BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1748

TRANSCRIPT OF HEARING

AUGUST 19, 1959

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BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1748 Application of Magnolia Petroleum Company for an automatic custody transfer system and for permission to produce more than 16 wells in a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing it to install an automatic custody transfer system to transfer custody of oil from all Horseshoe-Gallup oil wells on its Navajo "A" Lease comprising certain acreage in Township 31 North, Range 17 West, San Juan County, New Mexico.

BEFORE:

Daniel S. Nutter, Examiner.

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

MR. NUTTER: Take Case 1748.

MR. PAYNE: Case 1748. Application of Magnolia Petroleum Company for an automatic custody transfer system and for permission to produce more than 16 wells in a common tank battery.

MR. ERREBO: If the Commission please, Burns Errebo, Modrall, Seymour, Sperling, Roehl & Harris, Albuquerque, appearing on behalf of Magnolia Petroleum Company. We will have one witness, and we desire that he be sworn at this time.

(Witness sworn)

JOSEPH C. GORDON, JR.,

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

DIRECT EXAMINATION

BY MR. ERREBO:

Q Will you state your name, by whom you are employed and your occupation, please?

A Joseph C. Gordon, Jr., petroleum engineer for Magnolia Petroleum Company.

Q Where are you located, Mr. Gordon?

A In Hobbs, New Mexico.

Q Have you ever testified before this Commission?

A No, sir.

Q Will you give them a brief outline of your qualifications insofar as your education and experience are concerned?

A I have received a Bachelor of Engineering -- Mechanical Engineering -- from Vanderbilt University, and Bachelor of Science in Petroleum Engineering from the University of Oklahoma. I have been employed for eight years with Magnolia Petroleum Company; five years as a field production engineer in the Gulf Coast and West Texas areas; two years on Marine Equipment in the offshore Gulf of Mexico; and one year on production equipment in New Mexico.

Q Mr. Gordon, will you briefly explain to the Examiner what Magnolia seeks to accomplish by this application?

A Magnolia would like to establish one central tank

battery for all wells on its Navajo "A" Lease and install lease automatic custody transfer installation for delivery of the crude to the pipe line.

Q You expect that more than 16 wells will be produced into this common tank battery if this application is granted?

A Yes, sir. At the present time there are 18 wells completed on the Lease, and eventual development is now estimated to total 26 wells.

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

Q Now, will you please refer to the Exhibit which has been marked Exhibit No. 1, and explain to the Commission what it shows?

A Exhibit No. 1 shows Magnolia's Navajo "A" Lease, comprising the Sections 13 and 14, the NE/4 of Section 23, and the N/2 of Section 24 in Township 31 North, Range 17 West, San Juan County, New Mexico; approximately 1760 acres in all.

Q This is a Navajo Lease, isn't it?

A This is Navajo "A" Lease.

Q And it has, therefore, the royalties common throughout, is that correct?

A Yes, sir.

Q Now, I notice that you have some colors indicated on there, outlining certain areas, and also colors indicating certain points. Will you explain to the Commission what all of that indi-

cates?

A As shown by our legend, our small green circles with a letter inside denote test stations which are "A," "B," "C," and "D" in ascending order, going from south to the northwest. The central battery denoted by a circle with red coloring is located in the southeast portion of the Lease. The connecting line or gathering system is also shown by small dashed -- large dashed lines connecting these test stations. The areas denoted by the different colors, the blue, the orange, green and an olive denote the areas served by these test stations. It is expected that upon completion of the wells on the Lease the wells in these roughly outlined areas will produce to the test stations and then production will be transmitted on to the central tank battery.

Q Actually, these wells are all completed in the Horseshoe-Gallup Oil Pool, is that correct?

A Yes, sir, all wells are in the Horseshoe-Gallup Pool.

Q And are they all completed and producing on the pump?

A Yes, sir.

Q And approximately what is the depth?

A The wells vary in depth, producing depth from approximately 1000 to 1600 feet, the difference arising mainly from surface elevation.

Q Now, then, in your gathering system, in particular, with regard to that part located nearest the well, what features or equipment have you installed for flow line protection?

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

A I would like to refer on now, to Exhibit No. 2, the large double sheet there, as a schematic diagram of the well production from the well through the LACT unit and its delivery to the pipe line. We have used here a color code where the well fluid denoting oil, water and gas as it comes from the well bore is shown by brown, the oil alone by green, the gas is yellow, and any water as blue. Starting on the left-hand side from the well, near the wellhead is to be installed a high-low pressure shut-in control to shut down the power supply to the well in the event of either high or low pressure occurring in the flow line. This is to protect us in case of a flow line stoppage or flow line leak.

Q By that, I take it that you will expect that these wells within a short period of time will be operated by electric motors, is that correct?

A Yes, sir. At the present time our motive power is by internal combustion engines, but we are starting the installation of electric power to the whole Lease. Now, as we come on from the individual flow lines, the individual flow lines are grouped, as shown on Exhibit No. 1, in test stations through header manifold which are capable of dividing the wells to either test or production. The testing well production goes through a line heater which is to be installed for our severe wintertime conditions, and then into a three-phase metering test separator. This metering

test separator will meter the oil and water to dump type meters which are integral with the separator. At the present time, since there is no water production from this reservoir, our water switch or water controls are marked off, but they aren't installed, and the positions are there for them so that we can install controls later. The production of the gas and oil through the test separator will be brought back together, and all test production will be measured again with production from the other wells producing to this test station, and it will flow from there on to the central battery.

Now, the test station shown on Exhibit 2 is the facilities which are available at test station "A," "B," "C" and "D", as shown on Exhibit No. 1. The other four lines coming into the central facilities battery there is the gathering system from our other test station. At test stations "C" and "D" on the northern half of the Lease, because of terrain conditions, we have installed small surge tanks, 210-barrel surge tanks, and are pumping into the gathering system from those surge tanks by means of small pumps and gas engines. This motive power will be changed over to electric motors when we have electricity available at those points. The lease gathering system starts test station "D" and comes through the lease picking up production from the other test stations and brings it all to the central battery. Now, at the central battery our facilities shown on Exhibit No. 2 are principally a heater treater, surge tanks and LACT unit. The

treater takes all production from the lease and transmits oil to the surge tanks through the fill line. All gas from the heater treater which is broken out by heat treatment is discharged through the gas outlet which also has a connection. You'll note above the heater treater Item No. 9 which is a pressure regulator to supply a constant pressure to the vent or vapor space of the surge tanks. Item No. 8, just above that, is a pop-off valve to maintain pressure on the gas section of the heater treater. The oil coming through the fill line to these two surge tanks will customarily enter the first surge tank. There will be a diverting valve installed; that is Item No. 18, on the first surge tank, for switching to the reserve tank. The control groove as shown here will contain float switches for operation of the LACT unit.

MR. NUTTER: Excuse me just a minute. This green line running from the diverting valve --

A Yes, sir.

MR. NUTTER: -- over toward the surge tank is a continuous line?

A Yes, sir. We've omitted it there for clarity.

MR. NUTTER: But those two sections are actually connected?

A Yes, sir. The lowest float switch in the control booth, Item No. 13 is to shut down the pipeline pump contained in the LACT unit. The upper switch -- float switch, Item No. 12, is a start switch for the pipeline pump, and normal operations will

be between switch 12 and switch 13. The float switch No. 11, shown there as the uppermost switch, would be installed at such a level as to actuate if the surge tank level reached that height, actuate the diverting valve No. 16 to send production into the reserve tank noted here. This is a temporary measure for right now in case of some possible shutdown or reason for inability to deliver oil through the LACT unit, in which case our surge tank, or first surge tank, would start to overflow. It would indicate by the high level switch No. 11 and the diverting valve would then send oil to the reserve tank, which would normally be left empty or almost empty, and this second tank, reserve surge tank, would give us an adequate overnight reserve for -- so that we would have no waste or spillage of oil due to inability to deliver to the pipeline. In the morning the opeating personnel would be able to take further corrective measures as needed. The surge tanks are to be interconnected and would be separated here for the time being by manually controlled valves so that we would not be trying to pump out of this reserve surge tank unless we had placed oil in them. When we do have complete electric supply available to the entire lease, the float switch No. 11 would then become a lease shutdown switch, and at that time we would be able to stop the flow of oil through the entire central battery, if we were unable to deliver to the pipeline. Also at that time just ahead of the heater treater on the incoming crude line, Item No. 6 is a shut-in valve which would be actuated in conjunction with the

lease shutdown switch to prevent gravity drainage of our field gathering system flooding the heater treater in the case of the -- in the event of lease shutdown. The coming out of the surge tank, this is a schematic diagram here, and it does not show clearly that the LACT unit will be drawing oil only from our principal surge tank, but that is where its principal source of supply would be, coming off of --at a line going to the LACT unit. Item No. 13 is a BS & W. Item No. 14, a constant circulating pump will provide a constant check upon the quality of the oil capable of being delivered to the pipeline. This BS & W monitor will actuate to lock out the LACT unit and prevent pipeline deliveries and start up our recirculating unit, in case we exceed our limit on BS & W content. There will also be a slight delay built in to the BS & W monitor to allow for the small occasional overpercentages which are of very short duration, but we don't want to shut down operation of the LACT or the entire lease for a momentary surge. That would be a three-minute delay which I believe is rather common.

The recirculating pump No. 10, which is noted below the surge tank and treater takes from drain lines in both surge tanks which are coned bottom tanks, and is to be an automatic recirculating pump upon a daily cycle basis, approximately one to two hours to continually draw off bottoms and subject them to further heat treatment and prevent the accumulation. The BS & W monitor will then be serving merely as a final check upon the delivery

of the oil, and in the event that we do come up with that oil, the recirculating pump would then recirculate until the situation was corrected. Then, when the BW & W monitor showed that the oil was of correct gravity, correct BS & W content, the LACT unit could then get -- resume deliveries to the pipeline.

The LACT unit is to have a 2400 barrel per day minimum rating. Our maximum production estimated to the 26 wells would be approximately 1600 barrels per day, and we have oversized the LACT unit requirements here as a fifty percent overrate. The LACT unit would be provided with a PD meter, positive displacement meter, positive pressure pump, deaerator strainer,positive displacement meter with temperature compensation, a proportional sampler for monthly checks upon the BS & W gravity of the oil delivered, a back pressure valve to help maintain accuracy of reading through the positive displacement meter, a set stop valve to shut in delivery to the pipeline upon running of the total monthly allowable, and prover connections for proving of the positive displacement meter as required.

I believe that covers everything that we have shown.

Q Mr. Gordon, now, in your design of these facilities that you have just described and reviewed for the Commission, has the Magnolia Petroleum Company used equipment insofar as component parts are concerned which is generally accepted and used by the industry for purposes of this type?

A Yes, sir, I think we've followed a rather common procedure. It may differ in slight details, but it certainly is representative of similar installations throughout the country.

Q Insofar as this equipment is concerned, how does it compare with any installations which might be presently existing on offset leases?

A Well, referring again to Exhibit No. 1, we have denoted the names of offset operators. Humble, on leases immediately to the north of our lease, in Section 14, is -- has received permission to install equipment of this general nature. And a company to the east of us is also --

Q And that is pursuant to hearing and notice of this Commission permitting that installation, is that correct?

A Yes, sir.

Q Now, with regard to your electric supply situation, would you develop that a little further here for the benefit of the Examiner?

A At the present time electricity is not available for us. We are expecting to construct our own power line system and hook into a present established system which is now on the Atlantic Lease. We estimate now that approximately two months would be required for complete installation of electric supply to the Lease, but we can have almost immediate supply of electricity to our central battery location, which is immediately next to the power line now on the Atlantic Lease.

Q How far, actually, is it down from the central battery location to the prover line connections?

A It is approximately 1500 feet.

Q Now, by that, do I understand you to say that it might be a while, a month or so, before power will be available to operate the wells?

A Yes, sir.

Q Now, then, I understand that in your design of the flow lines from these wells that you provide for automatic cut-off in case of a failure in the central tank battery facilities, is that correct, or shutdown of the wells?

A Yes, sir, that would be back to the electric supply company and shutdown.

Q They will be manually operated for this period?

A Yes, sir.

Q Can you see any danger that the failure to have these wells electrified will in any way affect the safety and the proper operating of the central tank battery facilities?

A No, sir.

Q Actually, you have sufficient tankage there, do you not, to carry you over at least more than one day's production?

A Yes, sir. At the present time we can handle approximately a day and a half's worth of production.

Q And how often does a pumper or a switcher or other supervisory personnel employed by Magnolia or the pipeline company,

appear there and is present on the lease?

A At the present time and in the future we will have daily attendance of lease personnel on the lease. The pipeline at present is in daily attendance, and in the future we expect to not see them quite as often.

Q Actually, that's one of the advantages, is it not, of this system, in that it requires less supervision than a standard type of tank battery in lease transfer facilities?

A Yes, sir. We expect to hold our personnel requirements to one man, and not require any additional labor.

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

Q Now, using your next Exhibit, which I believe has been marked on as copies furnished to the Commission, as No. 3, using that, will you describe some of the advantages of this installation?

A Exhibit No. 3 is a rather abbreviated topographical layout. It's almost identical to Exhibit No. 1, but showing the terrain features. Starting in the upper left-hand corner, we have a very low area. Moving back to the southeast, we run into tablelike or mesa formations which are shown here. We've lettered them out as high, high and low, being relative terms. In actual footage, there is probably approximately 500 feet of elevation difference between those two areas. There is also a medium area in and around test station C which is approximately in between

this high and low in regard to elevation differences. Then, coming on down to the southeast corner of the lease, we have a canyon or wash or gully through there which gives us another low spot on the lease at our central battery location, so that we have more or less gravity drainage into our central battery location. This terrain, in addition to furnishing quite outstanding elevation differences, also furnishes transportation difficulties in asking our personnel to completely travel all around the lease and perform various jobs at different spots. The travel time now from the central battery out to the test station D is approximately one hour by road, and this would tend to his attendance being required out there for tank gauging duties and such would represent an added cost and might require the attendance of more than our established minimum of one man operation.

Q Do you expect, then, that if the Commission grants your application that reduced maintenance costs and operation costs will result?

A Yes, sir, very definitely.

Q Would you review any other advantages which may accrue from this plan that you are proposing today?

A Aside from the terrain features just now mentioned, the establishment of central battery in itself permits us to reduce our investment, it reduces our maintenance costs just because we have less equipment to maintain. In bringing all of our oil to a central point, it will enable us to obtain savings

in treating costs, we will reduce our weather loss and gravity loss due to our vapor control system installed, a nd by use of LACT and constant throughput of crude to the pipeline, we expect to obtain very substantial savings and permit more production of oil from the lease.

Q What will this do to the expected producing life of the lease?

A Well, in reducing costs, the operating and investment cost to Magnolia of this lease, it will permit us to extend our economic limit on production from the lease and thereby produce more oil.

Q In other words, then, you will produce oil that would not otherwise be produced under the standard type of installation?

A Yes, sir.

Q And it is your opinion, therefore, that waste will be prevented?

A Yes, sir, it would.

Q Now, with regard to the testing facility, I understand you to say that those are automatic, is that correct?

A At the present time they are not. With the establishment of electric supply throughout, we plan the installation of automation testing throughout the entire lease, which will permit us to go on to even more wells added to the field personnel load.

Q Will that provide, that test result in an automatic means which does not require manual gathering --

A Yes, sir.

Q -- of data and reproduction?

A It will present the test results to the field personnel in printed form.

Q Actually, I assume that the advantages of this automatic testing procedure are obvious, and you don't care to go into them further at this time?

A No, I believe they are more of a personal nature to the operator.

Q In other words, they provide him with information that will enable him to better operate the reservoir, is that correct?

A Yes, sir.

Q Now, actually, do you know whether or not lease automatic custody transfer is widely accepted in New Mexico as well as other states?

A In this general area, the Horseshoe-Gallup and Four Corners areas, the LACT unit and in some cases automatic facilities are generally accepted procedure. In this particular case the pipeline, which receives the oil, has quite a few installations where they receive oil through LACT units of a similar nature, and they themselves are selling oil through LACT -- in the LACT unit by positive displacement meters.

Q Have you prepared an Exhibit showing comparative installation costs, of the conventional system as compared to the system which you propose here today?

A Yes, sir, that is Exhibit No. 4. Comparative cost estimates of conventional facility compared to centralized facility. These are the figures -- estimated figures -- drawn up for the subject lease, and show a breakdown of the cost of different items as between -- compared between conventional type facility and centralized type facility. By conventional, I mean Magnolia's conventional where you have a grouping of wells producing into a tank battery, and in this case our tank batteries would have been set up at our test station locations. We have substituted test stations for conventional type tank batteries. On this particular lease the flow lines, of course, represent the same amount of investment. The tank batteries present an outstanding difference there. The conventional tank batteries, estimated to have cost $60,000, while with centralized tank batteries, we have only expended $22,000. For tank battery facilities, on testing facilities, under the conventional method, we estimated we would have spent $6,000, while under the proposed installation, as shown here, we would spend approximately $12,000 on testing facilities. The gathering system in either case required would be approximately the same. This is a unique situation in that in this area the pipeline cost is borne by the operator under agreement, and whether we install four tank batteries in the pipeline or whether we install one tank battery, and have one gathering system, the total cost is borne by us. As shown here, the cost of only these items, these are not complete items required for lease development, of

course, but have been gathered here to show the comparison of the same and different type items, the cost for conventional type installation would be $157,000, while with central battery facilities, an expenditure of only $125,000 will be required. The saving here, based strictly on the savings in tank battery and the differential of test facility investment required, is $32,000.

Q Pending action by the Commission upon this application, has Magnolia asked for and obtained temporary permission to operate its leases as they now exist?

A Yes, sir, we have received temporary exception to Rule 309 by letter from the representative of the Oil Conservation Commission in Aztec; letter dated July 31, 1959. A copy of that letter has been sent to the Oil Conservation Commission.

MR. PAYNE: Do you have a copy of that with you?

A We have a Thermo-Fax copy.

MR. ERREBO: We would like to introduce that, if the Commission desires.

QUESTIONS BY MR. NUTTER:

Q Does this also include permission to operate more than 16 wells into these facilities?

MR. ERREBO: No, it does not Mr. Examiner. I think that the permission here granted relates primarily to the operation of 2 wells which are located -- well, perhaps the witness ought to explain that situation. He is more familiar with it.

A I believe here, sir, we are more concerned with the installation as soon as possible of LACT facilities which can be

done. And we asked for and received this exception in order to permit us to get ahead with the work as fast as we can. At the present time we do not have specific equipment names. We have our specifications, and they are being set out, and we look forward to ordering of the equipment within the very near future and its immediate installation.

Q Well, actually, does not this permission also relate to the producing and selling of oil from two wells which are not connected into the system?

A No, sir, I do not believe that is so. This Rule 309-A specifically relates to the production of more than 16 wells into a battery, and says that you shall adequately measure and store production.

MR. NUTTER: In tanks?

A Beg pardon?

MR. NUTTER: In tanks?

A In tanks, yes, sir.

MR. PAYNE: It also provides that only the Secretary-Director can grant exception to 309-A and not a District Engineer.

MR. ERREBO: Do you have anything further?

A We believe that by the use of the metering test separators, install a test station, we will be able to provide adequate testing facilities for testing the lease, we will be able to test these wells at least three times a month minimum. Under our expected operating conditions, we believe that we provided

for adequate reserve storage on the lease, and that we have adequate flow line protection and will have adequate lease shutdown shutdown protection to prevent any waste.

The positive displacement type meter has received widespread and very general acceptance throughout this area and other areas of the country for use as a meter for pipeline sales, and we also believe that through our reduced investment and operating costs we will obtain greater recovery of oil from the lease.

Q Mr. Gordon, were Exhibits 1 through 4 prepared by you or under your supervision?

A Yes, sir.

MR. ERREBO: We would like to offer them in evidence at this time.

MR. NUTTER: Magnolia's Exhibits 1 through 4 will be admitted.

(Thereupon, Magnolia's Exhibits Nos. 1 through 4 were received in evidence)

MR. ERREBO: That's all we have, Mr. Nutter.

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

MR. PAYNE: Just one question.

Q (By Mr. Payne) Mr. Gordon, do you feel that positive displacement meters are accurate?

A Yes, sir.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Gordon, I'm having a little bit of difficulty following this schematic on Exhibit No. 2. Now, the oil initially goes into the first surge tank, correct?

A Yes, sir.

Q And when that tank reaches level No. 18, --

A Yes, sir.

Q -- it actuates the diverting valve flowing the oil automatically into the second surge tank?

A Yes, sir.

Q And the second surge tank is normally empty, however?

A Yes, sir.

Q What is the capacity of the second surge tank?

A Both of these tanks are 1,000 barrels.

Q Now, for normal operating procedure, the first surge tank fluctuates between empty and full, is that correct?

A Yes, sir.

Q So in the event of a breakdown here of the LACT system and a failure of the oil to be transferred to the pipeline you have 1,000 barrels stockage available?

A Yes, sir.

Q Now, when this 1,000 barrels of storage is filled up, does that actuate this valve 6, just upstreet from the treater?

A Sir, under our interim operation, without electric supply to all of our pumping units located at the well, we have to depend on manual operation for shutdown when personnel find oil in the reserve tank, which will be determined every day.

He would then have to find out his cause of trouble and take steps to shut down his wells, if he can't correct his pipeline or the LACT trouble. Now, when we have electric supply available so that we have electric power at the wells, at that time we can use our high level float switch in the control booth as a shutdown switch to stop the operation of all electric motors and close in that valve immediately ahead of the heater treater, that value No. 6.

Q In other words, that would be this float switch No. 11 --

A Yes, sir.

Q -- will close No. 6 as well as activate these high-low pressure well shut-in valves?

A No, sir, we are not depending on the high-low pressure for operation. We would be pulling the main switch on the lease to stop operation of all electric motors on the lease.

Q In other words, that would cut off the main supply line to the whole lease?

A Yes, sir. It would not prevent operation of the central battery facilities which can be separated from the remainder of the lease here on electric supply, but we could interrupt the power supply to the remainder of the lease.

Q Now, what does one of these high-low pressure well shut-in controls cost, for one of these wells?

A They range in price, sir, depending on the various case, type of construction and all, but the average price for these is approximately $70.00.

Q And how does that price compare with the high pressure shut-off only? I mean by adding the low pressure shut-off feature to the switch, how much change in cost is that?

A None. In the ones that I have looked at closely, there was no difference. It is furnished as a standard high-low pressure switch.

Q What particular make do you propose to use there?

A It would be a Mercoid or a Murphy. No certain set specifications have been drawn up on that yet.

Q Have Humble and the Atlantic Refining Company installed their facilities already on their leases?

A I don't know their status as to installation. They have received permission from the Oil Conservation Commission.

Q I thought maybe you were acquainted with them and had observed them and knew if they were functioning all right.

A No, sir. I could tell you tomorrow, but I can't tell you today. I'm going on up there.

Q Your LACT system here on No. 15, the monitor, and the monitor supply pump No. 14 --

A Yes, sir.

Q -- are in constant operation, is that correct?

A They are in constant operation.

Q However, the recirculating pump No. 10 is not tied in with the monitor or the monitor supply pump in any way, is it?

A Not on the hydraulic system.

Q On this system which has your monitor and your monitor supply pump does is take a reading on this oil?

A Yes, sir.

Q But it doesn't cause the tank bottom to be recirculated if it runs into bad oil, does it?

A Yes, sir. If the BS & W monitor indicates that your percentage cut exceeds your required limit, then your recirculation pump will go into operation.

Q Your No. 10 pump here will?

A Yes, sir.

Q I understood you to say that No. 10 would just be operated on a time clock basis and would operate every day?

A Both methods.

Q It will also be tied into the BS & W monitor?

A Yes, sir. We hope to eliminate operation of it from the BS & W monitor by doing the daily recirculation.

Q And then what type of a meter will you use out here in the LACT system?

A Positive displacement meter.

Q What make will that be?

A I couldn't say right now, sir. We have not specified as to the make of the meter.

Q You don't share the pessimism of the previous witness today on these PD meters?

A No, sir. I believe that both of them are accurate.

MR. NUTTER: That's all.

Any further questions?

MR. ERREBO: That's all we have.

MR. NUTTER: Does anyone have anything further they wish to offer in Case 1748? The witness may be excused.

(Witness excused)

MR. NUTTER: Take the case under advisement.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

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

WITNESS my Hand and Seal this, the 2th day of September, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph A. Trujillo
NOTARY PBULIC

My Commission Expires:

October 5, 1960