Case No.

1745

Application, Transcript,
Small Exhibits, Etc.

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

File Case # 1745

September 29
19 59

COPY

Mr. Charles C. Spann
The Simms Building
Box 1031
Albuquerque, New Mexico

Dear Mr. Spann:

On behalf of your client, Phillips Petroleum Company, we enclose two copies of Order No. R-1490, issued by the Oil Conservation Commission, September 28, 1959, in Case No. 1745.

You will note that this order requires that the automatic custody transfer system be checked for accuracy at least once every six months until further direction by the Secretary-Director.

It is our understanding, after discussion of this matter with Mr. Morgan of the Hobbs District Office of Phillips Petroleum Company, that Phillips proposes to, in effect, install two systems to receive the production of oil from the Ranger Lake Unit; one system to receive the production from the majority of the wells in the unit area, and the other system to receive the production from certain acreage which carries an over-riding royalty interest ascribed to Vickers Petroleum Company.

Insofar as the Oil Conservation Commission is concerned, this arrangement will be satisfactory inasmuch as

all of the production will be passed through the dump-type metering system, even though the production from the two areas is measured separately and at different times.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

lcr/

Enclosures (2)

cc: Phillips Petroleum Company
Hobbs, New Mexico

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

November 3, 1959

COPY

Phillips Petroleum Company
P. O. Box 2105
Hobbs, New Mexico

Attention: Mr. W. C. Rodgers

Re: Case No. 1745
Order No. R-1490

Gentlemen:

Reference is made to your letter of October 20, 1959, wherein you describe certain operating conditions prevailing on your West Ranger Unit, Ranger Lake-Pennsylvanian Pool, Lea County, New Mexico, and request, in view of said conditions, to be permitted to shut-in all Ranger Lake flowing wells at a central header rather than at the individual well-head in the event of a malfunction of the LACT unit, as prescribed by the subject order.

It is our understanding that the flowing pressure of the wells on the Ranger Lake Unit is rapidly declining and now approximates some 50 psi on certain of the wells; further, that you anticipate that all wells will be on artificial lift within six months, and that when said wells are put to artificial lift, a hydraulic pumping system will be installed which will automatically be shut-down in the event of LACT failure.

In view of these circumstances, we believe that shutting in of the wells at the central header is comparable to shutting in the wells at the well-head. Phillips Petroleum Company is there-

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

fore authorized to so equip the system as to cause said wells to be shut-in at the header in the event of malfunction of the equipment.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/DSN/ir

cc: Mr. C. C. Spann
Box 1031
Albuquerque, New Mexico

N. M. Oil Conservation Commission
Box 2045
Hobbs, New Mexico

Pete -
I would like to talk to you about this Law

File Case files when ready

PHILLIPS PETROLEUM COMPANY

P. O. Box 2105
Hobbs, New Mexico

October 20, 1959

In Re: New Mexico Oil Conservation Commission Order No. R-1490
Case No. 1745 - West Ranger LACT

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

Attention of Mr. D. S. Nutter

Gentlemen:

This will confirm conversation between Mr. D. S. Nutter, of your office, and Messrs. Spann and Morgan, representing Phillips Petroleum Company, relative to the subject order. The specific point of discussion concerned the requirement in the subject order "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."

In regard to the above requirement, we wish to state the following:

1. Testimony at the hearing included a statement that "In the event a malfunction occurs and no oil is sold to the pipeline, the surge tank will fill and oil will overflow into the emergency overflow tank. When the oil level reaches level six (see Exhibit No. 1) the lease shut-in valve at the header will close thus shutting in the lease." This testimony assumed all wells would be on a flowing status.

2. The flowing pressure is rapidly declining and now approximates 50 psi on some wells. This pressure is inadequate to permit reliable use of low pressure shut-in valves at the well-heads.

3. Due to the rapid decline in bottom hole pressure, we now anticipate a portion of the wells will change from a flowing to a pumping status in two to four months. All wells are expected to be on a pumping status within six months.

4. An additional expenditure of approximately $3750 would be required to install the low pressure shut devices at the wellheads of the eight flowing wells. We do not consider this expenditure necessary or justified for the low pressure short term protection afforded those wells with adequate flowing pressure to permit use of the low pressure shut down device.

5. Our present intention is to use a parallel string free type hydraulic pumping system for artifically lifting the Ranger wells. With this system, production would be stopped on all artifically lifted wells by shutting down the prime mover powering the triplex pump in the event of a malfunction by the LACT system. Any remaining flowing wells would be shut in at the header as discussed above.

6. All flow lines are plastic coated and no failures have occurred to date.

In view of the above discussion, we respectfully request your approval to shut-in all Ranger flowing wells at a central header rather than at individual wells in theevent of a malfunction of the LACT unit.

Very truly yours,

W. C. Rodgers

W. C. Rodgers
District Superintendent
Production Department

FCM:wma

cc: Mr. C. C. Spann
Box 1031
Albuquerque, New Mexico

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

Case 1795

Docket Mailed 8-4-59

July 23, 1959

Phillips Petroleum Company
P. O. Box 2105
Hobbs, New Mexico

Attention: Mr. W. C. Rodgers

Gentlemen:

Reference is made to your letter of July 20, 1959, wherein you have inquired as to the necessity of a hearing to obtain approval for your proposed automatic custody transfer system on the Ranger Lake Unit, Lea County, New Mexico.

Even though you propose to measure the oil in tanks, it has been the custom of the Commission to require a hearing prior to authorization of any automatic transfer system.

We are, therefore, setting your application for hearing before one of the Commission's examiners on or about August 19th. You will be notified by copy of the docket of the exact date that your case will be heard.

Very truly yours,

DANIEL S. NUTTER
Chief Engineer

DSN/ir

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. 1745
Order No. R-1490

APPLICATION OF PHILLIPS PETROLEUM
COMPANY FOR PERMISSION TO INSTALL
AUTOMATIC CUSTODY TRANSFER EQUIP-
MENT ON THE WEST RANGER UNIT,
RANGER LAKE-PENNSYLVANIAN POOL,
LEA COUNTY, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on August 19, 1959, at Santa Fe, New Mexico, before Daniel S. Nutter, 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 28th day of September, 1959, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Nutter, 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, Phillips Petroleum Company, is the operator of the West Ranger Unit in the Ranger Lake-Pennsylvanian Pool, Lea County, New Mexico comprising the following-described acreage:

TOWNSHIP 12 SOUTH, RANGE 34 EAST, NMPM	
Section 23:	All
Section 24:	W/2 NW/4
Section 25:	NW/4
Section 26:	All

(3) That the applicant proposes to install an automatic custody transfer system to handle the Ranger Lake-Pennsylvanian Pool production from all wells on said West Ranger Unit.

(4) That the applicant proposes to measure the oil passing through said automatic custody transfer equipment by means of a plastic coated metering tank.

(5) 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.

(6) That the applicant has shown that the proposed installation is a reliable and economic means of transferring the custody of oil, and that the use of the proposed equipment should be permitted provided that the automatic custody transfer system should be checked for accuracy at least once every six months and the results of such tests furnished to the Commission

IT IS THEREFORE ORDERED:

That the applicant, Phillips Petroleum Company, be and the same is hereby authorized to install automatic custody transfer equipment, using a plastic coated metering tank, to handle the Ranger Lake-Pennsylvanian Pool production from the West Ranger Unit, Lea County, New Mexico comprising the following-described acreage:

TOWNSHIP 12 SOUTH, RANGE 34 EAST, NMPM	
Section 23:	All
Section 24:	W/2 NW/4
Section 25:	NW/4
Section 26:	All

PROVIDED HOWEVER, That the applicant shall install adequate facilities to permit the testing of all wells on the said West Ranger Unit at least once each month to determine the individual production from each well.

PROVIDED FURTHER, That the automatic custody transfer system referred to above shall be checked for accuracy at least once every six months until further direction 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

lcr/

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

COPY

September 29, 1959

Mr. Charlie Spann
Simms Building
Box 1031
Albuquerque, New Mexico

Dear Mr. Spann:

On behalf of your client, Phillips Petroleum Company, we enclose two copies of Order No. R-1490 issued by the Oil Conservation Commission on September 28, 1959, in Case No. 1745.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

Enclosures

copy to Hobbs

Aug 19
2nd Hrg
Case 1745

PHILLIPS PETROLEUM COMPANY

Hobbs, New Mexico
P.O. Box 2105

1959 JUL 22 AM 8:22

July 20, 1959

In re: Application of Phillips Petroleum Company for Approval of LACT System - Ranger Unit - T-12-S, R-34-E, Lea County, New Mexico

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

Gentlemen:

Phillips Petroleum Company proposes installation of a dump-tank type lease automatic custody transfer system (LACT) on the Ranger Unit, located in T-12-S, R-34-E, Lea County, New Mexico.

Rule 309(a) states that "oil shall not be transported from a lease until it has been received and measured in tanks located on the lease". The dump tank type LACT system proposed for use on the Ranger Unit will provide for measurement of oil in a tank and, therefore, is not believed to be in conflict with Rule 309(a). We are not aware of other rules which would preclude our proceeding with the proposed installation.

We respectfully request your opinion as to the necessity for an Examiners' Hearing. If it is your conclusion that a hearing is required, we wish to have this letter considered as our application for such hearing and to state the following in support of the application:

1. The installation of the dump tank type automatic custody transfer system will accurately measure produced oil and result in efficient accounting of crude oil transported to the pipe line gathering system.

2. The Ranger Unit, approved by Order R-797, contains approximately 1520 acres and is described as all Section 23, W/2 NW/4 Section 24, NW/4 Section 25, all Section 26, T-12-S, R-34-E, Lea County, New Mexico

Yours very truly,

3. Installation of the proposed LACT system is in the interest of conservation and will protect correlative rights.

4. The oil will be delivered to Service Pipe Line Company. Their verbal approval has been received for the proposed installation.

5. By copy of this letter, all offset operators and the Pipe Line Company are notified of Phillips Petroleum Company's application.

Respectfully submitted,

W. C. Rodgers

W. C. RODGERS
District Superintendent
Production Department

FCM:b
cc. Oil Conservation Commission
P.O. Box 2045
Hobbs, New Mexico

OFFSET OPERATORS

Tidewater Oil Company
P.O. Box 547
Hobbs, New Mexico

J. C. Barnes Oil Company
P.O. Box 505
Midland, Texas

Pan-American Petroleum Corp.
P.O. Box 68
Hobbs, New Mexico

No. 30-59

DOCKET: EXAMINER HEARING AUGUST 19, 1959

Oil Conservation Commission - 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

The following cases will be heard before Daniel S. Nutter, Examiner, or A. L. Porter, Jr., Secretary-Director.

CONTINUED CASE

CASE 1683: (Continued)
Application of Gulf Oil Corporation for a non-standard gas proration unit and for an order force pooling the interests therein. Applicant, in the above-styled cause, seeks the establishment of a 477-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the N/2 and the SE/4 of Section 19, Township 19 South, Range 37 East, Lea County, New Mexico, to be dedicated to applicant's B. V. Culp "A" Well No. 3, located 1980 feet from the North and West lines of said Section 19. Applicant further seeks an order force pooling the interests of those in said non-standard gas proration unit who have gas rights within the vertical limits of the Eumont Gas Pool.

NEW CASES

CASE 1739: Application of Shell Oil Company for approval of a unit agreement. Applicant, in the above-styled cause, seeks an order approving its Henshaw Deep Unit Agreement comprising 4824 acres, more or less, of Federal and State lands in Township 16 South, Ranges 30 and 31 East, Eddy County, New Mexico.

CASE 1740: Application of Shell Oil Company for two salt water disposal wells. Applicant, in the above-styled cause, seeks an order authorizing the disposal of produced salt water into the Queen Formation through its Allen Estate Well No. 3, located in the SE/4 SE/4 of Section 27 and through its Record Well No. 1, located in the NW/4 SW/4 of Section 26, both in Township 19 South, Range 35 East, Lea County, New Mexico. The proposed injection interval in said Allen Estate Well No. 3 is from 4900 feet to 4918 feet and the proposed injection interval in said Record Well No. 1 is from 4870 feet to 4884 feet.

CASE 1741: Application of El Paso Natural Gas Company for a gas-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Hancock Well No 4 in the SW/4 SW/4 of Section 23, Township 28 North, Range 9 West, San Juan County, New Mexico, in such a manner as to produce gas from the Aztec-Pictured Cliffs Pool and to produce gas from the Blanco-Mesaverde Pool through the casing-tubing annulus and tubing respectively. Applicant proposes to utilize a retrievable-type packer in said well.

CASE 1742: Application of El Paso Natural Gas Company for a gas-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its San Juan 27-4 Unit Well No. 21, located in the NW/4 NE/4 of Section 30, Township 27 North, Range 4 West, Rio Arriba County, New Mexico, in such a manner as to produce gas from the Tapacito-Pictured Cliffs Pool and to produce gas from the Blanco-Mesaverde Pool through the casing-tubing annulus and the tubing respectively. Applicant proposes to utilize a retrievable-type packer in said well.

SERVICE PIPE LINE COMPANY

Lovington, New Mexico
August 4, 1959

Phillips Petroleum Corp.
Box 2105
Hobbs, New Mexico

Dear Sirs:

This is to advise that Service Pipe Line Company representatives have examined your proposed automatic custody transfer of crude oil installation, for your Ranger Unit, and find that it meets pipe line requirements.

Yours very truly,

J. C. Dotson

J. C. Dotson
District Superintendent
SERVICE PIPE LINE COMPANY
Box 1088
Lovington, New Mexico

FORM 249 (8-59)

SERVICE PIPE LINE COMPANY

Lovington, New Mexico
August 4, 1959

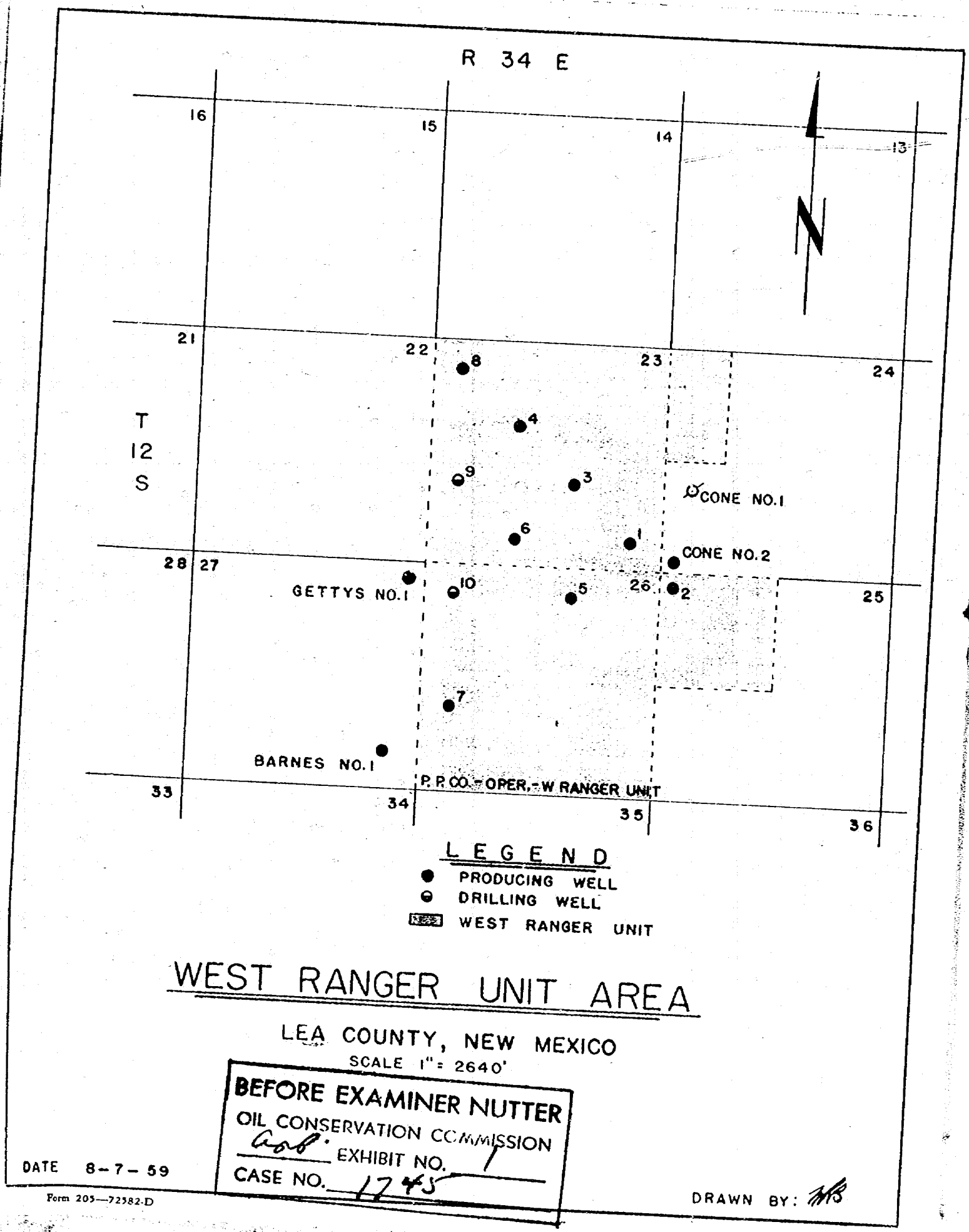
Phillips Petroleum Corp.
Box 2105
Hobbs, New Mexico

Dear Sirs:

This is to advise that Service Pipe Line Company representatives have examined your proposed automatic custody transfer of crude oil installation, for your Ranger Unit, and find that it meets pipe line requirements.

Yours very truly,

J. C. Dotson
District Superintendent
SERVICE PIPE LINE COMPANY
Box 1088
Lovington, New Mexico



WEST RANGER UNIT AREA

LEA COUNTY, NEW MEXICO

SCALE 1" = 2640'

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Gulf EXHIBIT NO. 1
CASE NO. 1745

DATE 8-7-59

DRAWN BY: MB

Form 205—72582-D

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1745

TRANSCRIPT OF HEARING

AUGUST 19, 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 1745 Application of Phillips Petroleum Company for an automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing it to install an automatic custody transfer system to trnasfer the custody of oil produced on the West Ranger Unit comprising certain acreage in Township 12 South, Range 34 East, Ranger Lake-Pennsylvanian Pool, Lea County, New Mexico.

BEFORE:

Daniel S. Nutter, Examiner.

TRANSCRIPT OF PROCEEDINGS

MR. NUTTER: We will take next Case 1745.

MR. PAYNE: Case 1745. Application of Phillips Petroleum Company for an automatic custody transfer system.

MR. SPANN: Charles C. Spann of Grantham, Spann & Sanchez, Albuquerque, New Mexico, representing the applicant. I have one witness, Mr. Morgan.

(Witness sworn)

F. C. MORGAN,

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

DIRECT EXAMINATION

BY MR. SPANN:

Q Will you state your name, please?

A F. C. Morgan.

Q By whom are you employed, Mr. Morgan?

A Phillips Petroleum Company.

Q And in what position?

A I'm assistant superintendent in Hobbs, New Mexico production district.

Q How long have you been so employed?

A Eleven years, approximately.

Q And have you previously testified before this Commission as an expert petroleum engineer and had your qualifications accepted?

A Yes, sir, I have.

MR. SPANN: Any questions about the witness' qualifications?

MR. NUTTER: Please proceed. No, sir.

Q Are you familiar with this application, No. 1745?

A Yes, sir, I am.

Q Are you generally familiar with the type of installation that is proposed in this application?

A Yes, sir. We have twenty-two installations of the type proposed here now operating in our company. This will be our first in New Mexico.

(Thereupon, Applicant's Exhibit No. 1 was marked for identification.)

Q Now, I hand you Applicant's Exhibit 1. What does that show, Mr. Morgan?

A Exhibit 1 shows our West Ranger Unit which is made by Commission Order R-797. The unit contains about 5,120 acres and is described as all of Section 23, the W/2 of the NW/4 of Section 24, the NW/4 of Section 25, all of Section 26, Township 12 South, Range 34 East, Lea County, New Mexico.

Q Will you describe the lease ownership?

A Phillips Petroleum Company and Texas Pacific Coal & Oil jointly own the lease. The State of New Mexico, the common school fund is the royalty owner.

Q How many wells are presently producing within the area?

A At the present time, we have seven producing wells. Well No. 8 is currently on test. This map is in error. It is listed as a producing well. It is currently being tested. We have two rigs running continuously in the Unit.

Q How many wells do you anticipate will be drilled in the Unit?

A Probably sixteen, based on 80-acre spacing.

Q Now, would you describe the purpose of this application for a lease automatic custody transfer system?

A Well, the primary purpose is to effect and to improve

operations in the lease. To illustrate, we anticipate maximum production for about 2900 barrels of oil per day. This would require eleven 1,000 barrel stock tanks based on three and a half days' storage. With our proposed A.C.T. battery, only three tanks will be required. This difference of eight 1,000 barrel stock tanks has a dollar value of about $21,674. We estimate the cost of the A.C.T. installation to be 18,954, so we expect about $2,720 net savings from it. We expect other savings on gravity conservation and labor requirements, in addition to those.

(Thereupon, Applicant's Exhibit No. 2 was marked for identification.)

Q Directing your attention to Applicant's Exhibit 2, what does that show, Mr. Morgan?

A Exhibit No. 2 is the flow diagram of our dump type A.C.T. system. To explain this, starting with clean oil from your separation and treating facilities flows into 1,000 barrel surge tanks where level one (L1) is actuated, and this starts the monitor pump which is shown schematically there as P2. At this point, oil is pumped continuously from the surge tank through the monitor cell, where the percent water is measured and the oil returns back to the surge tank. If the percent water exceeds the pre-set valve, the circulating pump (P3) is started and the water-cut oil is recirculated through the treating facilities. When the monitor indicates clean oil again, the circulating pump (P3) is shut down.

When oil in the surge tank reaches level two (L2), the

transfer pump, which is P3, is started, which starts filling the metering tank with oil. Transfer is interrupted whenever the water percent recorded by the monitor exceeds the pre-set valve. The transfer pump fills the meter tank to the weir shown there on the top and spills over into the draindown line. This draindown line is sized to drain down at a rate less than the transfer rate to permit the oil level to rise outside the weir and trip level three (L3). When level three is reached, the transfer pump is shut down. Oil continues to drain down from outside the weir, and when the oil level drops down below level three (L3) valve, valve one (V1) opens to start the delivery cycle. The metered volume of oil is that volume of oil between valve one (V1) and the weir. When the oil in the meter tank reaches level four, a time delay occurs before valve one closes. This time delay insures that the oil is below valve one before this valve closes. The closing of valve one initiates another transfer cycle. The sump tank which I see located below the metering tank is provided so that the pipeline pump (P4) will not be stopped and started between dumps. The pipeline pump (P4) is controlled by level five (L5) and is powered by electric motors as are all pumps in this installation.

The delivery of oil to the pipeline will be a rate greater rather than the lease production; therefore, the level in the surge tank will drop until level one is reached. Delivery will then be interrupted, with the meter tank empty, until level two is again reached. Pressure and temperature in the metering tank

will be recorded on a thirty-day strip chart. This is shown to be on top of the tank.

Proportional samples will be stored in a vapor-tight vessel to provide composite gravity and percent water information. Dump counters will be used to count the number of tanks of oil sold, and will contain provisions to shut down the lease when the monthly allowable is produced. The monitor will be "fail safe," i.e. a burned out tube, etc., will signal bad oil, rather than clean oil. In the event a malfunction occurs and no oil is sold to the pipeline, the surge tank will fill and oil will overflow into the emergency overflow tank. When the oil level reaches level six, the lease shut-in valves at the header will close, thus shutting in the lease.

Q Now, is it anticipated that periodic calibrations will be required?

A No, sir, it is not. We will have the inside of the metering tank plastic coated with a baked on plastic, and on the twenty-two installations of the type A.C.T. system operated by Phillips, we have never had a case where encrustation of any type formed. This includes one installation in the Border Texas area where the crude had 4.50 degrees Fahrenheit. That metering tank has been periodically inspected during a two-year period, and no encrustation has formed. We feel confident the proposed installation will record the same success. I would like to add that present practice on conventional matters is to strap stock tanks

only when placed in service, and we consider these important situations. For these reasons we recommend strongly against any specific requirement for periodical calibrations. The pipeline company and Phillips will jointly inspect the metering tank from time to time and we consider this adequate precaution.

Q Why have you proposed a dump type A.C.T. system in preference to a PD system?

A We prefer the dump type system for several reasons. One, because we feel that its accuracy is equal to or superior to that of the PD meter. There is no inherent drive; therefore, no need to periodically calibrate the dump type. In addition, the dump type assures that the following conditions prevail before any other is transferred to the metering factor sale, and you might like to look at Exhibit 2 in following these points. The meter tank must be empty, valve one must be closed, the monitor must be registering good oil, the monthly allowable must not have been delivered to the pipe line, and the counter must have registered the previous dump. We feel that these provisions are worth the additional cost of a PD system in that they provide the pipe line company, the royalty owner, and ourselves, the producers, with the maximum assurance that no oil will be delivered to the pipe line that is not accounted for and that no oil is registered that is not delivered to the pipe line, and if I could, I would like to read into the record one quotation from Mr. Hiber, who is the Assistant Chief Engineer of our company and has pioneered the

development of this type A.C.T. system through the country. He says a PD meter cannot be as accurate as a dump meter. The basis of this statement is that the dump meter is a prover vessel and each dump is the proven volume and will have no variation as long as the operation sequence occurs. If the sequence does not occur, the system shuts down. Deposition could cause a variation but with plastic coatings there has been no deposition. PD meters are proved or calibrated with a prover tank which is the same type vessel used continuously in the dump system. For PD meters to have the same degree of accuracy, they must show exactly the same calibration factor each and every time the meter is proved. This, in fact, is not the case. Meter factors vary from proving to proving, and the factor change is always in one direction; increased slippage. The present custom of using the calibration factor at the beginning of each run period to write tickets, can only result in some quantity of oil going to the pipe line that the producer is not paid for.

In addition, it takes elaborate and costly precautions on a PD system to detect when the meter is starting to fail and shut the system down before appreciable quantities of unaccounted for oil has been transferred. Add to this, that all PD meters are using temperature compensation which cannot be satisfactorily continuously policed. I quote Rudy Hamill of Service Pipe Line Company. He sayd, "I do not believe they are accurate." Phillips' experience also indicates that the commonly used PD meter tempera-

ture compensator is not reliable.

Frequency of PD meter calibration is again a conflict between pipe line and producer. The less often the calibration, the greater is the Pipe Line Company's advantage and the more the producer loses. It is customary to calibrate once a month. In spite of the claims to the contrary, getting ready to calibrate, and the calibration itself and the clean-up afterwards will take four and a half hours to half a day.

Q Now, you mentioned some twenty-two installations in other areas. Where are they located? I mean systems similar to this one?

A Yes, sir. We have fourteen of these in Oklahoma. Five of them are in Texas, and three in Utah.

Q Do you know how long they have been in operation?

A The oldest goes back in excess of four years.

Q Now, in your opinion, is this installation in the interest of conservation and prevention of waste?

A Yes, sir, it is.

Q Would you explain that?

A Yes, sir. I say that because gravity is usually increased from two-tenths to six-tenths of a degree API following an A.C.T. installation. This is because there is more rapid transfers of crude to the pipe line, and weathering is minimized. Also you don't have the flaring of vapor due to the opening of vessels as in the tank battery.

Q Have the offset operators been notified of the application?

A Yes, sir, they have.

Q How about the pipe line company?

A Yes, sir. Service Pipe Line Company is the purchaser. We have thoroughly reviewed this installation with them.

(Thereupon, Applicant's Exhibit No. 3 was marked for identification.)

Q Handing you Applicant's Exhibit 3, what is that, Mr. Morgan?

A Exhibit No. 3 is a photostatic copy of a letter from Service Pipe Line stating that this installation is acceptable to them.

Q Now, were Exhibits 1 and 2 prepared under your supervision and direction?

A Yes, sir, they were.

MR. SPANN: I would like to offer in evidence Exhibits 1 and 2 at this time, and also Exhibit 3.

MR. NUTTER: Phillips' Exhibits 1 through 3 will be entered.

(Thereupon, Applicant's Exhibits 1 through 3 were received in evidence.)

MR. SPANN: That's all we have.

MR. NUTTER: Anyone have any questions of Mr. Morgan?

MR. PAYNE: Yes, sir.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Morgan, if the oil in the tank is not pipe line quantity, do I understand that you recirculate it?

A Mr. Payne, this monitor pump I mentioned there, P2, is running continuously, and any time it sees a drop of water it automatically starts the circulating pump, and if you'll notice, this is a cone bottom tank, and the connection to that comes right out of the bottom, so it would be impossible for us to have a collection of bad oil.

Q Do you have any corrosion problem with the production from this pool?

A No, sir, there has been no evidence of corrosion at all. We have, as a matter of fact, routine plastic coating, plastic coated our --

Q So plastic coating would take care of it?

A Yes, sir, true, but our coating has only been for paraffin deposition.

Q I see. Now, I believe you testified as to how your high pressure shutoff switch works; shuts off the entire lease, is that right?

A That is correct, if level six is actuated.

Q Are they pumping or flowing wells?

A All flowing wells at the present time.

Q Do you have any provision, any low pressure shutoff --

A No, sir.

Q -- in case of a line break or malfunction?

A We have none at the present time with our convention battery, Mr. Payne.

Q Do you feel that any such installation is necessary here?

A No, sir, I do not.

Q Do you have a man on this lease?

A Yes, sir, seven-day pumper.

Q What is the gravity of the oil?

A It has averaged exactly forty degrees over the past year.

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

QUESTIONS BY MR. NUTTER:

Q Is this installation as you have laid it out here on Exhibit 2, adequate to handle the expected production from the entire lease?

A Yes, sir. Mr. Nutter, it has been sized to handle up to 3500 barrels of oil a day, and we don't anticipate much over twenty-eight, twenty-nine hundred.

Q Now, the only critical part of this thing, as far as measurement of oil is concerned, is the interval from the weir down to valve V1, is that correct?

A Yes, sir, that is correct.

Q And that entire interval is plastic coated?

A Yes, sir, plastic coated.

Q Now, with Phillips' experience with twenty-two of these

similar installations, have they ever had a failure of valve V1?

A No, sir. I might add one other thing along that line, Mr. Nutter. We have a six-months routine check where we check up all the component parts that are subject to failure. We pull the plate off V1 and if there is leakage, it will be corrected. This is a joint inspection by the pipe line company and the producer.

Q This inspection is made only every six months?

A Yes, sir, and we have never had occasion to find any one leaking yet.

Q Is there any way of looking into the sump tank to see if oil is accumulating in there between runs?

A I think the best way -- there is a real simple method, just pull the back plate in the valves, and any leakage can be detected there.

Q Is there any possibility of any impurity getting in there?

A In my judgment, Mr. Nutter, no, sir, because of, as I mentioned earlier, our monitor pump system. We interrupt or will not transfer oil any time that there is bad oil in that sump tank, it is interlocked and it is impossible to transfer oil as long as it can see a drop of water.

Q What is the volume of the tank from the weir to V1?

A Twenty-five barrels.

Q What do you do, calibrate that upon the initial installation, then?

A Yes, sir, that is correct. The pipe line company, ther
are a little more qualified than we are, but it is a joint thing
and it does, according to point 1101, which calls for two calibra-
tions and certain degrees of accuracy, and that will be done before
it is placed in service.

Q You feel there is no drift in the accuracy of this
thing thereafter?

A Mr. Nutter, I don't see how there could be.

Q Except deposition of paraffin inside the meter tank or
failure of V1?

A Yes, sir, the deposition would definitely cause a
change, but as I testified, on twenty-two installations we have,
we have never had any evidence of encrustation, and this will be
inspected by the pipe line company and ourselves periodically. I
feel confident with our experience with plastic there will be no
encrustation.

Q Now, you say that it is inspected periodically. Is
that part of the six months' check-up that this system undergoes?

A This will be done more frequently than that. The pipe
line company wants to look at it too. It is a real simple thing
to do. We have a thief hatch on top of our metering tank, and we
have a hatchway on the lower portion of the metering tank, and we
will be real easy to look at. You can lower a flashlight, for
that matter, into it and determine the condition of the tank.

Q Has Phillips in its other twenty-two installations made

it a practice to inspect them for accuracy every six months?

A Not precisely for accuracy. In the places where there had been a previous tendency in their conventional stock tank for encrustation, they have inspected them to satisfy themselves that they have a good plastic job.

Q How about the pipe line companies, have they had any particular frequency that they look to check and see that they are running accurately?

A No, sir. The only thing that the pipe line company has ever brought up is a matter of draindown and that is something that, in our past experience, they want to do at least twice, you know, to make sure that the draindown is a fixed value and doesn't vary significantly with temperature.

Q Pipe Line wouldn't care if V1 failed?

A They would love it.

MR. NUTTER: Anyone have any further questions of Mr. Morgan? He may be excused.

(Witness excused)

STATE OF NEW MEXICO)
)
COUNTY OF BERNALILLO)

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

WITNESS my Hand and Seal this, the 8th day of September, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

J. A. Trujillo
NOTARY PUBLIC

My Commission Expires:

October 5, 1960

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1745, heard by me on 8-19, 1959.

, Examiner
New Mexico Oil Conservation Commission

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