Case No.

1577

Application, Transcript,
Small Exhibits, Etc.

TEXAS-NEW MEXICO PIPE LINE COMPANY

F. B. WHITAKER, JR.
DIVISION MANAGER

December 31, 1958

P. O. BOX 1510
MIDLAND, TEXAS

Re: Installation of LACT Unit
South Vacuum Devonian Unit
Lea County, New Mexico

The Pure Oil Company
Texas Producing Division
P. O. Box 2107
Fort Worth 1, Texas

Attention: Mr. J. R. Murphey, Jr.
Production Engineer

Gentlemen:

This is in reply to your letter dated December 30, 1958, above subject.

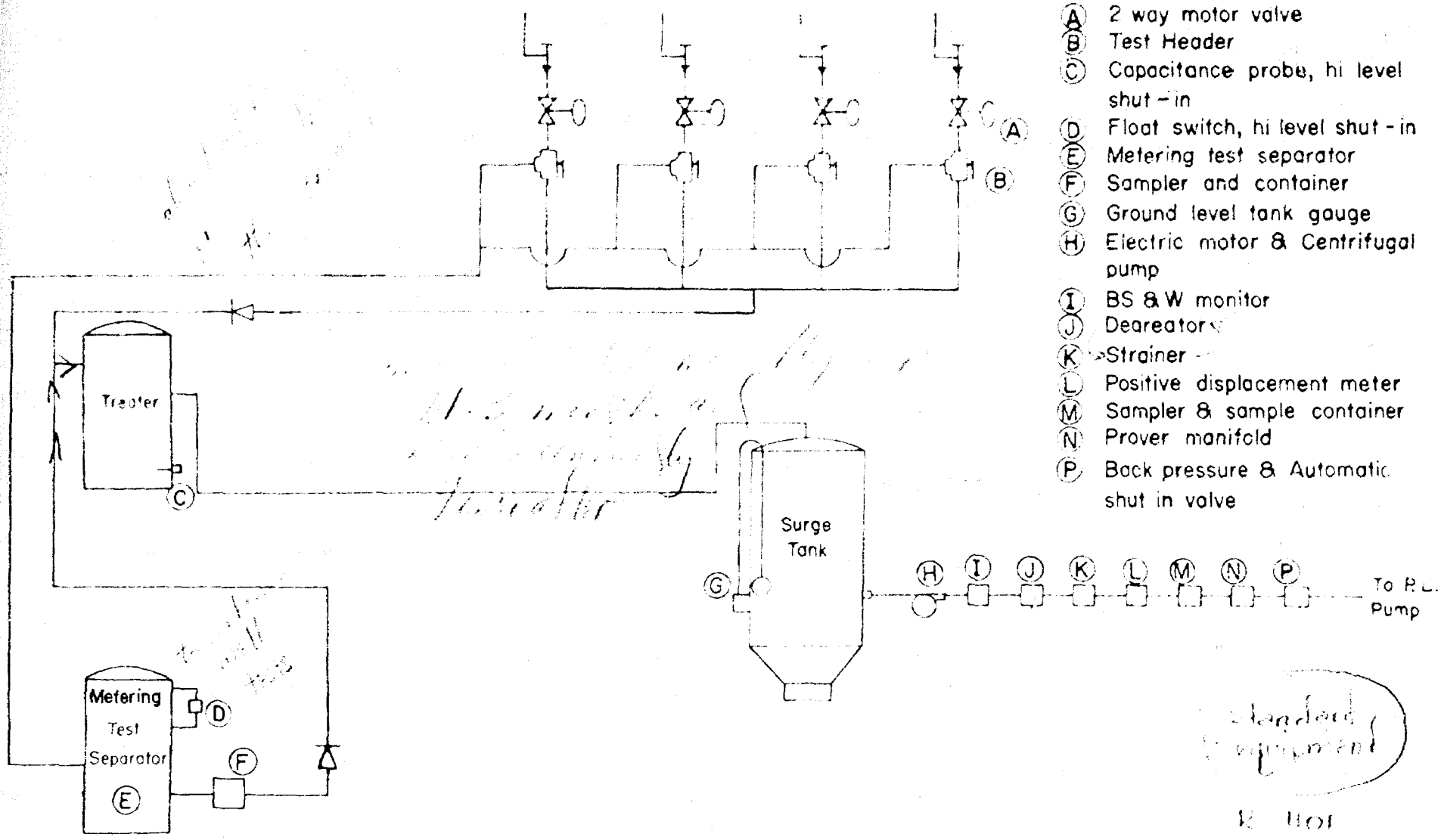
The drawing of your proposed installation appears to be in order and we have no fault to find with it. Texas-New Mexico Pipe Line Company will accept this proposed lease automatic custody transfer unit, and are in hopes that this installation will proceed as soon as possible.

Yours very truly,

RWB-btx

BEFORE [illegible] UTZ
OIL [illegible] SION
CASE NO. [illegible]

EXHIBIT "4"



(A) 2 way motor valve
(B) Test Header
(C) Capacitance probe, hi level shut-in
(D) Float switch, hi level shut-in
(E) Metering test separator
(F) Sampler and container
(G) Ground level tank gauge
(H) Electric motor & Centrifugal pump
(I) BS & W monitor
(J) Deareator
(K) Strainer
(L) Positive displacement meter
(M) Sampler & sample container
(N) Prover manifold
(P) Back pressure & Automatic shut in valve

SCHEMATIC DIAGRAM

SOUTH VACUUM UNIT DEVONIAN TANK BATTERY

(AUTOMATIC CUSTODY TRANSFER SYSTEM)

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

Case No. 1577

TRANSCRIPT OF HEARING

JANUARY 7, 1959

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

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

Case 1577 Application of Pure Oil Company for permission to install lease automatic custody transfer equipment. Applicant, in the above-styled cause, seeks an order authorizing it to install lease automatic custody transfer equipment to receive and measure the oil produced and marketed from the South Vacuum Unit located in Township 18 South, Range 35 East, Lea County, New Mexico. Applicant proposes to utilize positive displacement meters for measurement of the oil delivered to the pipeline.

Mabry Hall
Santa Fe, New Mexico
January 7, 1959

BEFORE:

Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: The next case on the docket will be Case 1577.

MR. PAYNE: Case 1577, "Application of Pure Oil Company for permission to install lease automatic custody transfer equipment."

MR. HINKLE: Clarence Hinkle of Hervey, Dow and Hinkle, Roswell, New Mexico, representing Pure Oil Company. We have one witness and four exhibits.

I would like to have Mr. Murphy sworn in.

(Witness sworn in).

(Whereupon, the documents were marked for identification

as Exhibits One to Four.)

JOHN R. MURPHY

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

DIRECT EXAMINATION

BY MR. HINKLE:

Q State your name?

A John R. Murphy.

Q Where do you live, Mr. Murphy?

A Fort Worth, Texas.

Q By whom are you employed?

A Pure Oil Company.

Q In what capacity?

A Production Engineer.

Q Have you testified before the New Mexico Oil Conservation Commission before?

A No sir, I have not.

Q Are you a graduate of Petroleum Engineering?

A Yes sir, I am.

Q Of what school?

A Louisiana State University.

Q What year?

A 1952.

Q What degree?

A BS in Petroleum Engineering.

Q Have you practiced Petroleum Engineering since your graduation?

A I served two years in the Air Force as a Communication Electronics Officer and the past four and a half years I have worked for Pure Oil Company as a Production Engineer.

Q Have you been in the Fort Worth office during this four and a half years?

A I spent two and a half years in the Delahite District in San Andres County, Texas, and two and a half years in Fort Worth.

Q Does your Fort Worth office have jurisdiction over the Southeastern New Mexico area in their operations?

A Yes sir, we do.

Q Are you familiar with Pure's operations in Southeastern New Mexico?

A I am.

Q Generally?

A Yes sir, I am.

Q Are you familiar with the South Vacuum unit area?

A Yes sir, I am.

Q Are you familiar with the wells that have been drilled in that area?

A Yes, sir.

MR. HINKLE: Are the qualifications of the witness acceptable?

MR. UTZ: Yes sir, they are.

Q (By Mr. Hinkle) We might add this, too: Have you had any experience with automatic custody transfer equipment?

A Yes sir, I have. My work has been primarily concerned with this type of equipment work in the past two years.

Q Mr. Murphy, I wish you would refer to Exhibit One and explain to the Commission what this is and what it shows?

A Exhibit --

MR. UTZ: Just a moment. If you people can't hear back there, there's plenty of seats up here. We have to keep those things running or we'll have pneumonia when we get out of here.

A Exhibit One is a map showing the area around the South Vacuum unit, which is located in Township 18 South, Range 35 East, Lea County, New Mexico. The area enclosed inside the hatchered marks is the area as outlined by the Commission's order and set out as the South Vacuum unit. The area that is enclosed by this is the south half of Section 26, the southeast quarter of Section 27, the northeast quarter of Section 34, all of Section 35, the northwest and southeast quarters of Section 36 and the north half of the southwest quarter of Section 36.

Q When you refer to the South Vacuum unit, you mean the unit agreement, do you not?

A Yes sir, I do.

Q Has that unit agreement been approved by this Oil Conservation Commission?

A Yes sir, it has.

Q And also by the Commission of Public Land?

A Yes sir, it has. Both of them approved the unit agreement on September 9, 1957.

Q What is the character of the land included in the South Vacuum unit, are they State lands, Fee lands or Federal lands or what?

A Both State and Fee lands are contained inside of the unit, sir.

Q How much Fee land do you have in the unit?

A There's 160 acres of Fee land.

Q And what is the description of that?

A The Fee lands are in Section 26 and they consist of the west half of the southeast quarter and the east half of the southwest quarter.

Q Have the Fee lands been fully committed to the unit?

A No sir, they are not fully committed, the royalty interests under these lands have not signed the unit agreement.

Q Have all of the other lands, which I believe you said are State lands, been fully committed?

A Yes sir, they have.

Q Does that include all of the wells which have been drilled in the South Vacuum unit?

A Yes sir, it does.

Q Explain briefly to the Commission the wells which have

been drilled?

A The 135 was the discovery well of the South Vacuum-Devonian field and was drilled to the Devonian formation; it is a single completion well. The 235 was the second well drilled on the unit and was drilled to the McKee formation and is a dual completion completed in both the McKee formation, which is a gas-distillate zone, and the Devonian, which is an oil zone. At the present time, Number 335 is drilling.

Q Is the Pure Oil Company the operator of the South Vacuum unit?

A Yes sir, we are.

Q Originally, I believe the Union Company was the operator?

A Yes sir, that's true.

Q And that has been the change, that the Pure Oil Company is now the designated unit operator?

A Yes, sir.

Q How many acres does the South Vacuum unit cover?

A 1640.

Q Are you familiar with the application which has been filed in this case by the Pure Oil Company?

A I am.

Q What is the purpose of the application as it appears in this case?

A The purpose is to obtain permission to install and

operate an automatic custody transfer system for the South Vacuum Devonian production.

Q Have you made schematic drawings of the proposed installation?

A I have.

Q Will you refer to Exhibits Two and Three and explain them to the Commission?

A Exhibit Two is an overall lease flow diagram showing the complete flow pattern as accomplished by the Devonian formation. Exhibit Three is a more detailed schematic diagram showing only the automatic custody transfer metering skid.

In order to best describe the operations of the system, I will trace the flow pattern completely through from the wellhead through the delivery point to the pipeline. The oil flows from the wells to a centralized header and on each well's flow line at the centralized header is a gas-operated diaphram valve which has the gas controlled by a solenoid valve. In this manner we are able to obtain an electrical control over the opening and closing of this valve and have an electrical control as an emergency system shut-down. From this point, the well stream is then routed through the manifold and from there to the header treater to separate the oil, gas and water, or it may be routed through a metering separator in order to perform well tests. After the oil has passed through the metering separator and is metered and sampled, it is then put back into the well stream, the

composite well stream, with the rest of the produced fluid and into the treater.

All of the oil from the lease will be produced through the heater treater to insure that nothing but clean oil is put into the system surge tank. The surge tank in this case functions primarily as an accumulation chamber to the metering system so that a quantity of oil will be gathered before it is delivered to the pipeline and it will be delivered in batches. The surge tank is equipped with a ground level reading tank gauge that has a five-point electric liquid level programmer as an integral part of the equipment. Using this electrical control feature, control signals can be obtained from three points in our surge tank. The bottom point, which is a point approximately one foot above the pump suction outlet on the tank, or the pipeline outlet, is the "pump-off" signal point. The next control point in the tank is the "pump-on" signal, which is at a point nine to ten feet above the "pump-off" signal and it is in the upper part of the tank. The top signal point is the emergency high level shut-off point, which is approximately one foot below the top of the tank. This serves the function that should the oil rise in the surge tank to this point, a signal will be sent to the solenoid valves on the flow line diaphram valves and close them in and prevent the waste of oil by overflow of the surge tank.

To deliver oil to the pipeline, the oil has to rise in the surge tank to the "pump-on" float position. When this signal

is received in the control box, the electric motor of pump "H" is started and at the same time a signal is sent to the solenoid of the diaphram of the system, shut-in valve "P", to allow this valve to open. The oil is pumped from pump "H" through a BS & W monitor "I" to insure that it is a pipeline quality.

Next in the flow system is a strainer --

Q Let me interrupt you there. What is the function of this monitor, what does it do?

A The monitor serves to insure that only pipeline quality oil is delivered to the pipeline. That is, that no excessive amounts of water will be delivered.

Q What happens if a bad grade of oil is going through?

A If the amount of water is in excess of that set on the monitor, it will shut the valve "P" in so that no oil will be delivered to the pipeline. This will cause the oil to rise in the surge tank to the point that the emergency high level shut-in will shut the well in.

Downstream of our monitor "I" is a strainer which is noted by the letter "J." This strainer serves to remove any extraneous material which may be in the fluid which would be harmful to the meter. The next thing in the flow stream is a deareator marked by the letter "K." The function of the deareator is to remove any possible entrained gas which may be in the flow stream so that the most accurate measure may be obtained by the meter.

The meter, positive displacement meter, is marked by the letter "L." The meter has been equipped with certain auxiliary equipment. It has an automatic temperature compensator and a horizontal non-reset counter and a set stop counter, a motor control switch and an electrical impulse counter. The functions of these various equipments are: The temperature compensator is to correct the volume of oil as measured by the meter going at a 60-degree reading. The horizontal non-reset counter is to record the volume of oil that has passed through the meter. This meter has--or this counter has no device which may be re-set, so that it is essentially tamper-proof. The set stop counter has the function of allowing a certain quantity or volume of oil to be set on the meter and when this quantity has passed through the meter, it will then, by mechanical means, close the motor control switch. The motor control switch is tied in parallel electrically with the control circuit on electric motor "H" and the solenoid to the diaphram on valve "P." When this switch closes, it shuts valve "P" and also shuts off the motor "H," the motor to pump "H," thereby assuring that no further oil will pass. This allows us to have a control as to the amount of oil that will be passed by the system and give an allowable control in this manner. Downstream--or there is one other feature to the meter and that's the electrical impulser; this is tied as a safety feature wherein this is connected to the metering or the recording mechanism of our meter and every time that one barrel of oil is passed through

the meter, it will cause the electrical impulse transmitter to pulse once which will reset a time delay relay in the power circuit of pump "H." Should the time set on this time delay relay in the meter fail to deliver a barrel of oil to the pipeline, it will break the power circuit on pump "H" and it will be closed and it is also tied in parallel with the diaphram control colenoid on valve "P." The function of this is so that should the counter mechanism on the meter be broken or fails to operate or should the pipeline not be receiving oil, that the system would be shut down.

Q What is the type or kind of meter that you propose to use?

A The meter we propose to use is an AO Unit 212.

Q But is it a positive displacement meter?

A Yes sir, it is a positive displacement meter.

Downstream of the meter is the vertical riser in our system, which is inserted at the sampling nipple of our sampler, a Texsteam Type 3700 samplepump. This is a gas-operated type of pump and will be a continuous type of a sampler. The gas to the sampler is controlled by a solenoid valve and will be open only with motor "H," or pump "H" is running, thereby sampling continuously during the time that the oil is being delivered to the pipeline. By use of a centrifugal pump, it is felt that a continuous rate or an equal rate of oil is being delivered at all times, and in this manner, a continuous safety test that the

oil that is being delivered will be a composite and true sample of the oil that is passed through the meter. The sample is stored in a shop-made, vapor-proof container which has a volume of approximately twenty gallons. This sample container will be equipped with a sample centrifugal pump and a circulating line so that everything will show out on the sample. The whole sample contained inside of the container will be circulated to insure that an evenly mixed sample is obtained from the sample container for the shake-out. The Texsteam type sampler has two possible adjustments as to the quantity of oil which may be taken by it, both a volume control and a speed control, both of whichare adjustable.

The next thing in our flow stream is our proving manifold "N." It is proposed in this system to use the master meter type of proving for our system and it will be accomplished through this proving manifold. The last piece of equipment in the system is "K," an automatic shut-off and back pressure valve which is equipped with a diaphram head. This valve will serve three purposes in our system. Number one, by use of the diaphram head, which exerts pressure of seventy pounds on the valve, it is a positive shut-off for the system. Two, the valve serves as a back pressure valve and will hold a regulated amount of back pressure on the system to assure that the surge tank oil level does not drop below a point so that air could be pumped through the meter, and three, it serves as a check valve between the

producer's equipment and the pipeline equipment. The pipeline equipment is to be equipped with automatic starting devices so the transfer of oil will be completely automatic.

Q Is all of this equipment standard equipment and equipment recognized by the industry as acceptable for this purpose?

A Yes, sir, it is.

Q Is there anything unusual about this type of installation?

A No, sir.

Q Is this the same type of installation that has been used in other cases, or similar?

A Basically, it is the same, sir.

Q Has this same type of installation been approved by the New Mexico Oil Conservation Commission in any cases that you know of?

A Yes, sir.

Q Do you know what those cases are?

A Yes sir, it was approved by Order Number 11-10, which authorized the Shell Oil Company to use positive displacement metering on custody transfer in the Pearl-Queen Field, Lea County, New Mexico. It was also approved in Order Number 10-29, which authorized the Shell Oil Company to use positive displacement meters for automatic transfer of oil in the Carson unit area, San Juan County, New Mexico.

Q Both of those orders were entered in 1957?

A Yes, sir.

Q Now, are you asking that this installation apply to any other oil production other than the Devonian?

A No sir, we are not.

Q Are you requesting that this installation apply to the whole unit area?

A No sir, we are requesting that it apply to the unit area with the exception of those Fee lands contained in Section 26 which have not executed the unit agreement. We would like to request, however, that should these interests execute the unit agreement, that the area covered under this order may be extended administratively to include the total unit area.

Q Who is running the oil from the unit wells at the present time?

A The Texas-New Mexico Pipe Line.

Q Have you taken this matter up with the Texas-New Mexico Pipe Line to see whether they thought this installation would be satisfactory?

A I have.

Q Have you received any reply from them?

A Yes sir, I have, by letter dated December 31.

Q Refer to Exhibit Four and tell the Commission what it is?

A Exhibit Four is a reply from the Texas-New Mexico Pipe Line to the request of the Pure Oil Company for a letter stating that they approved the system or would accept the system that we have

proposed for automatic custody transfer for the South Vacuum-Devonian oil.

Q In your opinion, will the proposed installation of automatic custody transfer equipment effectively and accurately measure the production from the Devonian formation from the unit wells?

A Yes sir, it will.

Q Have you any recommendations to make to the Commission as to the frequency and manner in which tests of the metering system should be made?

A Yes sir, I do. It is recommended that due to the experience of the Pure Oil Company and of other operators who have used this type of equipment, that the meters be proved monthly for the first three months, and if there is no appreciable amount of drift in the calibration factor, that it be proved semi-annually thereafter.

Q Have Exhibits One, Two and Three been prepared by you or under your direction?

A Yes sir, they have.

MR. HINKLE: We would like to offer in evidence Exhibits One through Four.

MR. UTZ: Without objection, Exhibits One through Four will be accepted.

MR. HINKLE: I believe that's all.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Murphy, it is my understanding that when your BS & W monitor closes valve "P," which in turn causes your wells to be shut in by the surge tank filling up, that it actually shuts in the whole system of the well, is that correct?

A Yes sir, it will close the diaphram valve, motor valve on the wells' flow lines and shut in the production.

Q Are all of these wells flowing wells?

A Yes sir, they are.

Q So that there will be pressure from your header to the wellhead?

A Yes sir, there will be.

Q Is there any plan to protect your system from possible breakage, line breakage, between the header and the wellhead?

A The initial flow line on the 135 is a tubing flow line and it is in considerable excess of anything that is expected to be encountered. We do not have any type of protective device on the wellhead itself, however.

Q Will it be possible to install such a device?

A Yes sir, it would.

Q Would it be practical?

A Yes, sir.

Q In the instance that I have just stated regarding to the shutting in of the valves at the wellhead, or at the header,

rather, the system has to be put back into operation manually?

A Yes sir, it does.

Q You would do that by cleaning the surge tank and --

A Yes, sir.

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

MR. FISCHER: Yes.

MR. UTZ: Mr. Fischer?

CROSS EXAMINATION

BY MR. FISCHER:

Q On this surge tank, that closes that top control point from your end there, closes in the header directly, it by-passes the header, it has nothing to do with the separator or the treater, it goes directly to the motor valve on the header?

A That is correct.

Q Each motor valve?

A That is correct.

Q Is there any chance for pressure build-up between the motor valve, each motor valve in your header and the surge tank in your system?

A No sir, there is not.

Q You don't have a pressure pop-off of any sort between that and your surge tank, do you?

A No, sir.

Q As I understand it, your system is electrically controlled and also controlled by gas?

A It is electrically controlled and controlled and controlled by gas and electrically operated.

Q Where do you derive your gas?

A The gas will be taken either from the treater on the Devonian side or from the McKee gas, whichever proves more practical.

Q Do you have a gas flow in the flow treater?

A Yes, we do.

Q In any one of these valves here between "H" and "P," if certain conditions are true, they will shut off "P," is that correct?

A There actually is only one valve in there and that's "P," the rest of them are auxiliary and protection devices for either non-merchantable oil or protection to the meter.

Q Well, that's what I mean, if each condition of each piece of equipment there as you set in the equipment initially, if each condition is not met, it will shut off "P"?

A That's true.

Q Thank you very much. Oh, one other question. Has the Texas-New Mexico Pipe Line stated to you the minimum amount of oil that they will take?

A No, they have not. It is our desire, however, to deliver in the larger quantity so that we will not have such an intermittent surge on our pumps.

Q Well, then the minimum amount of oil then, as I understand

from your diagram, would be from the one-foot shut-off to the level of the nine or ten-foot intermediate in the surge tank?

A True.

Q How many barrels would that be?

A That's a five hundred barrel total, so it would be approximately three hundred and fifty.

MR. FISCHER: Thank you very much.

MR. UTZ: Mr. Murphy, do you have intentions of drilling a 3-35 well?

A I do not know on that, sir.

Q You do have one McKee-Devonian now, a 2-35, however?

A Yes, sir.

MR. UTZ: Have you previously had authorization to commingle the McKee with the Devonian?

A No sir, it is not our intention to commingle fluid, we still plan to deliver manually to the pipeline the concentrate from the McKee well.

MR. UTZ: I see. And it is your request in this application to commingle the entire South Vacuum unit and the Devonian section?

A Yes, sir.

MR. UTZ: With the exception of the Reeves interests?

A Yes, sir.

MR. UTZ: Are there other questions?

MR. STAMETS: Mr. Murphy, in the event that the non-merchantable oil was to develop, would that oil be re-cycled through

the treater?

A Not automatically, we may do it manually. It is our feeling that any time you get non-merchantable oil in the surge tank that you have a treater malfunction, and to automatically re-cycle that, all it would do is to create a more unbalanced condition than already exists in your treater.

MR. STAMETS: However, are there any lines there or just how would that oil be recirculated?

A At the present time there are none because the system is not installed yet, but there will be either a line laid back to the treater for a recirculating line or arrangements made to treat the oil out by a truck or some various other means that are available. There will be a drain line off the bottom, however.

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

MR. UTZ: Mr. Murphy, will it be possible to drill more than sixteen Devonian wells in this unit?

A It is not anticipated, sir, that there will be that many in the unit.

MR. UTZ: So you are not asking for any exception to Rule 309?

A No, sir.

MR. UTZ: Are there other questions?

MR. FISCHER: Do you have any idea of the amount of water that's produced totally so far?

A Approximately eight to eleven barrels a day from the 235.

MR. FISCHER: Do you plan to get in the Sinclair disposal well in that area?

A I am not prepared to answer that because I don't know.

MR. FISCHER: That's all.

MR. UTZ: Any other questions?

If there are no further questions, the witness may be excused.

(Witness excused).

MR. UTZ: You offered your exhibits, I believe?

MR. HINKLE: Yes, I offered them.

MR. UTZ: Are there other statements to be made in this case?

If not, the case will be taken under advisement.

STATE OF NEW MEXICO)
: ss
COUNTY OF BERNALILLO)

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

DATED this 21st day of January, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Notary Public

My Commission Expires:
January 24, 1962

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1577, heard by me on Jan. 7, 1959.

Examiner
New Mexico Oil Conservation Commission

No. 1-59

DOCKET: EXAMINER HEARING JANUARY 7, 1959

OIL CONSERVATION COMMISSION 9 a.m., Mabry Hall, State Capitol, Santa Fe

The following cases will be heard before Elvis A. Utz, Examiner:

CASES 1572 - 1580

CASE 1572: Application of Mrs. E. G. Woods for a dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of her Federal-Simon "A" Well No. 1 located in the NW/4 NE/4 of Section 29, Township 17 South, Range 32 East, Lea County, New Mexico, in such a manner as to permit the production of oil from an undesignated Yates oil pool and oil from the Maljamar Pool through parallel strings of tubing.

CASE 1573: Application of Southwestern, Inc. Oil Well Servicing for permission to make a "slim hole" completion. Applicant, in the above-styled cause, seeks an order authorizing it to utilize the "slim hole" method of completion for a well located in the SE/4 NW/4 Section 32, Township 16 South, Range 30 East, Square Lake Pool, Eddy County, New Mexico. Applicant proposes to utilize 2½ inch tubing as a substitute for casing in the above-described well.

CASE 1574: Application of The Texas Company for a non-standard gas proration unit. Applicant, in the above-styled cause, seeks an order establishing a 160-acre non-standard gas proration unit in the Tubb Gas Pool consisting of the W/2 NW/4, NE/4 NW/4, NW4 NE/4 of Section 31, Township 22 South, Range 38 East, Lea County, New Mexico, said unit to be dedicated to applicant's A. H. Blinebry NCT-3 Well No. 1 located 660 feet from the North and West lines of said Section 31.

CASE 1575: Application of The Texas Company for a dual completion. Applicant, in the above-styled cause, seeks an order authorizing it to dually complete its Henderson Well No. 5 located in the NW/4 NE/4 of Section 30, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Penrose-Skelly Pool and oil from the Paddock Pool through parallel strings of tubing.

CASE 1576: Application of Sinclair Oil & Gas Company for a salt water disposal well. Applicant, in the above-styled cause, seeks an order authorizing it to convert its dry and abandoned No. 2 State Lea 403 Well to a salt water disposal well in the Devonian formation, South Vacuum-Devonian Pool; said well is located 660 feet from the South and West lines of Section 22, Township 18 South, Range 35 East, Lea County, New Mexico.

CASE 1577: Application of Pure Oil Company for permission to install lease automatic custody transfer equipment. Applicant, in the above-styled cause, seeks an order authorizing it to install lease automatic custody transfer equipment to receive and measure the oil produced and marketed from the South Vacuum Unit located in Township 18 South, Range 35 East, Lea County, New Mexico. Applicant proposes to utilize positive displacement meters for measurement of the oil delivered to the pipeline.

CASE 1578: Application of Amerada Petroleum Corporation for a dual completion. Applicant, in the above-styled cause, seeks an order authorizing it to dually complete its Turner Well No. 1 located in the SW/4 SW/4 of Section 17, Township 20 South, Range 38 East, Lea County, New Mexico, in such a manner as to permit the production of oil from an undesignated Abo pool and oil from the Warren-McKee Pool through parallel strings of tubing.

CASE 1579: Application of Amerada Petroleum Corporation for a dual completion. Applicant, in the above-styled cause, seeks an order authorizing it to dually complete its Turner No. 2 Well located in the NW/4 SW/4 of Section 17, Township 20 South, Range 38 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Warren-McKee Pool and oil from an undesignated Connell pool through parallel strings of tubing.

CASE 1580: Application of Cities Service Oil Company for permission to install lease automatic custody transfer equipment. Applicant, in the above-styled cause, seeks an order authorizing it to install lease automatic custody transfer equipment to receive and measure the oil produced and marketed from its Government "B" Lease in Sections 3 and 10, Township 14 South, Range 31 East, Chaves County, New Mexico. Applicant proposes to utilize positive displacement meters for measurement of the oil delivered to the pipeline.

CONTINUED CASE

CASE 1516: Application of El Paso Natural Gas Company for two non-standard gas proration units and for the approval of one unorthodox gas well location. Applicant, in the above-styled cause, seeks an order establishing a 120-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the N/2 SW/4 and the SW/4 SW/4 of Section 4, Township 25 South, Range 37 East, said unit to be dedicated to the applicant's Wells Federal No. 3 Well located 1980 feet from the South and West lines of said Section 4. Applicant further seeks the establishment of a 200-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the SE/4 SW/4 of Section 4 and the NW/4 of Section 9, Township 25 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's Wells Federal No. 11 Well located 430 feet from the South line and 2317 feet from the West line of said Section 4. Applicant further seeks approval of the unorthodox gas well location of the said Wells Federal No. 11 Well.

ig/

THE PURE OIL COMPANY

GENERAL OFFICES: 35 EAST WACKER DRIVE CHICAGO

TEXAS PRODUCING DIVISION
P. O. BOX 2107
FORT WORTH 1, TEXAS

December 9, 1958

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.

Dear Sir:

It is requested that a hearing be scheduled to consider the application of The Pure Oil Company, Operator of South Vacuum Unit, for installation of lease automatic custody transfer equipment on the South Vacuum Unit, located in T-18-S, R-35-E Lea County, New Mexico. It is proposed to install a positive displacement meter and its associated equipment for measurement of the oil delivered to the pipeline.

It will be appreciated if this hearing can be scheduled at the earliest possible date.

Yours very truly,

J. R Murphey, Jr.
Production Engineer

JRMJr:c

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 1-8-59

CASE NO. 1577 HEARING DATE 1-7-59

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

approve LACT Unit as follows:

1. The production from the E/2 SW and W/2 SE shall not be ~~co~~commingled ~~with~~ with oil from the rest of the unit until such time as the Royalty interest in this acreage signs the unit aggreement.
2. Rule 309 shall be in full effect & force.
3. Commingling is approved for only the Devonian formation.
4. Meters shall be tested each ~~30~~ month days and reported to the Commission. Such testing shall continue until the Sec. Director issues further instruction.
5. Equipment shall be installed to prevent loss of oil in event of flow line breakage between wellhead and LACT header.

Staff Member

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

January 22, 1959

COPY

Mr. Clarence Hinkle
Hervey, Dow & Hinkle
P.O. Box 547
Roswell, New Mexico

Dear Mr. Hinkle:

Enclosed herewith please find Order No. R-1327 entered in Case No. 1577 authorizing the installation of automatic custody transfer equipment on the South Vacuum Unit. You will note that this order requires that the meters used in the automatic custody transfer equipment shall be checked for accuracy once each month until further order of the Secretary - Director.

Results of tests shall be filed with the appropriate district office of the Commission and shall be on the meter test report form which is available at all district offices.

Very truly yours,

A. L. Porter, Jr.
Secretary - Director

ALP/DSN:bp
Encls.

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. 1577
Order No. R-1327

APPLICATION OF THE PURE OIL COMPANY
FOR PERMISSION TO INSTALL AUTOMATIC
CUSTODY TRANSFER EQUIPMENT ON THE
SOUTH VACUUM UNIT, LEA COUNTY, NEW
MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on January 7, 1959, at Santa Fe, New Mexico, before Elvis A. Utz, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 21st day of January, 1959, the Commission, a quorum being present, having considered the application, the evidence adduced and the recommendations of the Examiner, Elvis A. Utz, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, The Pure Oil Company, is the unit operator of the South Vacuum Unit, Lea County, New Mexico, comprising the following-described acreage:

TOWNSHIP 18 SOUTH, RANGE 35 EAST, NMPM	
Section 26:	S/2
Section 27:	SE/4
Section 34:	NE/4
Section 35:	All
Section 36:	NW/4, SE/4, and the N/2 SW/4

(3) That the applicant proposes to install automatic custody transfer equipment on said South Vacuum Unit to handle the Devonian production from a maximum of 16 wells.

(4) That the applicant proposes to measure the oil passing through the automatic custody transfer equipment by means

of positive displacement meters.

(5) That positive displacement meters provide an accurate and reliable means for measuring oil and their use should be permitted.

(6) That the previous use of automatic custody transfer equipment, similar to that proposed by the applicant, has shown that such equipment is a reliable and economic means of transferring the custody of oil and that the use of such equipment should be permitted.

(7) That each well producing into the common tank battery should be individually tested periodically to determine the production from such well.

(8) That the positive displacement meters used in the above-described system should be checked for accuracy once each month until further order of the Secretary-Director.

(9) That the above-described system should be so equipped as to prevent the undue waste of oil in the event of malfunction or flow line break.

(10) That the production from the E/2 SW/4 and the W/2 SE/4 of said Section 26 should not be commingled with the oil produced from the remainder of said South Vacuum Unit until such time as the royalty interests in said acreage have signed the South Vacuum Unit Agreement.

IT IS THEREFORE ORDERED:

That the applicant, The Pure Oil Company, be and the same is hereby authorized to install automatic custody transfer equipment to handle the Devonian production from a maximum of 16 wells on its South Vacuum Unit, comprising the following-described acreage in Lea County, New Mexico:

TOWNSHIP 18 SOUTH, RANGE 35 EAST, NMPM	
Section 26:	S/2
Section 27:	SE/4
Section 34:	NE/4
Section 35:	All
Section 36:	NW/4, SE/4, and the N/2 SW/4

PROVIDED HOWEVER, That the production from the E/2 SW/4 and the W/2 SE/4 of said Section 26 shall not be commingled with the oil produced from the remainder of the said South Vacuum Unit until such time as the royalty interests in said acreage have signed the South Vacuum Unit Agreement.

PROVIDED FURTHER, That the applicant shall make periodic production tests of all wells connected to the automatic custody transfer system to determine the individual production of said wells.

PROVIDED FURTHER, That the positive displacement meters used in the automatic custody transfer equipment referred to above shall be checked for accuracy once each month until further order of the Secretary-Director and the results of such tests shall be furnished to the Commission.

PROVIDED FURTHER, That the above-described automatic custody transfer system shall be so equipped as to cause all flowing wells connected thereto to be shut-in at the well-head in the event of malfunction or flow-line break.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

ir/

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO 7-3-58

APPLICATION FOR DUAL COMPLETION

Field Name		County	Date
South Vacuum		Lea	October 24, 1958
Operator	**Lease**		**Well No.**
The Pure Oil Company	State		2-35

Location of Well	Unit	Section	Township	Range
	I	35	18 South	35 East

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES ____ NO X
2. If answer is yes, identify one such instance: Order No. _____ ; Operator, Lease, and Well No.:

3. The following facts are submitted:	Upper Zone	Lower Zone
a. Name of reservoir	Devonian	Fusselman
b. Top and Bottom of Pay Section (Perforations)	11,680' - 11,730' same	13,620' - 13,823' at intervals
c. Type of production (Oil or Gas)	Oil	Gas
d. Method of Production (Flowing or Artificial Lift)	Flowing	Flowing

4. The following are attached. (Please mark YES or NO)

YES a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.

YES b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.

YES c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*

YES d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

The Atlantic Refining Company, P. O. Box 871, Midland, Texas
Cities Service Oil Company, P. O. Box 97, Hobbs, New Mexico
Jake L. Hamon, 102 Western Building, Midland, Texas
J. Don Hudgens, Inc., P. O. Box 1898, Hobbs, New Mexico
Humble Oil & Refining Company, P. O. Box 1600, Midland, Texas
Magnolia Petroleum Company, P. O. Box 633, Midland, Texas
The Ohio Oil Company, P. O. Box 552, Midland, Texas
Sinclair Oil & Gas Company, P. O. Box 1470, Midland, Texas
Skelly Oil Company, P. O. Box 993, Midland, Texas
Texas Pacific Coal and Oil Company, P. O. Box 2037, Midland, Texas

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO ____. If answer is yes, give date of such notification September 26, 1958.

CERTIFICATE: I, the undersigned, state that I am the Ass't. Div. Prod. Mgr. of the The Pure Oil Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

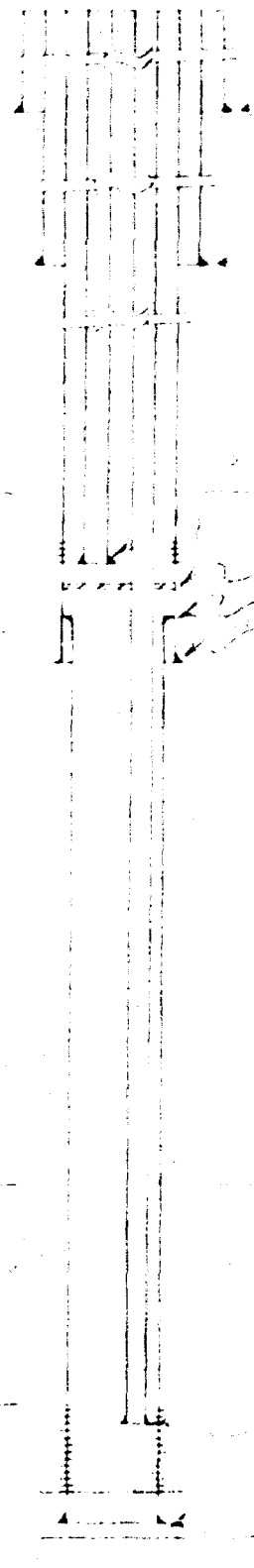
EXHIBIT 2

Signature Harry C. Wells

* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

THE PURE OIL COMPANY — PROCESS CALCULATION SHEET



Surface

351' - 13-5/8" O.D. Casing
Cemented w/400 sx.
Circulated to Surface

3808' - 9-5/8" O.D. Casing
Cemented w/1220 sx.
Circulated to surface

11,572' Top of Devonian

Perforations 11,680' - 11,730'

11,730' - 2" EUE Tubing
11,791' - 2" x 7" Guiberson Packer
11,853' - 5" Liner Top
11,953' - 7" O.D. Casing
Cemented w/655 sx.
Top of cement 7490'

13,124' Top of Montoya

13,515' Top of McKee

Perforations 13,520' - 13,823'

13,522' - 2" EUE Tubing

PBTD 13,828'
TD 13,919'

13,873' Top of Granite
13,881' - 5" Liner
Cemented w/320 sx.

WELL EQUIPMENT - SOUTH VACUUM UNIT #2-35

Subject EXHIBIT 4

Date 9-26-58

Page

HCS File No.

By

Form C-103
(Revised 3-55)

NEW MEXICO OIL CONSERVATION COMMISSION
MISCELLANEOUS REPORTS ON WELLS
(Submit to appropriate District Office as per Commission Rule 1106)

COMPANY The Pure Oil Company - Box 2107, Fort Worth, Texas
(Address)

LEASE South Vacuum Unit WELL NO. 2-35 UNIT I S 35 T 18-S R 35-E

DATE WORK PERFORMED 3-31-58 POOL South Vacuum

This is a Report of: (Check appropriate block)

- [ ] Beginning Drilling Operations
- [ ] Plugging
- [x] Results of Test of Casing Shut-off
- [ ] Remedial Work
- [ ] Other

Detailed account of work done, nature and quantity of materials used and results obtained.

Ran 351' of 13-3/8" OD casing with Larkin shoe set at 351', cemented with 400 sacks Lonestar Portland Neat cement, maximum pressure 250#, had cement returns to surface, job complete 7:00 AM 3-22-58, 24 hours WOC, tested casing, control equipment and cement with 1000# for 30 minutes, held OK.

Ran 3808' of 9-5/8" OD casing with Larkin shoe set at 3808', float collar set at 3745', with 4 sets Centralizers installed. Cemented with 1020 sacks Lonestar Portland cement with 6% gels and 1 part Stratacrete to two parts cement added and 200 sacks Portland Neat cement, pumped plug to 3745', maximum pressure 1000#, had cement returns to surface, 24 hours WOC, tested casing, control equipment and cement for 30 minutes with 1000#, held OK.

FILL IN BELOW FOR REMEDIAL WORK REPORTS ONLY

Original Well Data:

DF Elev. _____ TD _____ PBD _____ Prod. Int. _____ Compl Date _____

Tbng. Dia _____ Tbng Depth _____ Oil String Dia _____ Oil String Depth _____

Perf Interval (s) _____

Open Hole Interval _____ Producing Formation (s) _____

RESULTS OF WORKOVER:	BEFORE	AFTER
Date of Test		
Oil Production, bbls. per day		
Gas Production, Mcf per day		
Water Production, bbls. per day		
Gas-Oil Ratio, cu. ft. per bbl.		
Gas Well Potential, Mcf per day		

Witnessed by _____ _____ (Company)

OIL CONSERVATION COMMISSION

Name _____

Title _____

Date _____

I hereby certify that the information given above is true and complete to the best of my knowledge.

Name Harry O'Dell

Position Asst. Chief Division Prod. Engineer

Company The Pure Oil Company

Exhibit 5

Form C-103
(Revised 3-55)

NEW MEXICO OIL CONSERVATION COMMISSION
MISCELLANEOUS REPORTS ON WELLS

(Submit to appropriate District Office as per Commission Rule 1106)

COMPANY The Pure Oil Company - Box 2107, Fort Worth, Texas
(Address)

LEASE South Vacuum Unit WELL NO. 2-35 UNIT I S 35 T 18-S R 35-E

DATE WORK PERFORMED 7-24-58 POOL South Vacuum

This is a Report of: (Check appropriate block)

- [ ] Beginning Drilling Operations
- [ ] Plugging
- [x] Results of Test of Casing Shut-off
- [ ] Remedial Work
- [ ] Other

Detailed account of work done, nature and quantity of materials used and results obtained.

Ran 11953' of 7"OD casing with Howco guide shoe set at 11953', TIW formation packer at 11788', float collar at 11753' and 11685', Howco DV tool at 11296', cemented with 875 Cu. Ft. Pozmix-Incor cement with 4% gels added, two stages. Ran Temperature survey, top cement outside 7" casing at 7490' from surface. Set model "K" cement retainer at 11911', cemented with 75 sacks Incor Neat cement, 48 hours WOC, tested casing, control equipment and cement with 1000# for 30 minutes, held OK.

FILL IN BELOW FOR REMEDIAL WORK REPORTS ONLY

Original Well Data:

DF Elev. _____ TD _____ PBD _____ Prod. Int. _____ Compl Date _____

Tbng. Dia _____ Tbng Depth _____ Oil String Dia _____ Oil String Depth _____

Perf Interval (s) _____

Open Hole Interval _____ Producing Formation (s) _____

RESULTS OF WORKOVER:	BEFORE	AFTER
Date of Test		
Oil Production, bbls. per day		
Gas Production, Mcf per day		
Water Production, bbls. per day		
Gas-Oil Ratio, cu. ft. per bbl.		
Gas Well Potential, Mcf per day		

Witnessed by _____ _____
(Company)

OIL CONSERVATION COMMISSION

Name _____

Title _____

Date _____

I hereby certify that the information given above is true and complete to the best of my knowledge.

Name Harry C Wells

Position Asst. Chief Division Prod. Engineer

Company The Pure Oil Company

Form C-103
(Revised 3-55)

NEW MEXICO OIL CONSERVATION COMMISSION
MISCELLANEOUS REPORTS ON WELLS
(Submit to appropriate District Office as per Commission Rule 1106)

COMPANY The Pure Oil Company - Box 2107 - Fort Worth, Texas
(Address)

LEASE South Vacuum Unit WELL NO. 2-35 UNIT I S 35 T 18-S R 35-E

DATE WORK PERFORMED 10-2-58 POOL South Vacuum

This is a Report of: (Check appropriate block)

- [ ] Beginning Drilling Operations
- [ ] Plugging
- [x] Results of Test of Casing Shut-off
- [ ] Remedial Work
- [ ] Other

Detailed account of work done, nature and quantity of materials used and results obtained.

Ran 2028' of 5" OD Hydril flush joint casing with float and guide shoe at 13881' with plug latch collar at 13840', 5" x 6" casing hanger set in 7" casing at 11864', collapsible packer at 11853', Cemented 5" liner with 205 sacks, maximum pressure 2200#, 2nd stage: ran Baker retrievable cementing tool to 11753', cemented 5" liner with 115 sacks maximum pressure 400#, job complete 6:00 AM 9-9-58. 36 hours WOC. Tested casing, cement and control equipment with 1000# for 30 minutes, held OK.

FILL IN BELOW FOR REMEDIAL WORK REPORTS ONLY

Original Well Data:

DF Elev. _____ TD _____ PBD _____ Prod. Int. _____ Compl Date _____

Tbng. Dia _____ Tbng Depth _____ Oil String Dia _____ Oil String Depth _____

Perf Interval (s) _____

Open Hole Interval _____ Producing Formation (s) _____

RESULTS OF WORKOVER:	BEFORE	AFTER
Date of Test		
Oil Production, bbls. per day		
Gas Production, Mcf per day		
Water Production, bbls. per day		
Gas-Oil Ratio, cu. ft. per bbl.		
Gas Well Potential, Mcf per day		

Witnessed by _____ _____ (Company)

OIL CONSERVATION COMMISSION

Name _____

Title _____

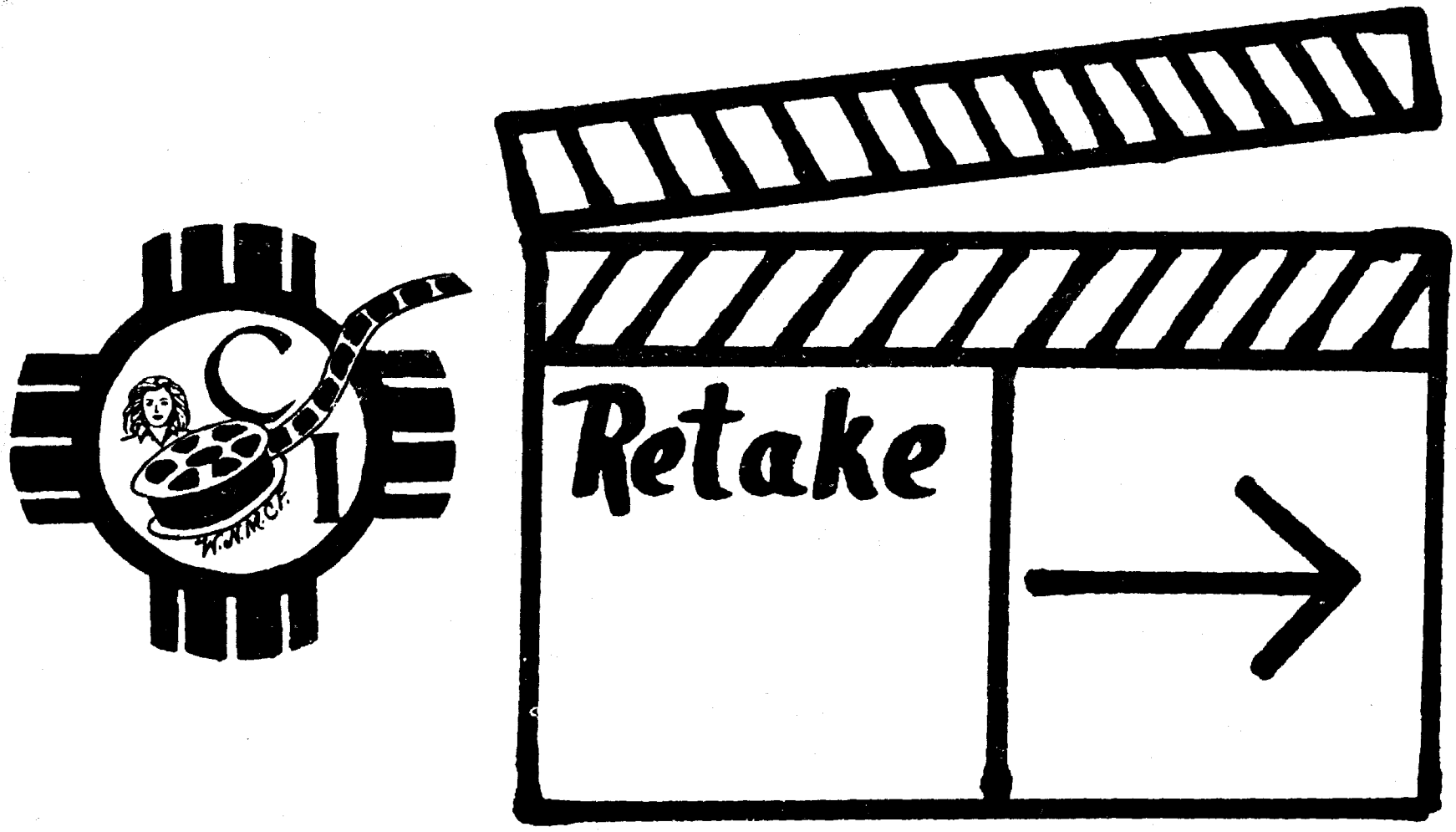
Date _____

I hereby certify that the information given above is true and complete to the best of my knowledge.

Name H. C. Wells

Position Asst. Chief Division Prod. Engineer

Company The Pure Oil Company


Retake

Form C-103
(Revised 3-55)

NEW MEXICO OIL CONSERVATION COMMISSION
MISCELLANEOUS REPORTS ON WELLS

(Submit to appropriate District Office as per Commission Rule 1106)

COMPANY The Pure Oil Company - Box 2107 - Fort Worth, Texas
(Address)

LEASE South Vacuum Unit WELL NO. 2-35 UNIT I S 35 T 18-S R 35-E

DATE WORK PERFORMED 10-2-58 POOL South Vacuum

This is a Report of: (Check appropriate block)

- [ ] Beginning Drilling Operations
- [ ] Plugging
- [x] Results of Test of Casing Shut-off
- [ ] Remedial Work
- [ ] Other

Detailed account of work done, nature and quantity of materials used and results obtained.

Ran 2028' of 5" OD Hydril flush joint casing with float and guide shoe at 13381' with plug latch collar at 13340', 5" x 6" casing hanger set in 7" casing at 11864', collapsible packer at 11853', Cemented 5" liner with 205 sacks, maximum pressure 2200#, 2nd stage: ran Baker retrievable cementing tool to 11753', cemented 5" liner with 115 sacks maximum pressure 400#, job complete 6:00 AM 9-9-58. 36 hours WOC. Tested casing, cement and control equipment with 1000# for 30 minutes, held OK.

FILL IN BELOW FOR REMEDIAL WORK REPORTS ONLY

Original Well Data:

DF Elev. _____ TD _____ PBD _____ Prod. Int. _____ Compl Date _____

Tbng. Dia _____ Tbng Depth _____ Oil String Dia _____ Oil String Depth _____

Perf Interval (s) _____

Open Hole Interval _____ Producing Formation (s) _____

RESULTS OF WORKOVER:	BEFORE	AFTER
Date of Test		
Oil Production, bbls. per day		
Gas Production, Mcf per day		
Water Production, bbls. per day		
Gas-Oil Ratio, cu. ft. per bbl.		
Gas Well Potential, Mcf per day		

Witnessed by _____ _____ (Company)

OIL CONSERVATION COMMISSION

Name _____

Title _____

Date _____

I hereby certify that the information given above is true and complete to the best of my knowledge.

Name Harry C Wells

Position Asst. Chief Division Prod. Engineer

Company The Pure Oil Company

1577

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

6-1-56

PACKER-SETTING AFFIDAVIT
(Dual Completions)

STATE OF New Mexico)
)ss
County of Lea)

L. M. Williams, being first duly sworn according to law, upon his oath deposes and says:

That he is of lawful age and has full knowledge of the facts herein below set out.

That he is employed by The Pure Oil Company in the capacity of Production Engineer and as such is its authorized agent.

That on 9-20, 1958, he personally supervised the setting of a Guiberson Hookwall (Make and Type of Packer) in The Pure Oil Company (Operator)'s South Vacuum Unit (lease) Well No. 2-35, located in Unit Letter I, Section 35, Township 18-S, Range 35-E, NMPM, Lea County, New Mexico.

That said packer was set at a subsurface depth of 11791 feet, said depth measurement having been furnished by District Office.

That the purpose of setting this packer was to effect a seal in the annular space between the two strings of pipe where the packer was set so as to prevent the commingling, within the well-bore, of fluids produced from a stratum below the packer with fluids produced from a stratum above the packer. That this packer was properly set and that it did, when set, effectively and absolutely seal off the annular space between the two strings of pipe where it was set in such manner as that it prevented any movement of fluids across the packer.

The Pure Oil Company
(Company)

L. M. Williams
(its Agent)

Subscribed and sworn to before me this the 18th day of Nov., AD, 19 58.

Notary Public in and for the County of Tarrant.

My Commission Expires June 1 1959.

NOTARY PUBLIC * TEXAS * COUNTY OF TARRANT

EXHIBIT 6

Form C- 116
Revised (12/1/55

NEW MEXICO OIL CONSERVATION COMMISSION

GAS-OIL RATIO REPORT

OPERATOR The Pure Oil Company POOL South Vacuum Devonian

ADDRESS Box 2107, Fort Worth, Texas MONTH OF November ,19 58

SCHEDULED TEST ..... COMPLETION TEST X SPECIAL TEST ..... (Check One)

(See Instructions on Reverse Side)

Lease	Well No.	Date of Test	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.
							Water Bbls.	Oil Bbls.	Gas MCF	
South Vacuum Unit	2-35	11/3/58	F	6/64	24	193	8	216	16.2	75

Notes: Gravity of crude 49.5° API @ 60° F

Specific Gravity of Separator Gas 0.850

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60 degrees F. Specific gravity base will be 0.60.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission. In accordance with Rule 301 and Appropriate Pool Rules.

(I certify that the information given is true and complete to the best of my knowledge.)

Date November 18, 1958

The Pure Oil Company
Company

By Harry C Wells

Ass't. Div. Production Engineer
Title

NEW MEXICO
OIL CONSERVATION COMMISSION

4-1-56

PACKER LEAKAGE TEST

Operator The Pure Oil Company Pool (Upper Completion) Devonian
Lease South Vacuum Unit Well 2-35 Pool (Lower Completion) McKee
Location: Unit I, S. 35, T 18-S, R 35-E Lea County, N. M.

Pre-Test Shut-In

	Upper Completion	Lower Completion
Shut-in at (hour, date)	7:00 AM 10-26-58	7:00 AM 10-24-58
Pressure stabilized at (hour, date)	10:00 AM 10-26-58	7:00 AM 10-25-58
Length of time required to stabilize (hours)	3	24

Flow Test No. 1

Test commenced at (hour, date) 10:00 PM 10-27-58. Choke size 32/64
Completion producing McKee Completion shut-in Devonian

	Upper Completion		Lower Completion	
Stabilized pressure at beginning of test	778 DWT	psi	3496 DWT	psi
Maximum pressure during test	778 DWT	psi	3496	psi
Minimum pressure during test	778 DWT	psi	80	psi
Pressure at end of test	778 DWT	psi	80	psi
Maximum pressure change during test	0	psi	3416	psi
Oil flow rate during test: 22.9 BOPD based on 13.37 BO in			14	hours.
Gas flow rate during test: 511 MCFPD based on 298 MCF in			14	hours.

Mid-Test Shut-In

	Upper Completion	Lower Completion
Shut-in at (hour, date)	7:00 AM 10-26-58	10:00 AM 10-29-58
Pressure stabilized at (hour, date)	10:00 AM 10-26-58	10:00 AM 10-30-58
Length of time required to stabilize (hours)	2	24

Flow Test No. 2

Test commenced at (hour, date) 1:00 PM 10-30-58. Choke size 7/64"
Completion producing Devonian Completion shut-in McKee

	Upper Completion		Lower Completion	
Stabilized pressure at beginning of test	778 DWT	psi	3280 DWT	psi
Maximum pressure during test	778	psi	3280	psi
Minimum pressure during test	647 DWT	psi	3280	psi
Pressure at end of test	647 DWT	psi	3280	psi
Maximum pressure change during test	131	psi	0	psi
Oil flow rate during test: 180 BOPD based on 30 BO in			4	hours.
Gas flow rate during test: 13.5 MCFPD based on 3.38 MCF in			4	hours.

Test performed by L. M. Williams Title Production Engineer

Witnessed by H. J. Littlejohn Title Production Foreman

REMARKS: Elements in recorder were 4000 psi; chart range was 0-500 psi. Therefore true pressure = chart pressure x 8.0
Blue curve is McKee - Red curve is Devonian

NOTE: Recording gauge pressure charts, test data sheet, and a graphic depiction of all phases of the test shall be submitted with this report.

AFFIDAVIT:

I HEREBY CERTIFY that all conditions prescribed by Oil Conservation Commission of the State of New Mexico for this packer leakage test were complied with and carried out in full, and that all dates and facts set forth in this form and all attached material are true and correct.

NOTARY PUBLIC * STATE OF TEXAS * COUNTY OF TARRANT

L. M. Williams For The Pure Oil Company
(Representative of Company Making Test) (Company Making Test)

SWORN TO AND SUBSCRIBED before me this the 18th day of November, 1958

Notary Public in and for the County of Tarrant
State of Texas.

(OVER)

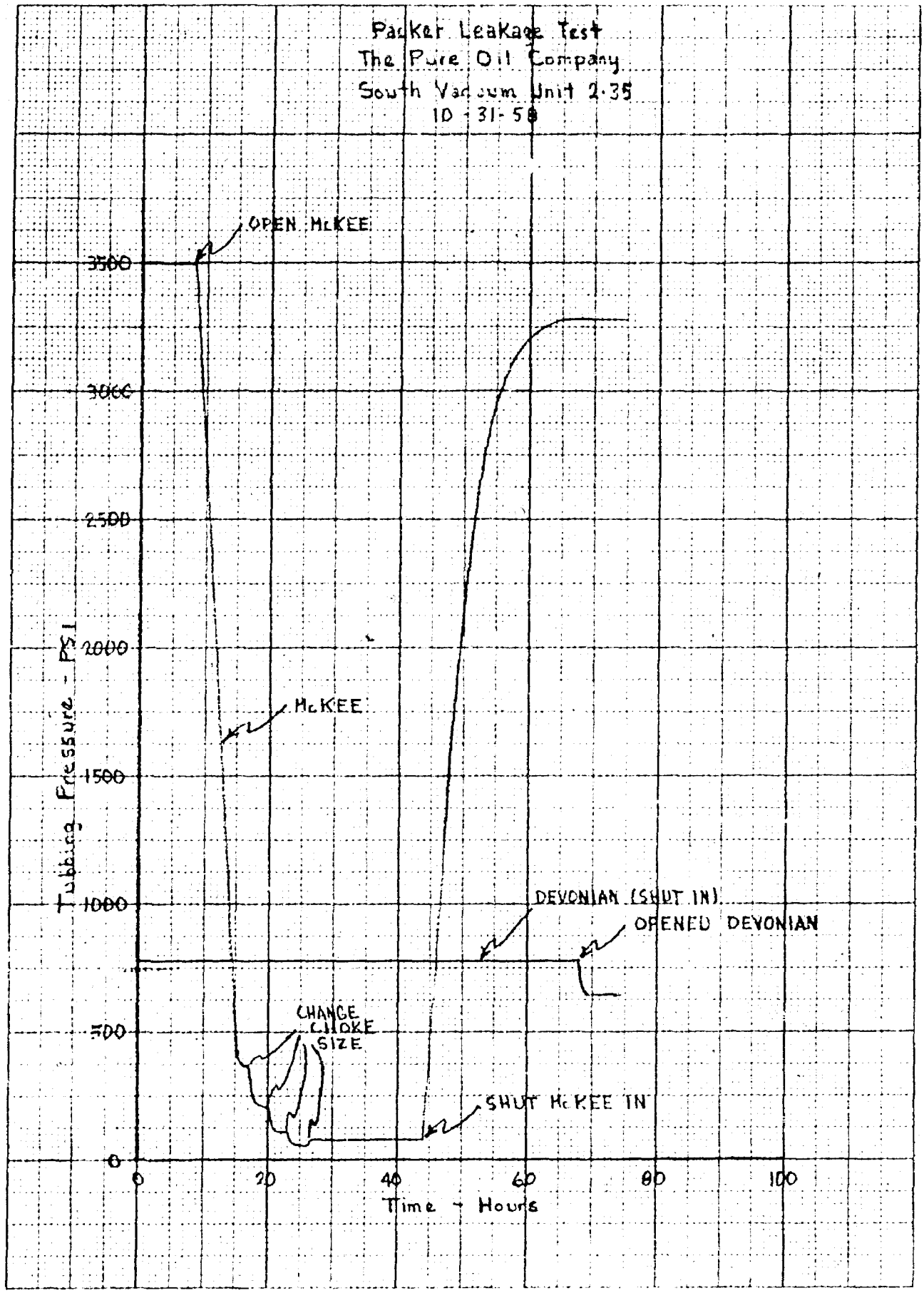
NEW MEXICO
OIL CONSERVATION COMMISSION

PACKER LEAKAGE TEST

OPERATOR The Pure Oil Company
LEASE NAME South Vacuum Unit WELL NO. 2-35
LOCATION 660' FNL & 1980' FEL, S-35, T-18-S, R-35-E COUNTY Lea

TEST DATA SHEET

Time	Devonian ~~Casing~~ Pressure	McKee ~~Tubing~~ Pressure	Remarks
2:00 PM	778	3498	10-27-58 - Both zones still shut in
5:00 PM	778	3498	" "
9:00 PM	778	3498	" "
10:00 PM	778	3498	Open Mc Kee on 16/64" choke
7:00 AM	778	368	" " " 20/64" choke 10-28-58
10:00 AM	778	211	" " " 29/64" choke
1:00 PM	776	110	" " " 40/64" choke
4:00 PM	778	53	Close Mc Kee choke to 32/64"
10:00 AM	778	82	Shut McKee in. 10-29-58 - Devonian
			Still shut in
10:00 AM	778	3280	10-30-58 - Both zones still shut in
1:00 PM	647	3280	Open Devonian on 7/64" choke
5:15 PM	647	3280	End Test 10-30-58



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

October 26, 1962

The Pure Oil Company
P. O. Box 671
Midland, Texas

Attention: Mr. K. H. Dowell

Gentlemen:

Reference is made to your letter of October 12, 1962, requesting that the A. O. Smith meter installed in the automatic custody transfer system for your South Vacuum Unit, South Vacuum Devonian Pool, Lea County, New Mexico, be placed on a quarterly proving frequency rather than monthly as now required. You also enclosed tabulations and graphs of the past meter factors as well as copy of a letter from Mr. Fred Ashford, Jr., Texas-New Mexico Pipeline Company, agreeing to the quarterly proving frequency requested.

Pursuant to the authority granted me by Rule 309-A 4 (d), you are hereby authorized to prove the aforesaid meter on a quarterly interval, subject to the provision that it shall also be proved at any time that it is repaired or at the specific request of the producer, purchaser, or the Commission.

Very truly yours,

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

ALP/DSN/esr

cc: Oil Conservation Commission
Hobbs, New Mexico

Texas-New Mexico Pipeline Company
Attention: Mr. Fred Ashford, Jr.
P. O. Box 1510 - Midland, Texas

Be sure with Pure
PURE
THE PURE OIL COMPANY
SOUTHERN PRODUCING DIVISION • MIDLAND DISTRICT
P. O. BOX 671 • MIDLAND, TEXAS • MUTUAL 2-3725

October 12, 1962

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention: Mr. A. L. Porter
Secretary-Director

Gentlemen:

By Order Number R-1327, dated January 21, 1959, The Commission approved the installation of an automatic custody transfer system for the South Vacuum Unit Lease, South Vacuum Devonian Field, Lea County, New Mexico. The system went into operation July 1, 1959. The positive displacement meter has been proven monthly in accordance with the provisions of that Order.

Through August, 1962, 1,101,875 barrels of oil have been metered through the automatic custody transfer unit. The meter has been proven quarterly with a master meter and checked monthly (between master meter tests) against a surge tank. It is felt that the lease meter is performing satisfactorily, and it is requested that Case No. 1577, Order No. R-1327, be amended to permit meter proving on a quarterly basis with the master meter and to dispense with the surge tank measurements.

In support of this request, the following information is attached:

(1) Tabular record of meter factors
(2) Graphical plot of meter factors versus time

A letter from Texas-New Mexico Pipeline Company approving this request was submitted in previous correspondence dated August 21, 1962.

Yours very truly,

K. H. Dowell

KHD/ca
encls.

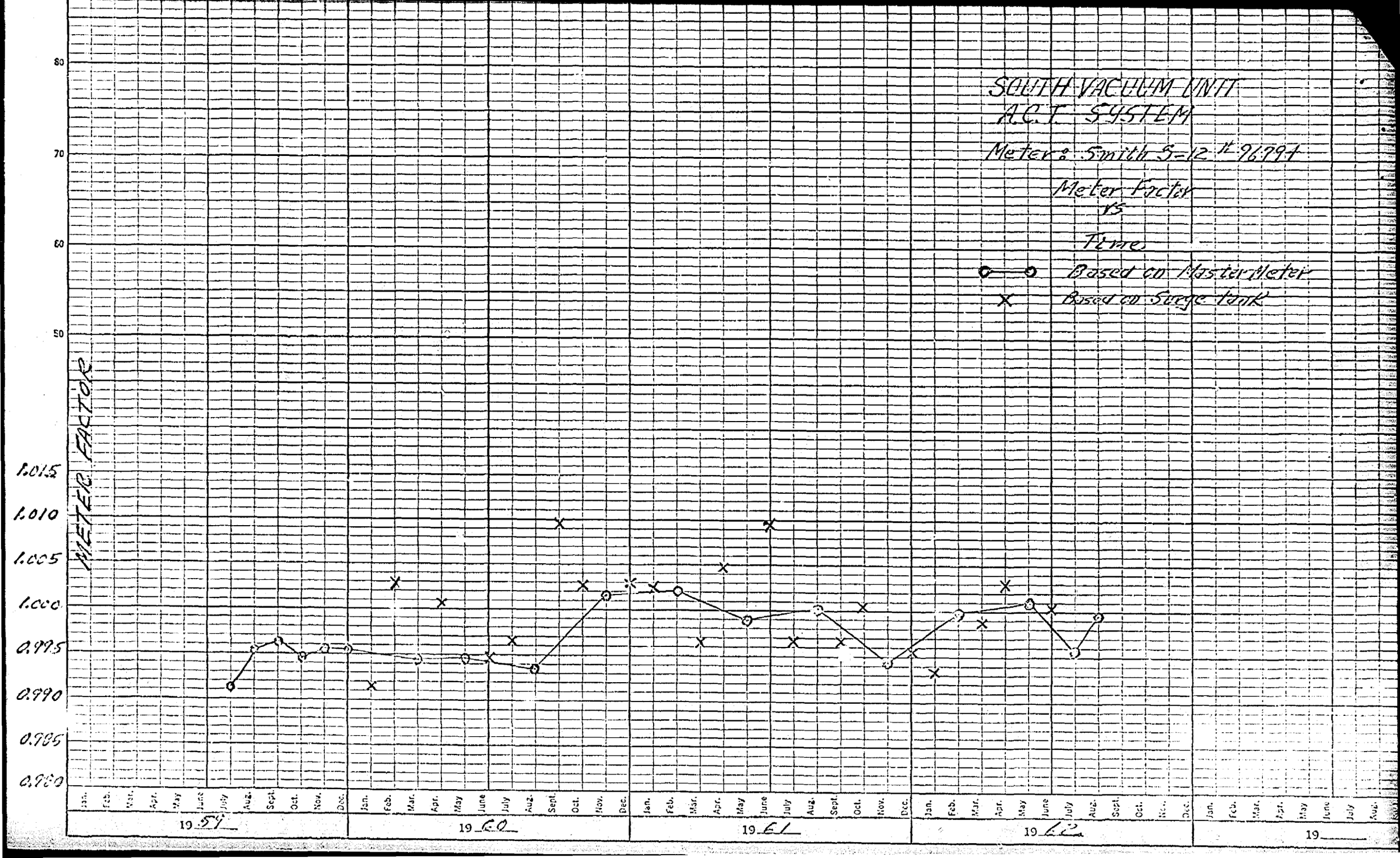
SOUTH VACUUM UNIT A.C.T. SYSTEM

Meter Proving Record

A. O. Smith Meter S-12 #96794

Date	Proving Device	Meter Factor
6-29-59	Meter	0.99141
8-11-59	Meter	0.99539
9-16-59	Meter	0.99668
10-21-59	Meter	0.99478
11-13-59	Meter	0.99578
12-15-59	Meter	0.99541
1-25-60	Surge Tank	0.99148
2-16-60	Surge Tank	1.00290
3-15-60	Meter	0.99435
4-19-60	Surge Tank	1.00040
5-13-60	Meter	0.99494
6-24-60	Surge Tank	0.99450
7-26-60	Surge Tank	0.99623
8-25-60	Meter	0.99392
9-30-60	Surge Tank	1.00980
10-29-60	Surge Tank	1.00252
11-28-60	Meter	1.00180
12-28-60	Surge Tank	1.00270

Date	Proving Device	Meter Factor
1-29-61	Surge Tank	1.00230
2-14-61	Meter	1.00207
3-20-61	Surge Tank	0.99620
4-14-61	Surge Tank	1.00480
5-16-61	Meter	0.99891
6-21-61	Surge Tank	1.00920
7-24-61	Surge Tank	0.99650
8-24-61	Meter	1.00030
9-27-61	Surge Tank	0.99640
10-27-61	Surge Tank	1.00040
11-29-61	Meter	0.99430
12-22-61	Surge Tank	0.99570
1-29-62	Surge Tank	0.99300
2-7-62	Meter	0.99900
3-19-62	Surge Tank	0.99850
4-16-62	Surge Tank	1.00290
5-21-62	Meter	1.00119
6-18-62	Surge Tank	1.00010
7-17-62	Meter	0.99560
8-20-62	Meter	0.99972


SOUTH VACUUM UNIT
A.C.F. SYSTEM
Meter: Smith 5-12 # 96994
Meter Factor
vs
Time
Based on Master Meter
Based on Surge Tank
METER FACTOR
1.015
1.010
1.005
1.000
0.995
0.990
0.985
0.980
Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.
19 59
19 60
19 61
19 62
19

THE PURE OIL COMPANY
SOUTHERN PRODUCING DIVISION • MIDLAND DISTRICT
P. O. BOX 871 • MIDLAND, TEXAS • MUTUAL 2-3725

October 12, 1962

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention: Mr. A. L. Porter
Secretary-Director

Gentlemen:

By Order Number R-1327, dated January 21, 1959, The Commission approved the installation of an automatic custody transfer system for the South Vacuum Unit Lease, South Vacuum Devonian Field, Lea County, New Mexico. The system went into operation July 1, 1959. The positive displacement meter has been proven monthly in accordance with the provisions of that Order.

Through August, 1962, 1,101,875 barrels of oil have been metered through the automatic custody transfer unit. The meter has been proven quarterly with a master meter and checked monthly (between master meter tests) against a surge tank. It is felt that the lease meter is performing satisfactorily, and it is requested that Case No. 1577, Order No. R-1327, be amended to permit meter proving on a quarterly basis with the master meter and to dispense with the surge tank measurements.

In support of this request, the following information is attached:

(1) Tabular record of meter factors
(2) Graphical plot of meter factors versus time

A letter from Texas-New Mexico Pipeline Company approving this request was submitted in previous correspondence dated August 21, 1962.

Yours very truly,

K. H. Dowell

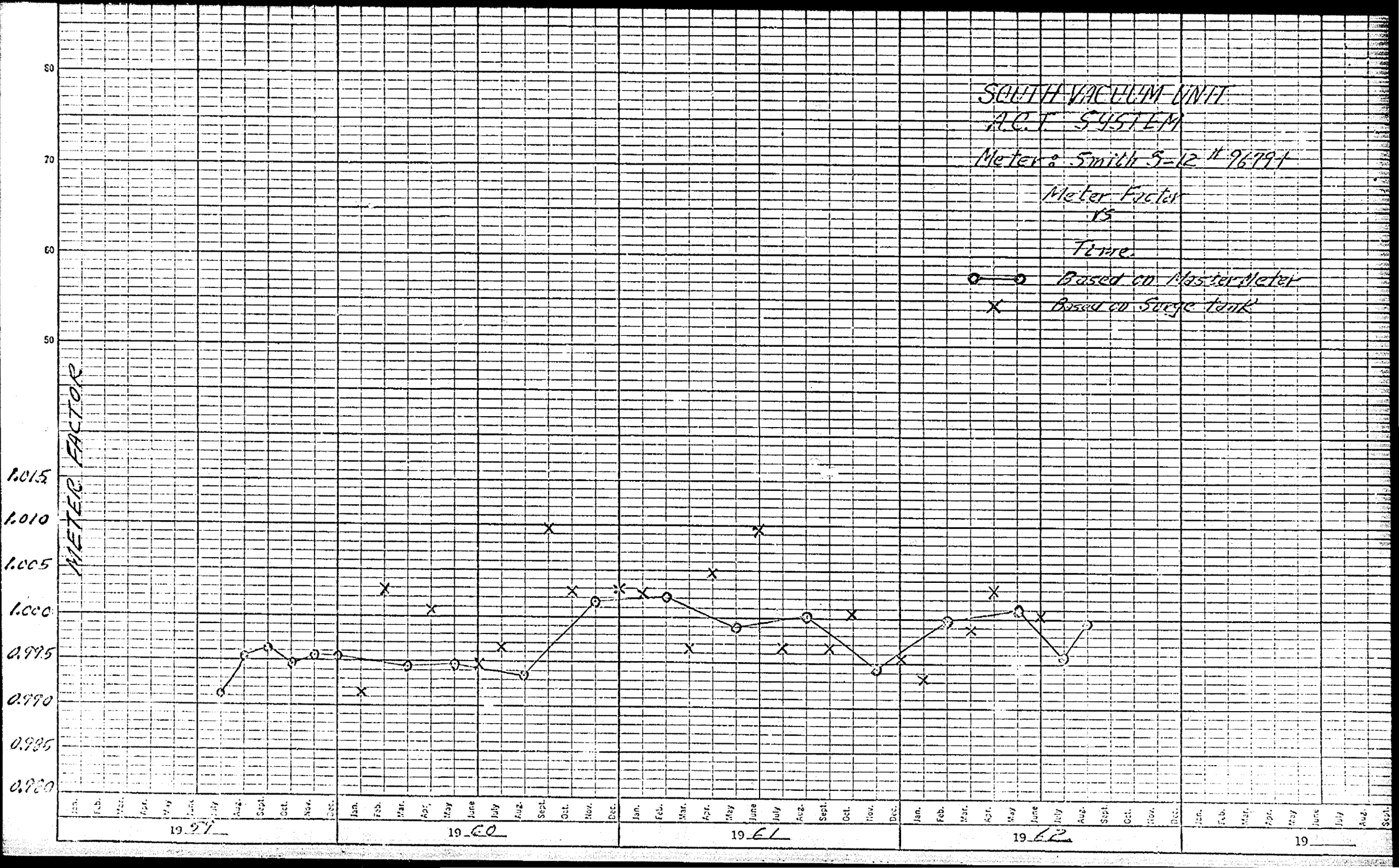
KHD/cs
encls.

SOUTH VACUUM UNIT A.C.T. SYSTEM

Meter Proving Record

A. O. Smith Meter S-12 #96794

Date	Proving Device	Meter Factor
6-29-59	Meter	0.99141
8-11-59	Meter	0.99539
9-16-59	Meter	0.99668
10-21-59	Meter	0.99478
11-13-59	Meter	0.99578
12-15-59	Meter	0.99541
1-25-60	Surge Tank	0.99148
2-16-60	Surge Tank	1.00290
3-15-60	Meter	0.99435
4-19-60	Surge Tank	1.00040
5-13-60	Meter	0.99494
6-24-60	Surge Tank	0.99450
7-26-60	Surge Tank	0.99623
8-25-60	Meter	0.99392
9-30-60	Surge Tank	1.00980
10-29-60	Surge Tank	1.00252
11-28-60	Meter	1.00180
12-28-60	Surge Tank	1.00270
1-29-61	Surge Tank	1.00230
2-14-61	Meter	1.00207
3-20-61	Surge Tank	0.99620
4-14-61	Surge Tank	1.00480
5-16-61	Meter	0.99891
6-21-61	Surge Tank	1.00920
7-24-61	Surge Tank	0.99650
8-24-61	Meter	1.00030
9-27-61	Surge Tank	0.99640
10-27-61	Surge Tank	1.00040
11-29-61	Meter	0.99430
12-22-61	Surge Tank	0.99570
1-29-62	Surge Tank	0.99300
2-7-62	Meter	0.99900
3-19-62	Surge Tank	0.99850
4-16-62	Surge Tank	1.00290
5-21-62	Meter	1.00119
6-18-62	Surge Tank	1.00010
7-17-62	Meter	0.99560
8-20-62	Meter	0.99972


SOUTH VACUUM UNIT
A.C.T. SYSTEM
Meter: Smith 5-L2 # 96794
Meter Factor
vs
Time
Based on Master Meter
Based on Surge tank
METER FACTOR
1.015
1.010
1.005
1.000
0.995
0.990
0.985
0.980
80
70
60
50
Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.
19 59
19 60
19 61
19 62
19

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

COPY

September 5, 1962

The Pure Oil Company
P. O. Box 671
Midland, Texas

Attention: Mr. R. L. Clemons

Gentlemen:

Reference is made to your letter dated August 21, 1962, wherein you request that the meter proving frequency for the meters installed in the automatic custody transfer system on your South Vacuum Devonian Unit in Lea County, New Mexico, be extended to a quarterly basis. The meters are presently being tested on a monthly basis in accordance with Commission Order R-1327 which authorized the installation.

Prior to extending the meter proving frequency, it will be necessary that the Commission receive a history of the average factors previously obtained, both tabulated and plotted on a graph of factors versus time, showing that this particular installation has experienced no erratic drift. This is in accordance with the requirements of Commission Rule 309-A, Section 4 (d).

Very truly yours,

DANIEL S. NUTTER
Chief Engineer

DSN/esr

THE PURE OIL COMPANY
SOUTHERN PRODUCING DIVISION • MIDLAND DISTRICT
P. O. BOX 671 • MIDLAND, TEXAS • MUTUAL 2-3725

August 21, 1962

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention: Mr. Daniel S. Nutter

Dear Sir:

I would like to refer to the Oil Conservation Commission Case No. 1577, Order No. R-1327, in which it states, "That the positive displacement meters used in the automatic custody transfer equipment referred to above shall be checked for accuracy once each month until further order of the Secretary-Director and the results of such tests shall be furnished to the Commission."

The system being discussed by the above order is The Pure Oil Company's South Vacuum Devonian Unit in Lea County, New Mexico. Since the issuance of the order, we have proven the lease meter with a master meter on a quarterly basis and monthly (between master meter tests) against a surge tank. Experience has shown that the lease meter is performing satisfactorily. The results of the last master meter test are in close agreement with the previous test. It is believed that the meter is sufficiently accurate that we can dispense with the surge tank measurements and continue with the master meter proving on a quarterly basis.

We have discussed this proposal with Texas-New Mexico Pipe Line Company, and they are in agreement with discontinuing the stock tank measurements. A copy of their letter is attached.

It is requested that Case No. 1577, Order No. R-1327, be amended to permit meter proving on a quarterly basis.

Yours truly,

R. L. Clemons
Petroleum Engineer

RLC/cs
encl.

TEXAS-NEW MEXICO PIPE LINE COMPANY

FRED ASHFORD, JR.
DIVISION MANAGER

P. O. BOX 1510
MIDLAND, TEXAS

August 28, 1962

Mr. R. L. Clemons
Petroleum Engineer
The Pure Oil Company
P. O. Box 671
Midland, Texas

Dear Sir:

With reference to your letter dated August 14, 1962, concerning meter proving frequency on the meter installed on The Pure Oil Company's LACT system in the South Vacuum Devonian Unit, Lea County, New Mexico.

We are agreeable to discontinuing monthly calibrations using stock tank measurements and utilize in the future master meter calibrations on a quarterly basis.

We are enclosing an extra copy of this letter which you may utilize in your application to the New Mexico Oil Conservation Commission when seeking permission to calibrate on a quarterly basis.

Yours very truly,

Fred Ashford, Jr.
Division Manager

FAjr-btk

Enclosure

cc: Mr. W. P. Foster
P. O. Box 1027
Lovington, New Mexico

MASTER METER PROVING DATA REPORT FOR A SYSTEM
(This form filed in Duplicate and to be used for no more than one system)

COMPANY [illegible] POOL [illegible] TEST NUMBER 38 METER FACTOR USED LAST PERIOD 0.99560 GRAVITY(60°) LAST PERIOD 39°

MASTER TEST METER MAKE OR TEST TANK NO. [illegible] SIZE 2" MODEL 3-22 SERIAL NO. 99536 DATE LAST CALIBRATION [illegible] FACTOR [illegible]

LEASE METER MAKE [illegible] SIZE - 2" MODEL 3-22 SERIAL NO. [illegible]

Lease Name (1) Well No. Unit Letter	(2) S.T.R.	(3) Date Tested	Date Meter(4) Installed or Repaired	LEASE METER BEING TESTED Final(5) Reading	Initial(6) Reading	Bbls(7) 60°F	TESTING DEVICE Final(8) Reading	Initial(9) Reading	Bbls(10) 60°F	7÷10(11) Ratio Error	(12) Gr. 60°F	Lease meter(13) factor for next period	(14) REMARKS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

REMARKS

Are all meters on this system included? Yes ___ No. ___
I hereby certify that the information is true and complete to the best of my knowledge.

Tested by [illegible] Position [illegible] Company [illegible]

Witnessed by [illegible] Position [illegible] Company [illegible]

Signed [illegible]
Title ___
Address ___
Company ___

Submit to the appropriate District Office of the Oil Conservation Commission

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool South Vacuum Formation McKee County Lea

Initial X Annual ____ Special ____ Date of Test 10-27-58

Company The Pure Oil Company Lease South Vacuum Unit Well No. 2-35

Unit I Sec. 35 Twp. 18-S Rge. 35-E Purchaser Phillips Petroleum Company

Liner ~~Casing~~ 5" Wt. 17.93 I.D. 4.276 Set at 13881 Perf. 13620 To 13823

Tubing 2 Wt. 4.70 I.D. 1.995 Set at 13622 Perf. Open Ended To ____

Gas Pay: From 13620 To 13823 L 13721 xG 0.801 -GL 11000 Bar.Press. 30.18" Hg.

Producing Thru: Casing ____ Tubing X Type Well G. G. Dual
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 9-28-58 Packer Guiberson Hookwall Reservoir Temp. ~~200°~~ F 165°F

OBSERVED DATA

Tested Through ~~(Prover)~~ ~~(Choke)~~ (Meter) Type Taps Flange

No.	Flow Data (Prover) (Line) Size	Flow Data (Choke) (Orifice) Size	Flow Data Press. psig	Flow Data Diff. h_w	Flow Data Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						3498	78	Packer		64
1.	4.026	2.000	26	11	44	368	76			9
2.	4.026	2.000	26	11	44	211	76			3
3.	4.026	2.000	26	11	45	110	75			3
4.	4.026	2.000	26	11	45	82	75			3
5.	4.026	2.000	26	11	44	53	75			24

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	25.580	20.8	26	1.0157	0.9325		502.0
2.	25.580	20.8	26	1.0157	0.9325		502.0
3.	25.580	20.8	26	1.0157	0.9325		502.0
4.	25.580	20.8	26	1.0157	0.9325		502.0
5.	25.580	20.8	26	1.0157	0.9325		502.0

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 22,300 cf/bbl.
Gravity of Liquid Hydrocarbons 56.3 @ 60 deg.
P_c 9.936 $(1-e^{-s})$ 0.570

Specific Gravity Separator Gas 0.688
Specific Gravity Flowing Fluid 0.801
P_c 3498 P_c^2 1223604

No.	P_w / P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$(F_cQ)^2 (1-e^{-s})$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	368	135.2	4975	24.75	13.10	148.3	12088	384.5	10.72
2.	211	44.5	4975	24.75	13.10	57.6	12178	240.0	6.85
3.	110	12.1	4975	24.75	13.10	25.2	12211	159.0	4.51
4.	82	6.72	4975	24.75	13.10	19.84	12216	141.0	4.04
5.	53	2.81	4975	24.75	13.10	15.91	12220	126.0	3.61

Absolute Potential: 502 MCFPD; n = 00

COMPANY The Pure Oil Company
ADDRESS Box 2107, Fort Worth, Texas
AGENT and TITLE J. M. Williams Production Engineer
WITNESSED M. J. Littlejohn
COMPANY The Pure Oil Company

REMARKS

INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

NOMENCLATURE

Q = Actual rate of flow at end of flow period at W. H. working pressure (P_w). MCF/da. @ 15.025 psia and 60° F.

P_c = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater. psia

P_w = Static wellhead working pressure as determined at the end of flow period. (Casing if flowing thru tubing, tubing if flowing thru casing.) psia

P_t = Flowing wellhead pressure (tubing if flowing through tubing, casing if flowing through casing.) psia

P_f = Meter pressure, psia.

h_w = Differential meter pressure, inches water.

F_g = Gravity correction factor.

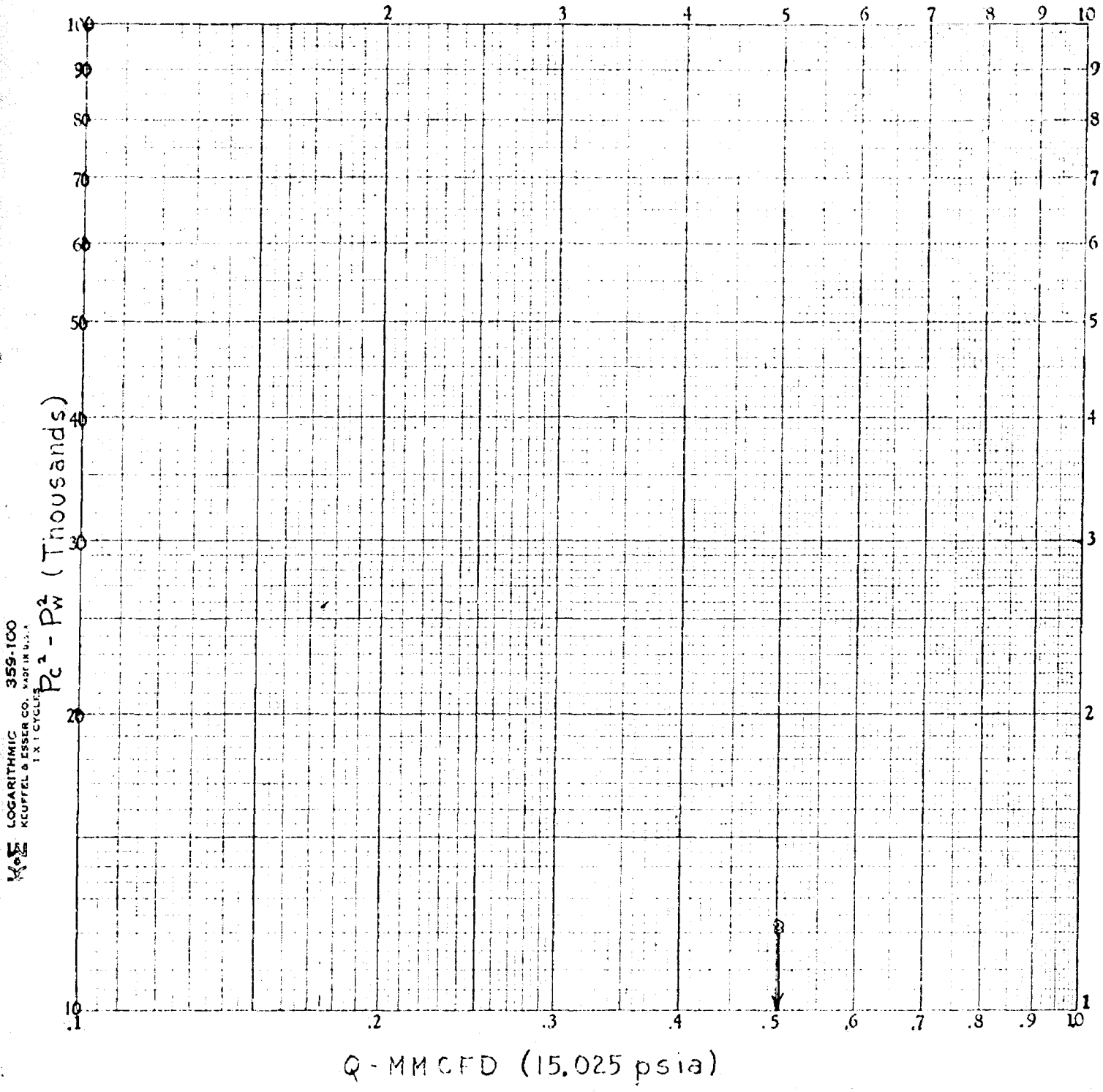
F_t = Flowing temperature correction factor.

F_{pv} = Supercompressability factor.

n = Slope of back pressure curve.

Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_t.

COMPANY The Pure Oil Company
WELL South Vacuum Unit 2-35
LOCATION I-35-18S-35E
COUNTY Lea
DATE 10-31-58



NEW MEXICO OIL CONSERVATION COMMISSION

FORM C-124
(Rev. 7-53)

COMPANY The Pure Oil Company BOTTOM HOLE PRESSURES South Vacuum - Devonian POOL

POOL DATUM - 7550' NOMINAL SHUT-IN TIME 26 HRS: AVERAGE POOL TEMPERATURE 150 F°

LEASE	WELL NO.	UNIT	S-T-R	DATE PRESS. RUN	TIME S.I. HRS./MINS.	S.C.F. ~~XXXX~~ D.F. ELEV.	GAUGE DEPTH	GRADIENT TBG.	B.H.P. @ GAUGE DEPTH	B.H.P. @ POOL DATUM	PREVIOUS TEST @ DATUM PRESS.	DATE
South Vacuum Unit	2-35	I	35-18S-35E	10/27/58	26/0	3860'	-7842'	0.505	4308	4666	none	—

NEW MEXICO OIL CONSERVATION COMMISSION

FORM C-124
(Rev. 9-53)

COMPANY The Pure Oil Company BOTTOM HOLE PRESSURES South Vacuum - McKee POOL

POOL DATUM -9860 * NOMINAL SHUT-IN TIME 34 HRS: AVERAGE POOL TEMPERATURE 165 F°

LEASE	WELL NO.	UNIT	S-T-R	DATE PRESS. RUN	TIME S.I. HRS./MINS.	S.C.P. ELEV.	GAUGE DEPTH	GRADIENT DEG.	B.H.P. @ GAUGE DEPTH	B.H.P. @ POOL DATUM	PREVIOUS TEST @ DATUM PRESS.	PREVIOUS TEST DATE
South Vacuum Unit	2-35	I	35-18S-35E	10/27/58	34/0	3860'	-9640	0.142	5080	5111	none	———

* Approximate mid-point of perforation.

CASE 1,77: Pure Oil Co. application to install lease automatic custody transfer equipment, South Vacuum Unit, [illegible].