sir.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Sommer, I believe, you stated that the gas coming off of the treater was, had quite a bit of water in it?

A Yes.

Q Where did you take this water out in this installation here?

A The water that exists in this line will be condensed in our cooler just like the liquid products. There will be a large volume of this water that will actually be accumulated in these discharge scrubbers. Now, this gas won't be like dehydrated gas, it won't be as dry, but it will be a lot more dry that it is at the present, or drier I should say.

Q Now, you are telling me that the water comes out in the cooler?

A Well the gas is cooled and the water will condense.

Q So actually you take it out then in the discharge scrubber?

A Yes, most of it will be collected in this vessel.

Q And then it goes on down in with your natural gas liquids?

A No, it will be necessary to, you know, run a three

phase float.

Q You didn't use a discharge line for water there, did you?

A No. We will float the water in this vessel either manually or with a three phase float.

Q Well, Mr. Sommer, Pan American virtually controls this pool, do they not?

A This portion of the pool, yes.

Q Well, are you vitally concerned about drainage from the one Mobil well and the Texaco people down south of you there?

A Not the Texaco, no. They are all small wells alright, because we have a dry hole between our porperty and the Texaco property which shows that field has a discontinuity in between our porperty and Texaco's property and it is a different oil pool.

Q You only have a possibility as far as drainage is concerned, is that right?

A Yes, sir.

Q So when this pool is decompleted you are going to get, the way you operate right now, you are going to get "X" amount of oil out of it, would that be correct?

A Yes.

Q So if you install this system then, at the depletion of the pool you would get "X" amount of oil plus whatever you would recover out of this system, right?

A Yes.

Q Now, you plan to make money out of what you are going to recover out of this system, right?

A Yes.

Q So you can pay it out and after pay out, you will derive some profit from it?

A Yes, that is true.

Q Then at the end of the completion of the pool, then you would have made money on this system even if it was charged against the allowable?

A No.

Q Just take you longer to get it?

A Well, yes. If we talk in terms of twenty years or twenty-five or twenty-two years to drain the pool, ultimately we will get all of it.

Q It will be discounted by some discount factor?

A Yes.

Q You would, even if this is charged against the allowable, you would still make money out of it in the long run?

A No, I would have to say that we would ultimately recover the same volume of oil but you wouldn't make money on it because that volume of oil that you don't produce today is deferred for the life of the field. If the field life is twenty years, then the oil that you don't produce today is deferred for twenty years and the value of that stuff in the ground is nothing. The value is when you sell it, so if you have to defer the selling of this product at a point in time you have to defer it for fifteen years, then you can't say you have made money.

Q Well, you are not trying to tell me that you will abandon the pool at the end of the year because it would produce at twenty-five, would you?

A No, but the point is you can't take an installation like this and defer your primary project -- you can't defer your primary product to justify the installation of this type.

MR. ROSS: What you are saying is it becomes uneconomic if you have to cut down over here.

THE WITNESS: That's right. If you have to pay for this installation, if you lose it here you can't pay for it.

Q (By Mr. Utz) In the form of ~~capital~~ income?

A That's right. In other words under your consideration the unit, it would not be paid out in fifteen or twenty years down the line.

Q Well, that is what I said in my hypothetical question, that you would have to discount by some discount factor and that would be really all the difference. You would actually recover all, more oil from the pool by installing and charging against the allowable?

A No.

Q Why wouldn't you?

A This is not oil.

Q These liquids.I have changed the statement to say liquid rather than oil?

A These liquids.

Q And they are saleable liquids?

A Right, but not as a crude, as saleable, they represent a different product. They represent a different use.

Q So what Pan American is actually saying here, is that they would rather flare the gas than to sacrifice current income?

A Pan American would rather flare the gas than to install an uneconomical installation.

Q Now, the installation as it is now producing actually flares the gas from the treater, is that correct?

A Yes.

Q And you say that is unuseable gas, either for fuel or sale?

A Yes.

Q What temperature does this treater operate in?

A The treater normally operates at no more than 150, I think right at the present it is being operated at 130 degrees.

Q Well when you install this system what temperature do you expect to operate it at?

A The temperature of a treater has essentially no effect on the volume of gas that you get at this vapor recovery unit. We don't intend to change our operation in any manner. We have a problem in Tocito whereby whenever the temperature is increased at the treater, we have a scale problem, we have a scale problem that causes us to use more chemical, more operation costs. We have got to keep the fire tubes in good condition so it doesn't seem reasonable that we would want to increase the temperature because all in essence what we are doing is increasing our problem. If we increase the temperature we would get less than a half a barrel increase over here.

MR. ROSS: Over here, you mean in your natural gas liquid tank?

THE WITNESS: Natural gas liquids. The vapors that you get over here are essentially a function of the amount of gas that is in association with the oil. This casing-head

gas that is in solution down through the reservoir, when you bring it out here and reduce the pressure, it evolves. This is the area in which the gas is drier.

Q (By Mr. Utz.) So I gather, in your opinion then, you will not decrease the volume of the stock tank oil that is produced from the oil due to the installation of this unit?

A Would you --

Q You are not going to produce any stock tank oil which would go into this unit in the form of vapors and cause you to have to produce more oil out of the well in order to get more liquids that were not charged against allowable?

A No. This was evaluated on our existing system, as I said, the gas is here because of the physical nature of the crude and the gas. The liquids, the large amounts of liquids available in this stream are again special conditions that exist in this field.

Q Well, I don't think anybody would question your recovering vapors off of the tank. What I was getting at there was vapors off your heater treater?

A As I said, it cannot be economically processed by the -- it is because of the pay-out on the vapor that we are able to even take this gas, and as you can see from our Exhibit Number Two, with this 1.6 GPM, you are not looking at a large quantity of available liquid. Again the liquids are from this stock tank.

Now, we could very well shut this treater vent line, take it back and put it out to flare and eliminate the processing of this gas and essentially not affect this product over here.

Q Because of the difference between the 1.6 and the 9.6?

A Yes.

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

MR. PORTER: I have one or two.

MR. UTZ: Mr. Porter.

CROSS EXAMINATION

BY MR. PORTER:

Q As I understand the purpose of this application is to recover vapors which are now escaping. In other words, you are converting your purpose, the purpose of your plan here is to convert these vapors to a liquid, condense them to a liquid which you will correct in this natural gas liquid container that you have designated there on your Exhibit Three. Now are you estimating the recovery there at forty barrels per day?

A The installation was designed around the condition, the approximate conditions that existed last summer when we were producing approximately twenty-three hundred barrels of oil a day. Now, as you can see, I used twenty-five hundred

barrels of oil per day as the amount of sales on the crude. Now, this is strictly a method of making the calculation simplified. We took a given volume and worked backwards from this thing to get the volumes of gas evolved at these areas in the battery. The products derived on the natural -- the natural gas liquids derived as a function of this, of the crude oil sales. If this crude oil sales is cut in half then there is half as much gas product available. Then this product will be twenty barrels rather than forty.

Q Now, this liquid, which you do not call crude oil, that was being recovered is now being lost?

A Yes, sir, that's right.

Q What do you anticipate to sell this for? How much a barrel?

A We have under contract a refinery that will pick it up for two dollars and forty cents a barrel.

Q What would that net to you, two dollars?

A Approximately a dollar eighty-five.

Q Approximately a dollar eighty-five and you say the cost of your installation here is $21,700.00

A Yes, sir.

Q Then you will probably expect to pay out your installation in something less than a year?

A Yes, sir.

Q Now as I understand your application, you are asking for this portion of the liquid which is being recovered, or all of the liquid that is being recovered to be exempt from all allowable?

A Yes, sir.

Q Now, are your wells producing through this system, top allowable wells at the present time?

A No.

Q They are not top allowable?

A Well, yes. Let me qualify this.

Q Well, if they are not top allowable, I mean it would be a little difficult for me to understand why you would need the exemption.

A The wells are top allowable, but they are not making the maximum allowable; without a restriction they do have a good amount of G.O.R.

Q G.O.R. limitation?

A Right, so we are in essence producing the field at the top allowable with the restrictions.

Q Now, in view of the fact that the installation would pay off and certainly the Commission is interested in the conservation that your installation would pay itself out, well say, estimate in a year's time, are you asking for a permanent exemption from allowable of this oil recovered or just until

the thing pays out? You made a statement that Pan American could not afford the installation if this oil is charged against the allowable because it couldn't justify?

A Well, your statement is correct. Once our field can't make top allowable then it becomes a mute point. The product that we make here could be charged to allowable and have no affect because we wouldn't be able to make this top allowable. However, we don't know when we are going to get into the area.

Q All right.

A Now, the point that Mr. Porter is making here, I feel that he is trying to infer that this is an oil product.

Q What I am assuming is that it is coming from a common reservoir from which other producers are taking the same product whatever it is.

A The gas? Let me propose a condition that we could economically pick this gas up and compress it and sell it to El Paso and El Paso then would have this product, this liquid product in their line.

Q Yes.

A They would take it and run it through an extraction plant and they will make the product. What would we do with this liquid product?

Q I don't know.

A We couldn't charge them to allowable because they don't have any wells. This is a planned product we propose in our application that the liquid we recover here be reported on State Form C-111. Now this is a plan.

Q This is a part of your proposal and your procedure for handling this that you report this on a C-111?

A Yes.

Q In other words, you will treat this as an extraction plant really?

A Which it is.

Q So far as the reporting procedures are concerned?

A The only difference between this plant and the El Paso plant who might be down the line about fifty miles, is we have just got a shorter flow line.

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

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Sommer, did you state that you are presently operating this heater treater at 130 degrees?

A Yes.

Q Now, you made the statement that temperature would have no affect on the amount of liquid recovery. All of the engineering I ever learned about oil, tells me that if you

heat oil, you can change the liquid recovery very drastically. Now explain why you said the temperature has no affect over liquid recovery here?

A I think I made the statement that the temperature has very little affect on the volume of liquid that you recover from this vapor.

Q Now, notwithstanding any damage that might occur to the tubes in the heater treater there in that pump, you walk out there and turn the fire up high and got 250 degrees in that heater treater, you would change the liquid recovery down there, wouldn't you?

A Yes, that's right. You are right in saying that the temperature does affect the crude. It does evolved more gas, the more temperature you put, the more gas you evolve. What I mean is, this is just a refining process. We take a crude into a refinery, you heat it up until you crack it to make --

Q Now, you show 46 degree gravity coming off of the stock tank?

A Yes.

Q Your present installation which is operating at 130 degrees --

A Yes.

Q -- you show 46 degrees crude coming off of the stock tank with your heater treater, on Exhibit Number Three; when

you are operating at 150 degrees, tell me how you get the same gravity oil when you up the temperature 20 degrees?

A Well, let me qualify the temperatures. I made the calculations using 150 degrees because this was the maximum temperature at which we ever operated the treater. Now, in actuality we are only operating at 130 . Now, this would have a tendency of increasing this gravity, but as I said all of the conditions were designed around operating this at 150. Now, as a point of interest where we are to calculate this thing at 150, with the treater temperature at 150 degrees and increase it to 175, you will only get, as I said, less than a half of a barell increase in the natural gas.

Q The gravity in the stock tank would go down though, wouldn't it?

A The gravity would go down approximately one degree A.P.I

Q For twenty-five degrees change in temperature?

A That's right. So rather than looking at 46 gravity crude, we would then be looking at 45 gravity crude.

Q What back pressure are you currently carrying in those stock tanks?

A I don't know if we have a gauge on the thing, but it is a normal type installation where we have out vent lines, our theave hatches set at approximately, I think it is a maximum of three ounces, four ounces.

Q Four ounces is rather typical for oil field operations, is it not?

A Yes.

Q What back pressure did you anticipate holding on those tanks, when you put this vapor recovery system in?

A The installation, as I understand, is -- this is a maximum of four and a minimum of one ounce. The normal vapor recovery will have a back pressure of about an ounce in the tank.

Q By lowering the back pressure, you're going to increase the volume of gas that comes off this tank and yet you show 300 MCF in both installations?

A As I said first, the maximum of, on the tank is four ounces whether they operate at this size, I don't know. If we have a gauge on those things, I mean maybe they are operating right now at two to three ounces.

Q Does Pan American operate any installations similar to this at the present time?

A Not in the State of New Mexico, however, this is a common installation in Canada and in Wyoming.

Q Oil is not prorated in either one of those places is it?

A It is prorated in Canada.

Q What do you have, eight oil wells here at the

present time?

A Yes.

Q What is the top allowable in this pool? 334 barrels per day?

A Right. Per well without GOR restrictions.

Q And making approximately 2300 or 2500 right now?

A Right. Now we are making approximately 1150.

MR. PORTER: Is that mainly because you have gas-oil ratio restriction that the production is down to this figure, to about half of what it was?

THE WITNESS: It is entirely due to that.

Q (By Mr. Nutter) Could you guarantee, Mr. Sommer, if this installation were put in effect and authorized by the Commission that there would be no change in the gravity of the crude oil produced?

A No, I can't. primarily because I am not sure whether the gravity of crude will remain the same for the life of the reservoir if the unit wasn't put in. The installation, it should have no affect on the gravity the way we propose to operate it.

MR. PORTER: But, it isn't unusual for gravity of oil to change over a period of time?

THE WITNESS: It usually depends upon the size of the reservoir because the characteristics of the crude change in

relative positions to the gas cap and the water cap.

MR. NUTTER: But is could change?

THE WITNESS: It could change, yes, sir, by itself, and not a function of some equipment that we put in..

Q (By Mr. Nutter) Well, if a testing procedure could be arranged whereby the gravity without the system, and the gravity with the system could be determined from time to time, would you guarantee that the gravity of the oil wouldn't change as a result of the installation?

A Yes, I believe I could say that.

Q If a testing system were set up?

A Yes,..

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

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Sommer, as I recall this is a water drive reservoir, is it not?

A Yes, sir.

Q Due to that fact, would you anticipate that these wells would decrease the producing ability at a very rapid rate?

A Yes. Right now we are not in the producing history where water has caused a severe decline. The more oil we draw from the reservoir, the greater volume of water we will

have to produce also.

Q Yes.

A Once this water starts hitting us, the capacity of the reservoir will decline sharply.

MR. NUTTER: How will you pay taxes to the State of New Mexico on the basis of the produced oil or on the production or on the basis of the manufactured product?

MR. ROSS: Mr. Nutter, as you know, that's a legal question. May I answer it?

MR. NUTTER: Yes.

MR. ROSS: I believe you asked us how we propose to pay taxes on this production that we get out of this natural gas liquid pressure tank. This unit, while it is a conservation measure and a small type plant operation, it has either got to be a plant where we pay our manufacturing taxes on the manufactured products or in the alternative we will have to treat it just as if it was a casing head gas and pay back the royalty under the terms of the vari[illegible]eases. It has got to be one or the other, the way I see it.

MR. NUTTER: Have you made any arrangements with the Navajo Indians or with the State of New Mexico regarding the taxesand royalty?

MR. ROSS: Not to my knowledge.

MR. NUTTER: To find out how it is going to be

classified?

MR. ROSS: Not to my knowledge.

THE WITNESS: We had proposed to operate this thing and pay taxes in accordance with lease agreement, the lease agreements has this type of product designated in it and how it should be handled.

MR. ROSS: There is a provision in all those leases for the payment of royalty on a gas product and I think the lease also pertains to a certain return, if you have a net proceed from a plant and we would just simply have to pay royalty based on what the lease says.

THE WITNESS: This installation falls within Rule 1002, if I remember it correctly, which states that any gasoline plant,recycling plant or any other plant in which propane, butane, gasoline or other liquids are evolved, should these said products be reported on Form C-111.

MR. ROSS: I think what the Company's trouble from the legal standpoint here, is that this isn't a big enough operation even though it is particularly a plant to where we would utilize that product ourselves, isn't that correct or have I stated it incorrectly?

THE WITNESS: Normally, like I have said before, the gas is routed from Pan American and El Paso gets the gas. In this case, Pan American's route goes to Pan American and

Pan American gets the liquid. It doesn't necessarily have to be Pan American. We could take this gas and pick it up and sell it to Pete Porter and let him run the plant and it would be his product.

MR. UTZ: Are there any othe questions?

MR. ROSS: I have some.

REDIRECT EXAMINATION

BY MR. ROSS:

Q Bud, what is the present value of the oil being produced, discounted twenty years at six percent, approximately?

A Using an approximate month number --

MR. PORTER: He doesn't have the slide rule.

MR. ROSS: Yes, that is exactly right.

A We use a rule of thumb that says the value of a dollar in twenty years is ten cents, discounted this is --

MR. UTZ: What rate?

THE WITNESS: If you have a dollar today or can get a dollar today and you don't do anything with it at the end of twenty years, in essence it is worth only ten cents. You could have taken ten cents and invested it today and in twenty years had a dollar.

MR. PORTER: I think that is an optimistic figure.

THE WITNESS: No, I think it is realistic. This is not inflated either, this is discounted at the present value, which if you throw inflation in there it becomes extremely small.

Q (By Mr. Ross) Therefore what you are really saying is, this product or this oil would have essentially no value at the end of twenty years?

A Yes, that is exactly right. As I said to Mr. Utz, we can't justify the operation of the stock tank vapor recovery unit; if we have to defer pipeline oil and this is exactly what it would be, we would end up deferring pipeline or crude oil, in twenty years which essentially is worthless. It might be job security, but it is worthless today.

MR. UTZ: But you wouldn't abandon the pool after twenty years?

THE WITNESS: Well, no. The think is we can't justify putting the installation in either based on not getting any more income until twenty years. We will wait twenty years to put it in then. We can put our money in on those places which return us money, just like you and I put our money in the bank. You wouldn't put it in a savings account if they told you you weren't going to make any interest for twenty years, this is the same type of system.

MR. ROSS: I still have a few questions.

Q All right now, would you say that it would be -- I think one other operator that could be affected by this and they are not affected, would be Mobil, but would you say that Mobil could install a unit like this?

A No, they can't, it is impossible because they are looking at a one-well deal with a low volume of gas even through they might have this high liquid product they are looking at too low a volume. You have got to have two conditions; you have got to have sufficient volume and you've got to have sufficient GPM to be able to install one of these installations and you have got to have both. One without the other is no good.

Q Well, then, what we are really doing then is increasing the efficiency of the operation, is that correct?

A Yes, sir.

Q And we are making money out of something that has no value whatsoever at this time?

A That's right.

Q Unless we process it through this unit?

A Yes.

Q What is the temperature of the oil and gas in the reservoir?

A The average reservoir temperature in this field is about 105 degrees.

Q Well, to conclude, unless there are other questions, what is your opinion of the proposed operation as a conservation measure?

A Here comes the commercial. This installation is a

conservation measure above and beyond what we normally would consider. It is like a farmer that has a sale for his pig, except he can't sell the squealer, well in this case we have got enough squealers, we have found a market for it and this is what we have done. We have taken and found a volume product that we can economically pick up and manufacture it and sell it. We can justify the installation, we are maximizing the recovery of all products available in the reservoir.

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

RECROSS EXAMINATION

BY MR. McGRATH, USGS:

Q I don't have my slide rule either, but it looks to me like if you have about 160 barrels of liquid there and you are only getting 40 --

A That is a good point. anytime, I mean any plant works on an efficiency basis.

Q Yes, I know.

A We could make this thing real efficient. All you would have to do is take this stuff up to maybe, two or three hundred pounds. Well, we are cutting off the fat part by taking it up to thirty-five, from thirty-five to a hundred you get production, but not as much as you did from zero to

thirty-five. See, each increment you get more production.

Q You would estimate that you would sometimes get about one more than what you have available?

A Yes, that's right. We figure twenty percent efficiency on this plant.

Q I just wondered where it went?

A That is Mr. Nutter's point about this treater temperature. What happens, when you increase the temperature you don't in essence increase in volume. If you increased in volume this fuel increases your temperature.

Q You would get more gas and you wouldn't get your penalty on your gravity?

A That is a point that only exists in Tocito gravity, if I remember correctly here, thatwas only forty-four gravity, then I would suffer, you can't install this piece of equipment anyplace, I mean it takes an ideal condition or an ideal system which we have at Tocito.

MR. McGRATH: That's all.

MR. ROSS: If it pleases the Commission, I would like to introduce Exhibits One, Two and Three and have them entered into the record.

MR. UTZ: Without objection, Exhibits One, Two and

Three will be entered into the record.

(Whereupon Applicants Exhibits 1, 2 & 3, admitted in evidence)

MR. ROSS: I would like to now call Mr. George Eaton.

MR. UTZ: We will excuse Mr. Sommer and call Mr. Eaton.

(Witness excused)

MR. UTZ: Proceed.

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

DIRECT EXAMINATION

BY MR. ROSS:

Q George, do you agree that this proposed installation is technically like a plant?

A Yes, sir, it is a small plant.

Q Small plant? Well, how would you distinguish it from a large plant?

A Because it is smaller than a large plant. This is the main difference, really. In either case the plant processes a natural gas stream and extracts from it liquids that are contained in it. A large plant would process many millions of cubic feet per day, this small plant would process this 600 thousand cubic feet per day, but in either case the object of the plant is to compress the material and to cool it

and thereby condense liquids from it.

Q There is a difference in the way it is disposed of?

A The products that you get, no, sir. In either case the products from the plant would be used as blending stock for our refinery products. Mr. Ross, I don't know if Mr. Utz got the significance of something Mr. McGrath said a moment ago with regard to this taking of a penalty on this, primarily on this crude oil in Tocito. Under the strange circumstance that exists in Tocito, the break over point between the top posted point is 45 degrees above this, you take two cents of degree penalty on this well. This 46 degree material that we sell at Tocito actually would be worth two cents more if it was 45 degree material.

Q Well, George, now, isn't this unit practically installed already?

A The unit is completely installed with the exception of the natural gas liquids tank container.

Q You are very familiar with this operation? Is there anything you would like to volunteer with regard to it?

A Only that being very close to the operation of it, of the pool as it is now and of the pool as it will be with this unit installed, I can say this, that there are no changes in the operation procedure contemplated. We plan no change that would tend to circumvent the allowable, program that is

now installed in Tocito.

MR. ROSS: Since Mr. Eaton has testified so many times before this body, I just assumed that you would be satisfied with his qualifications, but I would like the record to show whether or not you are satisfied with his qualifications.

MR. UTZ: Yes, he is qualified.

Q (By Mr. Ross) What is the purpose of this proposition as a conservation measure?

A This certainly is in the interest of conservation for through it we will recover products that are not recoverable by any other means that are currently being lost to the atmosphere and will continue to be lost without the installation as it is proposed.

Q Well, now, George, supposing this order wasn't granted to your satisfaction to where we could operate this unit the way we tried to explain it here, what would we have to do with all this equipment?

A It would have to be moved to some other location probably not in the northern portion, probably outside the State.

MR. NUTTER: Probably Whyoming?

THE WITNESS: Probably, very likely, yes. One thing

I might just dwell on just a little bit without being repititious too much, but I want to be sure these numbers are fully understood. In the Tocito Pool this top posted price for the crude oil is $2.80 a barrel. The deal that Pan American has with Plateau for its drip and the condensate which this NGL will be disposed of through this same contract, provides for $2.40 a barrel. Now, here we are installing a unit costing 21 thousand 7 hundred dollars with the expectation that this recovered NGL is considered to be part of the oil allowable at a rate of 40 barrels per day with a 40¢ per barrel less price for it for this capital investment of 21 thousand 7 hundred dollars, Pan American actally suffered a loss of $16.00 a day current income. This would be apparent from Mr. Sommer's testimony, but I wanted to be sure that the numbers didn't get mixed up in all the other numbers that he was presenting. The point I'm trying to make is not only under those circumstances, there will be no increase in the income whereby this system could be paid out of the current income, actually it is less by the amount of, approximately 40¢ per barrel.

MR. McGRATH: Isn't that 40¢ not 40 barrels?

A Right.

MR. ROSS: I believe that's all we have from this witness.

MR. NUTTER: Are there any questions of Mr. Eaton?

MR. PORTER: I have one.

MR. UTZ: Mr. Porter.

CROSS EXAMINATION

BY MR. PORTER:

Q Mr. Eaton, you are familiar with the Commission's operations and you would, you have attended many of our hearings, you have of course, recognized our concern in this matter, any deviations of established policies as far as the allowables are concerned giving one operator an advantage over the other?

A Yes, sir.

Q We have had hearings on rules of procedure having to do with disposing of pit oil where we have had requests to exempt it from proration. We have never seen fit to make that exemption because of the obvious attitude that you might have for abuse of it. Of course, in this case I do realize that there is testimony that you don't consider this as being crude oil, but rather a product of this plant. However, I was wondering if in the event that the Commission should act favorably upon your application, what would be the attitude or, your attitude towards some kind of a limitation on the amount of liquid that would be sold and recovered here, either as a flat number of barrels per day or percentage of the crude oil

produced or some other limitation?

A Mr. Porter, I certainly couldn't object to some sort of limitation like that. The difficulty would be to establish one that would be workable. Now, this may sound strange, but I base this on the fact that in my mind, at least there is going to be a considerable amount of difference in the amount of, not the treater gas, but this instant vapor gas between what is evolved in the summer time and in the winter time; and perhaps on a real cold day like we have had a few of this winter, you get hardly any to base a limit as you suggested on either based on the volume of crude through pit, or specified number of barrels, I think, would have to be certainly based on the --

Q Maximum?

A Maximum temperature in August or summer months. Other than that, I could certainly see no objection to it if you could find some value that would be workable.

MR. PORTER: That's all the questions I have.

MR. UTZ: Mr. Nutter?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Eaton, I hand you, and you read a little while ago, a rule book concerning installations similar to this, from the rule book of one of our sister States and I just

wondered what your attitude is toward this provision here, where it says that"if any facilities other than a conventional heat treater is applied to a gas gathering system so that a heat vacuum may be applied to oil prior to measurement that the operator may, at his operation, apply heat or vacuum to the oil only to the extent that the average gravity of the stock tank oil would not be reduced below some set limiting gravity for the lease, as established by a gravity test procedure," which is outlined in that rule. Is a requirement similar to that objectionable to Pan American in this installation?

A No, sir, I don't think so. I did read the rule rather hurriedly and it is quite lengthy, as a matter of fact, and I saw really nothing objectionable in the rule in my hurried look at it.

Q We could establish where an average gravity is currently and then set a limiting gravity below which the oil could not be treated.

MR. PORTER: Actually, to some extent it would be to your advantage to lower the gravity here as I understood your testimony.

Q (By Mr. Nutter) One degree, but no more than one?

A Well, actually Mr. Nutter, with this practice -- well I hope I'm right about this. I think it is 45,45 degrees you could go all the way.

MR. PORTER: Down to 40?

THE WITNESS: 40, but of course that is a big change.

Q (By Mr. Nutter) Of course, I am not thinking so much in terms of the price of oil, based oil, I am thinking of oil after you start changing the gravity you are going to change the amount of liquid that's coming out down here which would not be dischargeable under your proposed plan.

A Yes, this is true and we don't intend to make any effort to try to do it that way, but we really want to pick up the tank vapors as they exist. One thing I might say, since I am familiar with the set up that exists in the Tocito more than Mr. Sommer is, actually at the present time we have no, absolutely no back pressure on those stock tanks. Those vent lines there are a three inch and four inch vent line from those tanks and they are screwed wide open and they have to be that way or else the switcher valve is not engaged in the tank there. We open the theave hatch even as it is this vapor would splash up into his face as these vent lines are absolutely wide open to the atmosphere; whatever friction there is in the vent line themselves, that is the back pressure.

CROSS EXAMINATION

BY MR. PORTER:

Q Mr. Eaton, here is one other question I had. I may have

missed this while I was out or maybe I didn't catch it. As I understand this installation, it would make available to you a source of field gas too, that you do not have and is now being flared.

A Mr. Porter, what the effects of that will be, that our gas sales will be increased by that amount that we are now burning for the field fuel.

Q I heard some reference or saw this on your exhibit up there and I wanted to clarify that point.

A Yes.

REDIRECT EXAMINATION

BY MR. ROSS:

Q In other words what you are saying, if we can't use all this gas we will have to flare it, but it will be considerably less than what you are presently flaring?

A Yes, this is true. Well, he limits that the fuel gas return line from the dehydrator, which are actually now out on this sales line; we are selling dry gas through out meter and into our own line for that matter and into El Paso, ten miles away. We are routing enough of this dehydrate dry gas back to run the compressor engine on, for fuel down here on this treater. Now, when we have this new system put in we will take our field fuel from this discharge scrubber off of the vapor recovery unit and thereby it would have the

effect of increasing gas sales by the amount of fuel that we are burning to operate the pool.

RECROSS EXAMINATION

BY MR. UTZ:

Q How much are you burning?

A I will have to do a little figuring. We have approximately 150 horsepower of engines and computing thi on the basis of ten cubic feet per horsepower per hour would be 1500 cubic feet per hour or approximately 36 MCF per day for fuel in these engines, plus an additional approximate equal amount. I would say to fuel this treater; maybe 75 MCF.

Q A maximum of a hundred?

A Yes. And of course --

Q Out of 600?

A Yes, sir. Of course, we will have other engines to supply with fuel on this vapor recovery system. The engine that is used to drive this compressor.

MR. NUTTER: So, in other words, if you have got 510 MCF available, you are still going to be firing 400 then?

THE WITNESS: Yes, sir.

REDIRECT EXAMINATION

BY MR. ROSS:

Q Isn't it true that this fuel will still be developing?

A Yes, sir, it is.

Q Well, couldn't this fuel be used on a drilling rig or in a drilling operation?

A Undoubtedly, during a drilling operation the rig will use fuel from this pool. This is the cheapest, closest point.

Q What I'm asking is, this gas is available?

A Oh, yes, sir.

RECROSS EXAMINATION

BY MR. UTZ:

Q Now, as the gas cap expands, if the pressure does decrease in the pool, will you produce more gas out of the pool?

A Yes, more than we are right at the moment for we are not producing a full gas limit now and eventually I suspect that we will be producing a full gas limit.

Q In that case, then you will have more gas to process through this plant?

A It is more a function of how much oil, I think, Mr. Utz, that is passed through these tanks that depends on how much the gas-oil ratio is for this property, primarily this is extraneous gas.

Q Your increase will go out the sales line?

A Yes.

REDIRECT EXAMINATION

BY MR. ROSS:

Q George, isn't it true that the potential flaring at this point, in your unit operation, isn't that considerably less than what you are presently flaring in your present operation?

A Yes, at the present time it is all being flared.

RECROSS EXAMINATION

BY MR. UTZ:

Q Is it uneconomical to compress that 35 pound gas to get it back into the sales line?

A Yes.

Q What pressure is your sales line?

A 900 pounds. It would take two or three stages of compression to do it.

MR. UTZ: Are there any other questions of the witness? You may be excused.

(Witness excused)

MR. UTZ: Any statements in this case?

MR. ROSS: That concludes our case. It is a rather unique one and I would like to say that I feel like the Commission ought to be planning on patting us on the back for thinking of it because I can't see but what it is

a very good conservation measure and I think we have established other points, all of those that we have made in my opening statement.

MR. UTZ: The case will be taken under advisement.

STATE OF NEW MEXICO)
)
COUNTY OF BERNALILLO)

I, JERRY POTTS, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Witness my Hand and Seal this 21 day of March, 1967

Notary Public

My Commission expires:

July 10, 1970

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3367, heard by me on March 21, 1967.

New Mexico Oil Conservation Commission

Memo

From
IDA RODRIGUEZ
Secretary to Director

To Dan -
Please call
Bud Commons
Pan Am -
292-4515
or Mr. Ross
at 292-5050
at approximately
3 PM, regarding
application for
January 25th -

(STATEWIDE CONSERVATION RULES - Cont'd.)

RULE 26. SEPARATING DEVICES AND TANKS (From Old Rule 21) (As Amended by Order No. 20-55,647, Effective April 1, 1966.)

(A) Where oil and gas are found in the same stratum and it is impossible to separate one from the other, or when a well has been classified as a gas well and such gas well is not connected to a cycling plant and such well is being produced on a lease and the gas utilized under Article 6008, the operator shall install a separating device of approved type and sufficient capacity to separate the oil or liquid hydrocarbons from the gas, which separating device shall be kept in place as long as a necessity therefor exists, and after being installed such device shall not be removed nor the use thereof discontinued without the consent of the Commission. All oil and any other liquid hydrocarbons as and when produced shall be adequately measured according to the pipe line rules and regulations of the Commission before the same leaves the lease from which they are produced, and sufficient tankage and separator capacity shall be provided by the producer to adequately take daily gauges of all oil, or any other liquid hydrocarbons.

(B) If two or more tracts of land (regardless of whether or not the tracts are covered by the same original lease) have their working interests owned by the same parties, have their royalty interests owned by the same parties, and are located in such proximity to each other as to permit, under practical operating conditions, the running of the oil from all of said tracts into common tankage, the production from said leases may be run into a common tank battery or batteries provided that a permit allowing the use of a common tank battery or batteries shall have first been obtained from the Commission. Likewise, where two or more leases have been unitized by an agreement among the owners of the working interests therein and the owners of the royalty interests therein, a permit for the running of the production of these leases into common tankage may be secured where said leases are located in such proximity to each other as to permit, under practical operating conditions, the running of the oil from all said leases into common tankage, after the Commission has been furnished a copy of such unitization agreement. The oil produced from the tracts described in this paragraph shall be produced in the manner set out in the first paragraph above, but said measurements shall be taken in the aforementioned common tank battery or batteries, in which event the operator shall be required to mark such common battery or batteries so as to show the particular tracts from which oil is being run therein.

(C) If oil or any other liquid hydrocarbon is produced from a lease or other property covered by the coastal or inland waters of the State, the liquid produced may, at the option of the operator, be measured on a shore or at a point removed from the lease or other property on which it is produced.

~~(D)~~ (As Added by Order No. 20-55,647, Effective April 1, ~~1966.)~~ (1) Where individual lease oil separator, treating, and/or storage vessels, other than a conventional emulsion breaking heater treater, are connected to a gas gathering system so that heat or vacuum may be applied prior to oil measurement for Commission required production reports, the operator may, at his option, apply heat or vacuum to the oil only to the extent the average gravity of the stock tank oil will not be reduced below a limiting gravity for each lease as established by an average oil gravity test conducted under the following conditions:

(a) The separator or separator system, which shall include any type vessel that is used to separate hydrocarbons, shall be operated at not less than atmospheric pressure.

(b) No heat shall be applied.

(c) The test interval shall be for a minimum of 24 hours, and the average oil gravity after weathering for not more than 24 hours shall then become the limiting gravity factor for applying heat or vacuum to unmeasured oil on the tested lease.

(2) Initial gravity tests shall be made by the operator when such separator, treating, and/or storage vessels are first used pursuant to this rule. Subsequent tests shall be made at the request of either the Commission or any interested party; and such subsequent tests shall be witnessed by the requesting party. Any interested party may witness the tests.

(3) Each operator shall enter on the face of his required production report the gravity of the oil delivered to market from the lease reported, and it is provided that should a volume of oil delivered to market from ~~such lease~~ separation facilities not meet the gravity requirement established by the described test, adjustment shall be made by charging the allowable of the lease on the relationship of the volume and the gravity of the particular crude.

(4) Where a conventional heater treater is required and is used only to break oil from an emulsion prior to oil measurement, this rule will not be applicable; provided, however, that, by this limitation on the rule, it is not intended that excessive heat may be used in conventional heater treater, and in circumstances where such heater treater is connected to a gas gathering system and it is found by Commission investigation made on its own volition or on complaint of any interested party that excessive heat is used, either the provisions of this rule or special restrictive regulation may be made applicable.

RULE 27. GAS TO BE MEASURED

(A) All natural gas produced from wells completed in gas reservoirs shall be accounted for by measurement before the same leaves the lease, and the producer shall report the volume produced to the Commission (Form 3-266-A). (From Old Rule 8(a))

(B) All natural gas produced from wells completed in an oil reservoir but not listed on the oil proration schedule shall be accounted for by measurement before the same leaves the lease, and the producer shall report (Form 3-266-A) the volume produced to the Commission. (From Old Rule 8(b))

(C) All casinghead gas produced from oil wells and sold, processed for its gasoline content, used in a field other than that in which it is produced, or used in cycling or repressuring operations, shall be accounted for by measurement before the same leaves the lease, and the producer shall report (Form 3-266-A) the volume produced to the Commission. (From Old Rule 8(c))

(D) All casinghead gas produced from oil wells in this State which is not covered by the provisions of (C) above, shall be accounted for by measurement or by an accurate estimate before the same leaves the lease, based on its use or on its periodic test, and reported to the Commission by the producer. The volume of gas produced by wells exempt from gas-oil ratio surveys must be estimated, based on general knowledge of the characteristics of the wells without the use of periodic test data. It is further provided that it shall not be necessary for a producer to report any casinghead gas produced from a marginal well that is exempt from gas-oil ratio survey, if such gas is not sold or utilized off the lease. (From Old Rule 8(d))

(E) In reporting gas well production the full-well stream gas should be reported and charged against each gas well for allowable purposes. All gas produced must be reported regardless of its disposition, including gas used on the lease for heaters, any other type of lease use, or gas vented from low pressure separators.

(F) If gas is produced from a lease or other property covered by the coastal or inland waters of the state, the gas produced may, at the option of the operator, be measured on a shore or

Tocito -

Pan American

Stock Tank vapor Recovery
& permit liquid rec
from such units to
be prod w/o affecting
Crude Oil allow.

Navajo Tribal P, N, & U
Leases
Commingled.

FORM ...

______ / ___ / ______
DATE

TO: Mr. A. L. Porter FLOOR NO. ______
N. M. O. C. C.
REMARKS Santa Fe, New Mexico

FROM ______