

CASE 1770: Application of PAN AMER.
for approval of automatic custody
transfer of oil produced from Lois
Wengerd Lease - Lea County, N.M.

Lois Wengerd

*208
p 32*

Case No.

1770

Application, Transcript,
Small Exhibits, Etc.

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1770

TRANSCRIPT OF HEARING

SEPTEMBER 30, 1959

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
SEPTEMBER 30, 1959

2

IN THE MATTER OF:

CASE 1770 Application of Pan American Petroleum Corporation:
for approval of a lease automatic custody trans-
fer system. Applicant, in the above-styled cause:
seeks an order authorizing the automatic custody
transfer of oil produced from its Lois Wengerd
Lease in Sections 23 and 24, Township 12 South,
Range 37 East, Gladiola-Devonian Pool, Lea 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 1770.

MR. PAYNE: Case 1770. Application of Pan American
Petroleum Corporation for approval of a lease automatic custody
transfer system.

MR. NEWMAN: Kirk Newman of Atwood & Malone, Roswell,
New Mexico, and Guy Buell, a member of the Texas Bar of Fort Worth,
Texas, representing the applicant.

MR. BUELL: We have one witness, Mr. Examiner, Mr.
Green.

(Witness sworn)

ALBERT H. GREEN,
called as a witness, having been first duly sworn, testified as

follows:

DIRECT EXAMINATION

BY MR. BUELL:

Q Mr. Green, will you state your complete name, by whom you are employed and in what capacity, and in what location, please, sir?

A Albert H. Green, employed by Pan American Petroleum Corporation as petroleum engineer in the Lovington District office.

Q Does that office have supervision of Pan American around the Gladiola Pool?

A Yes, sir.

Q What is your educational background, Mr. Green, with respect to petroleum engineering?

A Graduated in 1950 from Texas A & M College with a B. S. degree in mechanical engineering.

Q What have you done since graduation, Mr. Green?

A Since that time I have been employed by Pan American Petroleum and its affiliated companies in the equipment work, in plant refinery and producing operations.

Q With respect to the LACT installation which we are proposing here today, did you participate in the design and the selection of the equipment for this unit?

A Yes, sir.

MR. BUELL: Any questions, Mr. Examiner?

MR. NUTTER: No, sir. Proceed.

Q I direct your attention to what has been marked as Pan American's Exhibit No. 1, Mr. Green. What does that show?

A That is a plat of the Gladiola Pool, and the area shown enclosed by the red line represents that lease on which we propose to install the LACT unit.

Q And that is Pan American's Lois Wengerd lease, is that correct?

A That is correct.

Q Would you describe that, please, for the record?

A That lease is composed of the SE/4, eastern half of the NE/4 of Section 23, the NE/4 -- excuse me -- the NW/4 and the SE/4, and the eastern half of the SW/4, and NE/4 of Section 24, Township 12 South, Range 37 East.

Q Is this a multi-pay area, Mr. Green?

A Yes, sir, it is.

Q What other formation produces other than the Devonian?

A Wolfcamp.

Q How have you distinguished the Devonian wells on the Wengerd lease to show that they are different from the Wolfcamp completions?

A They are designated on the map by a blue dot encircled by a red line.

Q And the Wolfcamp completions is just the normal blue well symbol, is that right?

A Yes, sir.

5
Q Now, there is a portion of the Lois Wengert lease that is not developed on the Devonian at this time, is that correct?

A That is correct.

Q And in all probability, the productive limits of the pool will not extend to cover the entire lease, --

A That is correct.

Q -- but still we are asking at this time approval on a lease basis so in the event production does step up it will be covered by this one application and order, is that correct?

A Yes, sir, that is correct.

Q How many Devonian wells are currently completed in and producing from the Devonian on this subject lease?

A Six Devonian wells.

Q Are they all flowing?

A No, sir. Two are pumping hydraulically, four are flowing.

Q What are the present lease facilities?

A At present, the lease is equipped with six one thousand barrel tanks plus the normal amount of treating equipment.

Q Since this is all one basic lease, there is no question of authority for commingling, is that right?

A That's my understanding.

Q Where will the approximate location of the proposed LACT installation be located? Have you designated that in any way on this Exhibit?

A Yes, sir, I have. That's shown on the SE/4 of the SE/4 of Section 24 by a red rectangle.

Q Is that also the approximate location of the present battery facility?

A Yes, sir, that's correct.

Q MR. BUELL: May I call the Examiner's attention now to what has been marked as our Exhibit 2. That is a brochure outlining in complete detail the proposed installation and the various equipment which will be installed. Also there are three -- or two attachments to the Exhibit, Exhibit 2. Attachment 1 is a plat reflecting that portion of the Wengerd lease where current production is obtained from the Devonian. Attachment 2 is a schematic flow diagram of our proposed installation. And attachment 3 is a letter from the gathering company -- the pipe line gathering company, signifying their complete approval of our proposed installation.

MR. NUTTER: Before you go any further, Mr. Buell, I would like to ask one question to clarify this. I note that the application we received from Pan American was for approval to docket a case to approve an LACT unit on the Lois Wengerd lease, Gladiola Field. However, this case was advertized for LACT on the --

Q (By Mr. Buell) Does your proposed LACT include the Devonian or Wolf --

MR. NUTTER:--On the Gladiola-Devonian, according to

the notice of hearing.

MR. BUELL: I should have made that clear at the outset.

MR. NUTTER: We restricted the advertisement to the Devonian formation, but if the Devonian is what we are talking about, that's fine.

MR. BUELL: In the interest of time, we won't read verbatim from the brochure or cover it completely in our testimony, but we would like to give you the more pertinent phases of the information, material contained in the brochure.

Q (By Mr. Buell) At the outset, Mr. Green, let me ask you this. In your opinion, as an engineer, does an LACT installation serve both the prevention of physical waste as well as economical waste?

A Yes, sir, it does.

Q Would you briefly outline in what manner it so serves conservation?

A In the manner of elimination of physical waste, an LACT unit will conserve a portion of those light hydrocarbon vapors which normally escape in the atmosphere with conventional lease facilities. In addition to that, an LACT will provide a savings in manpower both to the producers as well as to the pipe line gatherer. From an economic standpoint, an LACT system requires

less capital investment than does conventional lease storage facilities, which would be capable of handling the equivalent volume of produced crude.

Q Let me ask you this, Mr. Green. Speaking generally and broadly, do LACT measuring instruments fall in any general category?

A Yes, sir, two categories.

Q What are they?

A One is the dump type or volume measuring type, and the other is the positive displacement metering type.

Q Which of these two broad types is Pan American proposing to install on the subject lease?

A Pan American proposes to install the positive displacement metering type.

Q Has the New Mexico Oil Conservation Commission approved a similar type installation in other pools in New Mexico?

A Yes, sir, the Commission has approved numerous other positive displacement metering units. More recently, one in the South Vacuum Unit in Lea County, which was authorized by Commission Order R-1327, one in the Caprock Queen Pool, Chaves County, authorized by Commission Order No. R-1326, and a third one in the Artesia Field of Eddy County, which was authorized by Order No. 1346.

Q Mr. Green, I wish now, for the purpose of the record, you would briefly outline just how the LACT will be installed and

how it would work on this subject lease?

A In the interest of simplifying the description of the LACT operation, I would like to refer to the Attachment No. 2 of the subject Exhibit.

Q Of Exhibit 2?

A Yes, sir, and describe the operation of the LACT by following the schematic drawing, as shown.

Q All right, go ahead, Mr. Green.

A Production from the six Devonian wells on the Lois Wengerd Lease will enter the tank battery, pass through the treating system, and from there the treated oil will flow into the bottom section of the 750-barrel power oil tank. The power oil tank serves to supplement the hydraulic pumping system, which is used to produce two of these Devonian wells. After filling the power oil tank, the treated oil will overflow through an automatic valve, designated (C) on the Attachment, and pass into the pipeline surge tank. When the oil in the surge tank reaches the high working level float switch, Item (G), the pipeline pump shown as Item (I) will automatically be started. From the pump (I) the oil will pass a high pressure shutdown switch (J), and flow through a pipeline sampler, Item (K), the gas eliminator, Item (L), the strainer, Item (M), and through the positive displacement meter shown as Item (N). After being metered, the oil will pass through a back pressure valve, Item (O), and flow on to the pipeline. The back pressure valve will be set at approximately 5 pounds per square inch to

assure that a positive head is held across the P.D. meter and to prevent flow when the pipeline pump is not operating. The meter prover tank identified as Item (P) is located downstream of the back pressure valve. When sufficient oil has been delivered to the pipeline to lower the fluid level in the surge tank to the low working level float switch (H), the pipeline pump is automatically stopped. When lease production again fills the surge tank up to the high working level float switch (G), the automatic custody transfer cycle is ready to commence again.

In order to assure the delivery of merchantable oil to the pipeline at all times, all oil is sampled and automatically checked for BS&W content before it passes from the power oil tank into the pipeline surge tank. Referring again to the flow diagram, we can see this is accomplished as follows:

Upon entering the bottom section of the power oil tank the treated oil rises upward towards the point of overflow into the pipeline surge tank. At point (A) in its upward movement a side-stream of the incoming oil is continuously withdrawn by the BS&W monitor feed pump, Item (A), and circulated past the BS&W monitor prove shown as Item (B). If the BS&W content of the oil exceeds approximately 1%, the BS&W monitor (B) will cause the overflow or shutin valve, Item (C), to close and the re-cycle valve, Item (D), to open, both automatically. Unmerchantable oil in the bottom of the power oil tank then will gravity flow into the re-run tank. When the oil level in the re-run tank reaches float switch (F) the

re-cycle pumps (E) is automatically started, returning the unmerchandiseable oil to the treating system. When the BS&W content of the treated oil returns to a satisfactory range as determined by the BS&W monitor, the re-cycling valve, Item (D), will close and the overflow or shut-in valve (C) will open automatically. The re-cycle pump (E) will continue to recirculate oil from the re-run tank until the oil level in the re-run tank drops below the float switch (F). The re-cycle pump is then stopped automatically.

Q All right, Mr. Green, what is your opinion with respect to the reliability and accuracy of such an LACT installation as Pan American is proposing here?

A Metering equipment has been shown by past experience to be very reliable insofar as accuracy is concerned. Actual tests of this type meter have shown that the meter is more accurate than is hand gauge, which is normally employed in lease operations.

Q All right, sir. Now, you testified that this installation, if approved by the Commission and installed by Pan American, will serve conservation in that it will prevent physical waste as well as economical waste, what is your opinion from the standpoint of the protection of the correlative rights of all the parties of interest?

A Due to the reliability of the equipment which we propose to install, all parties will be protected.

Q All right, sir. Now, Mr. Green, I notice in your

brochure you have set out the brand name of the meter that we propose to install here, but you are asking for an order approving the LACT unit and not a specific type meter, are you not?

A That is correct.

Q You just mentioned that in your brochure so that you could give the Commission complete and detailed information?

A That is correct.

MR. BUELL: May I offer Pan American's Exhibits 1 and 2, Mr. Examiner, and that's all we have at this time.

MR. NUTTER: Pan American's Exhibits 1 and 2 will be entered in evidence. Does anyone have any questions of the witness?

CROSS EXAMINATION

BY MR. PAYNE:

Q Do you run into any corrosion problems in the Gladiola?

A No, sir, none of appreciable extent. With the existing lease equipment, we haven't had a corrosion problem that is of any extent, and we don't anticipate any with this installation.

Q So you don't propose to use corrosion resistant type P.D. meters?

A Not to the extent that we would equip the meter with stainless materials or other materials of that nature, no, sir.

MR. BUELL: Is this a sweet crude?

A Yes.

MR. PAYNE: Thank you.

QUESTIONS BY NUTTER:

Q Mr. Green, this valve at the bottom of the re-run tank, --

A Yes, sir.

Q -- is that normally opened?

A Yes, sir.

Q That's not an automatic valve, is it?

A No, sir.

Q It is normally opened so that the oil can be re-run when this -- I presume, when the float level reaches -- when the fluid level reaches (F) there, it reaches (E)?

A It will re-energize (E). As the fluid level raises the float, the switch will energize pump (E), and as the fluid level drops in that tank, the lowering to the float will, in turn, shut off the power to the recirculating pump.

Q Is there a monitor down here in all this LACT transfer group?

A No, sir, there is not. The monitor is a continuous monitoring type placed on the power all the time.

Q On your power oil tank?

A Yes, sir.

Q So you can monitor the oil that is being used to lift the two pump wells?

A Yes, sir, it can serve that purpose also.

Q Now, supposing that you have a surplus of oil, not only coming from the lease, but also being recirculated from the

re-run tank, and no oil is being transferred to the automatic custody transfer system. Is there a possibility of having so much oil that is not acceptable to the monitor that it will start building up and you'll fill up your surge tank and re-running tank?

A In anticipation of such a possibility, which is actually remote, we have two thousand barrels of storage there which is very nearly twice a normal day's production, and this lease is attended by a pumper, and we feel that there is sufficient storage provided and with the attendance of a pumper, that we do not anticipate any difficulty from such a situation.

Q What is the current allowable for the lease --

A The lease producing --

Q -- in the Devonian?

A At the time Devonian production to the -- this battery is in the neighborhood of 1300 barrels a day.

Q Now, are there any high level switches anywhere in this system that shut in the wells?

A No, sir, there is not, because we don't feel that that is necessary with the quantity of storage that we provided, and the fact that the lease is attended daily by a pumper.

Q How many hours a day is he on the lease, eight hours a day?

A Seven to eight hours a day, yes, sir.

MR. PAYNE: You have one day's storage capacity?

A No, sir, we have very nearly two days' storage capacity.

city.

Q (By Mr. Nutter) Two thousand barrels capacity tank will take about thirteen days production?

A Two thousand barrels capacity tank will take about thirteen days production, that's right.

MR. PAYNE: You never have any trouble having your oil run?

A No, sir, and this -- since we've discussed this installation with the pipeline gatherer, we have their commitment for full cooperation in this installation.

Q (By Mr. Nutter) How are your wells tested here, Mr. Green?

A They are tested separately.

Q Upstream from this diagram here, you have normal test facilities?

A Yes, sir.

Q And you run the production into a test tank, or do you measure the oil by meters on the test system?

A It will be tested through the treater and gauged separately upstream at this point.

Q Will this system provide adequate facilities for testing the wells at least once a month?

A Yes, sir.

MR. NUTTER: Does anyone have any further questions of Mr. Green? He may be excused.

(Witness excused)

MR. NUTTER: Does anyone have anything further they wish to offer in Case No. 1770?

MR. BUELL: No, sir, that's all we have.

MR. NUTTER: We will take that case under advisement and take the next Case 1771.

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 12th day of October, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph A. Trujillo
 NOTARY PUBLIC

My Commission Expires:

October 5, 1960

I do hereby certify that the foregoing is a true and correct transcript of the proceedings in the hearing of case No. 1770, heard by me on 9-30, 1959.
James H. [Signature]
 New Mexico Oil Conservation Commission

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. 1770
Order No. R-1506

APPLICATION OF PAN AMERICAN
PETROLEUM CORPORATION FOR PER-
MISSION TO INSTALL AN AUTOMATIC
CUSTODY TRANSFER SYSTEM ON ITS
LOIS WINGERD LEASE, LEA COUNTY,
NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on September 30, 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 17th day of October, 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 is the owner and operator of the Lois Wingerd Lease consisting of the SE/4 and the E/2 NE/4 of Section 23, and the NW/4, SE/4, E/2 NE/4 and the E/2 SW/4 of Section 24, all in Township 12 South, Range 37 East, Lea County, New Mexico.

(3) That the applicant proposes to install an automatic custody transfer system to handle the Gladiola-Devonian Pool production from all wells presently drilled or hereafter completed on said Lois Wingerd Lease.

(4) That the applicant proposes to measure the oil passing through said automatic custody transfer equipment by means of either dump-type or positive displacement meters.

-2-

Case No. 1770
Order No. R-1506

(5) That the meters to be used in the above-described system should be checked for accuracy once each month and the results of such tests furnished to the Commission.

(6) 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.

(7) 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.

IT IS THEREFORE ORDERED:

That the applicant, Pan American Petroleum Corporation, be and the same is hereby authorized to install automatic custody transfer equipment to handle the Gladiola-Devonian Pool production from its Lois Wingerd Lease consisting of the SE/4 and the E/2 NE/4 of Section 23, and the NW/4, SE/4, E/2 NE/4 and the E/2 SW/4 of Section 24 all in Township 12 South, Range 37 East, Lea County, New Mexico.

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

PROVIDED FURTHER, That the above-described automatic custody transfer system shall be so equipped as to prevent the undue waste of oil in the event of malfunction or flow-line break.

PROVIDED FURTHER, That all meters used in the above-described automatic custody transfer system shall be operated and maintained in such a manner as to ensure an accurate measurement of the liquid hydrocarbon production at all times.

PROVIDED FURTHER, That all meters shall be checked for accuracy at least once each month until further direction by the Secretary-Director. Meters shall be calibrated against a master meter or against a test tank of measured volume and the results of such calibration filed with the Commission on the Commission form entitled "Meter Test Report."

-3-

Case No. 1770
Order No. R-1506

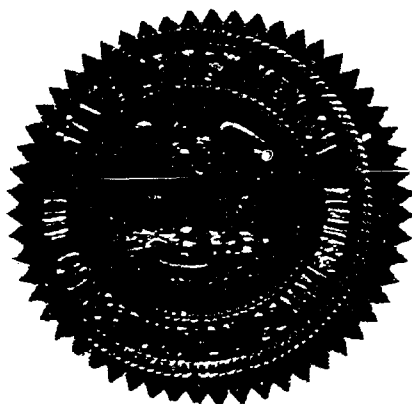
DONE at Santa Fe, New Mexico on the day and year
hereinafter designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

John T. Burroughs
JOHN BURROUGHS, Chairman

Murray E. Morgan
MURRAY E. MORGAN, Member

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



lcr/

DOCKET: EXAMINER HEARING SEPTEMBER 30, 1939

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 1739: Application of Shell Oil Company for approval of a unit agreement. Applicant, in the above-styled cause, seeks an order approving its Hershaw 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.

NEW CASES

CASE 1760: Application of The Atlantic Refining Company for an automatic custody transfer system and for permission to produce more than 16 wells into a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing it to install an automatic custody transfer system to handle the production from all Horseshoe-Gallup oil wells on its Navajo "B" Lease comprising certain acreage in Township 31 North, Range 16 West, San Juan County, New Mexico.

CASE 1761: Application of Stanton Oil Company, Ltd., for a pilot water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a pilot water flood project in the Turkey Track Pool in Eddy County, New Mexico, by the injection of water into the Queen formation through four wells located in Section 34, Township 18 South, Range 29 East.

CASE 1762: Application of Newmont Oil Company for an unorthodox water injection well location. Applicant, in the above-styled cause, seeks an order authorizing it to reopen and utilize for water injection a well located on an unorthodox location at a point 1620 feet from the North line and 1020 feet from the West line of Section 32, Township 16 South, Range 31 East, Square Lake Pool, Eddy County, New Mexico.

CASE 1763: Application of Southwestern Hydrocarbon Company for an order abolishing the Sawyer-San Andres and South Sawyer-San Andres Oil Pools in Lea County, New Mexico, and creating the Sawyer-San Andres Gas Pool; or in the alternative for an order extending the horizontal limits of the South Sawyer-San Andres Oil Pool to include the NE/4 of Section 6, the N/2 of Section 5 and the NW/4 of Section 4, Township 10 South, Range 38 East, Lea County, New Mexico, and removing all gas-oil ratio limitations for wells in said pool; or in the alternative for an order combining the Sawyer-San Andres and the South Sawyer-San Andres Oil Pools, as well as the intervening acreage, and removing all gas-oil ratio limitations for such pool.

CASE 1764: Application of Standard Oil Company of Texas for an unorthodox gas well location. Applicant, in the above-styled cause, seeks an order authorizing an unorthodox gas well location in the Atoka-Pennsylvanina Gas Pool, at a point 1850 feet from the South line and 1650 feet from the East line of Section 14, Township 18 South, Range 26 East, Eddy County, New Mexico.

Docket No. 33-59

-2-

- CASE 1765: Application of The Ohio Oil Company for a salt water disposal well. Applicant, in the above-styled cause, seeks an order authorizing the disposal of produced salt water into the Lower San Andres formation through its State B-4286 "A" Well No. 2, located in Unit F, Section 2, Township 17 South, Range 36 East, Lea County, New Mexico. The proposed injection interval is from 5725 feet to 5968 feet.
- CASE 1766: Application of Northwest Production Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its "S" Well No. 16-2, located in the SW/4 SW/4 of Section 2, Township 24 North, Range 4 West, Rio Arriba County, New Mexico, in such a manner as to produce oil from an undesignated Gallup oil pool and to produce oil from an undesignated Dakota oil pool through parallel strings of tubing.
- CASE 1767: Application of El Paso Natural Gas Products Company for permission to produce more than 16 wells in a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing the production of a maximum of 35 wells in the Horseshoe-Gallup Oil Pool into a common tank battery. Said wells are located on applicant's Horseshoe Ute Lease comprising portions of Sections 27, 28, 33 and 34, Township 31 North, Range 16 West, San Juan County, New Mexico.
- CASE 1768: Application of T. F. Hodge for the rededication of acreage assigned to three oil wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order rededicating the acreage assigned to three oil wells on his Mary E. Wills Lease, Section 33, Township 26 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico. Applicant proposes to dedicate 40 acres to each of the three wells, said 40-acre units not to comprise a quarter-quarter section or legal subdivision.
- CASE 1769: Application of Pan American Petroleum Corporation for approval of a unit agreement. Applicant, in the above-styled cause, seeks an order approving its Northeast Hogback Unit Agreement, comprising 10,572 acres, more or less, in Township 30 North, Range 16 West, San Juan County, New Mexico.
- CASE 1770: Application of Pan American Petroleum Corporation for approval of a lease automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the automatic custody transfer of oil produced from its Lois Wengerd Lease in Sections 23 and 24, Township 12 South, Range 37 East, Gladiola-Devonian Pool, Lea County, New Mexico.
- CASE 1771: Application of Pan American Petroleum Corporation for approval of a lease automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the automatic custody transfer of oil produced from its USA Malco Refinery "F" Lease, Section 1, Township 18 South, Range 27 East, Empire-Abo Pool, Eddy County, New Mexico.
- CASE 1772: Application of Pan American Petroleum Corporation for approval of an automatic custody transfer system for four state leases in the Empire-Abo Pool, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order amending Order No. R-1292 to provide for automatic custody transfer of oil commingled thereunder.

- CASE 1773: Application of Pan American Petroleum Corporation for approval of two automatic custody transfer systems for seven federal leases in the Empire-Abo Pool, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order amending Order No. R-1399 to provide for automatic custody transfer of oil produced into the two commingled tank batteries authorized therein.
- CASE 1774: Application of Continental Oil Company for a non-standard gas unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas unit in an undesignated Tubb gas pool consisting of the E/2 NW/4 and the W/2 NE/4 of Section 15, Township 20 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's Britt B-15 No. 10 Well, located in the SW/4 NE/4 of said Section 15.
- CASE 1775: Application of Continental Oil Company for a non-standard gas unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas unit in an undesignated Tubb gas pool consisting of the E/2 SE/4 of Section 15 and the W/2 SW/4 of Section 14, all in Township 20 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's SEMU Well No. 70, located in the NW/4 SW/4 of said Section 15.
- CASE 1776: Application of Continental Oil Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for nine wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing the following-described wells in the Jalmat Gas Pool to compensate for their overproduced status without being completely shut-in in order to prevent possible waste:
Ascarate D-24 Well No. 1, Unit J, Section 24, T-25-S, R-36-E, Danciger A-8 Well No. 2, Unit P, Section 8, T-23-S, R-36-E, Jack A-20 Well No. 4, Unit G, Section 20, T-24-S, R-37-E, Jack A-29 Well No. 3, Unit H, Section 29, T-24-S, R-37-E, Meyer A-29 Well No. 1, Unit O, Section 29, T-22-S, R-36-E, Meyer B-28 Well No. 1, Unit E, Section 28, T-22-S, R-36-E, State A-32 Well No. 4, Unit F, Section 32, T-22-S, R-36-E, Stevens A-34 Well No. 1, Unit E, Section 34, T-23-S, R-36-E, Wells B-1 Well No. 1, Unit A, Section 1, T-25-S, R-36-E, all in Lea County, New Mexico.
- CASE 1777: Application of El Paso Natural Gas Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for two wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its E. J. Wells Lease Well No. 13, Unit L, Section 5, and its Wells B-4 Lease Well No. 1, Unit D, Section 4, both in Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for their overproduced status without being completely shut-in in order to prevent possible waste.
- CASE 1778: Application of Olsen Oils, Inc., for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for four wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing the following-described wells in the Jalmat Gas Pool to compensate for their overproduced status without being completely shut-in in order to prevent possible waste:
Cooper B Well No. 2, NE/4 NW/4 of Section 14, T-24-S, R-36-E, Myers B Well No. 1, SE/4 NW/4 of Section 13, T-24-S, R-36-E, S. R. Cooper Well No. 1, SE/4 NE/4 of Section 23, T-24-S, R-36-E,
Winningham Well No. 3, NE/4 SE/4 of Section 30, T-25-S, R-37-E,
all in Lea County, New Mexico.

- CASE 1779: Application of Jal Oil Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for four wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing the following-described wells in the Jalmat Gas Pool to compensate for their overproduced status without being completely shut-in in order to prevent possible waste:
- Legal Well No. 2, NE/4 SE/4 of Section 21,
Dyer Well No. 3, SE/4 NE/4 of Section 31,
Jenkins Well No. 2, NE/4 SW/4 of Section 29,
Ropollo Well No. 1, SW/4 NW/4 of Section 28,
all in Township 25 South, Range 37 East, Lea County, New Mexico.
- CASE 1780: Application of Husky Oil Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its Mortecito Woolworth Well No. 2, Unit M, Section 33, Township 24 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for its overproduced status without being completely shut-in in order to prevent possible waste.
- CASE 1781: Application of Texaco, Inc. for permission to continue producing an over-produced Jalmat gas well at a lesser rate. Applicant, in the above-styled cause, seeks an order authorizing it to produce its C. C. Fristoe (b) NCT-4 Well No. 2, Unit M, Section 31, Township 24 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, at a maximum rate of 2500 MCF per month for lease use until over production has been compensated for.

PAN AMERICAN PETROLEUM CORPORATION

OIL AND GAS BUILDING
FORT WORTH, TEXAS

ALEX CLARKE, JR.
DIVISION ENGINEER

September 9, 1959

File: GWK-4530-986.510.1

Subject: LACT Hearing
Lois Wingerd Lease
Gladiola Field
Lea County, New Mexico

Mr. A. L. Porter
New Mexico Oil Conservation Commission
Capitol Annex Building
Santa Fe, New Mexico

Dear Sir:

This will confirm telephone conversation September 8, 1959 between Messrs. Dan Mutton and Glenn King regarding the subject hearing as requested by our letter dated August 17, 1959, File: GWK-4484-986.510.1. During that conversation, information was furnished to the effect that Pan American's Lois Wingerd Lease contains about 720 acres being located in Sections 23 and 24, T-12-S, R-37-E, Lea County, New Mexico. The lease is composed of the SE/4 and 1/2 NE/4, Section 23 plus the NW/4, SE/4, 1/2 NE/4, and 1/2 SW/4, Section 24.

Very truly yours,

Alex Clarke, Jr.

GWK:lj

*Wester
1-15-59
JH*

PAN AMERICAN PETROLEUM CORPORATION

OIL AND GAS BUILDING

FORT WORTH, TEXAS

ALEX CLARKE, JR.
DIVISION ENGINEER

August 17, 1959

File: GWK-4484-986.510.1

Subject: LACT Hearing
Lois Wingerd Lease
Gladiola Field, Lea
County, New Mexico

Mr. A. L. Porter
New Mexico Oil Conservation Commission
Capitol Annex Building
Santa Fe, New Mexico

Dear Sir:

Pan American Petroleum Corporation respectfully requests that a hearing be set on the earliest Commission Docket for Pan American's application to seek approval for operating a LACT Unit on the Lois Wingerd Lease, Gladiola Field, Lea County, New Mexico.

Very truly yours,

Alex Clarke, Jr.

GWK:lj

*Call Clarke
collect and get account
at least Township &
Range
Lease
distinction*

EXHIBIT

PAN AMERICAN PETROLEUM CORPORATION

LEASE AUTOMATIC CUSTODY TRANSFER INSTALLATION
MALCO "F" LEASE - EMPIRE ABO POOL
EDDY COUNTY, NEW MEXICO

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

OF

SEPTEMBER 30, 1959

BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
EXHIBIT NO.	<u>2</u>
CASE NO.	<u>1771, 1772, 1773</u>

CONTENTS

	<u>Page</u>
I. Introduction	1
II. LACT Unit	2
A. Equipment	2
B. Operation	3
C. Sampling	4
D. Meter Proving	5
E. Fail-Safe Features	5
F. Tamper Proof Design	7
III. Attachments	
1. Plat of Leases Served By LACT Unit	
2. LACT Unit Flow Diagram	
3. Letter of Acceptance From Pipeline Company	
4. Letter of Approval, United States Geological Survey	

INTRODUCTION

Pan American Petroleum Corporation respectfully submits this exhibit in support of its request to the Oil Conservation Commission of the State of New Mexico for approval to install and operate lease automatic custody transfer facilities at the Malco "F" Lease Battery, Empire Abo Pool, Eddy County, New Mexico.

The proposed LACT unit will be located at the site of the Malco "F" Lease Tank Battery No. 1, located in the SE/4 NW/4 of Section 1, T-18-S, R-27-E, Eddy County, New Mexico. This tank battery stores and the LACT unit will handle oil produced from a single Federal Lease (LC-062412) comprised of the N/2 and the SW/4 of Section 1, T-18-S, R-27-E, Eddy County, New Mexico. Attachment No. 1 is a plat of the lease, the tank battery, and the connected wells.

LACT unit operating data collected by Pan American and other companies shows that the installation of facilities to accurately record temperature corrected volumes and automatically transfer lease produced crude oil to pipeline custody will:

1. Conserve natural resources in the form of light hydrocarbons which are now being lost from produced crude oil to the atmosphere during the gauging operation at which time accumulated light ends escape and others flash from the stored oil to the atmosphere.
2. Substantially reduce residence time of the treated crude in the storage tanks thereby lessening vapor losses by way of normal tank venting or breathing.

- 2 -

3. Conserve manpower and improve lease operation by substantially reducing the current tank battery attendance time which will in turn release lease operating personnel and pipeline personnel for performance of other duties.
4. Release more money for finding and developing additional oil reserves since LACT equipment requires less capital investment than equivalent conventional lease storage facilities.

LACT UNIT

Equipment

The positive displacement meter type LACT unit to be installed at the Malco "F" Lease Battery, Empire Abo Pool, Eddy County, New Mexico, is basically the same as a number of LACT units already approved by the Oil Conservation Commission. Recently, the Commission granted approval of similar positive displacement meter type LACT units in the Artesia Field, Eddy County, (Order No. ^{R-1394}~~1394~~), the South Vacuum Unit, Lea County (Order No. R-1327), and the Caprock-Queen Pool, Chaves County (Order No. R-1326).

The LACT unit which Pan American proposes to install will consist of a pipeline pump; a BS&W monitor to detect the presence of unmerchantable oil; a valve to divert unmerchantable oil back to the treating facilities; a strainer; an air eliminator; a temperature compensated corrosion resistant positive displacement meter equipped with counter-ticket printer, set-stop counter, and fail-safe safety shutdown switch; a proportional pipeline sampler; a back pressure valve to assure that the line to and from the meter is packed with oil at a pressure in excess of the vapor pressure of the metered fluid; a calibrated meter prover tank; a LACT unit control panel; and other fail-safe safety features.

Operation

Operation of the LACT system can be followed by reference to the LACT unit flow diagram, included as Attachment No. 2.

Production from the Malco "F" Lease enters the tank battery and passes through oil and gas separators. From the separators the oil flows into the LACT unit surge tank. When the oil level in the surge tank reaches the high level float switch (A), the pipeline pump (C) is automatically started and the crude oil is then pumped through the LACT unit into the pipeline.

In order to assure delivery of merchantable oil to the pipeline at all times, a BS&W probe (E) is mounted downstream of the pump (C). If oil delivered by the LACT unit exceeds 1% BS&W content, the BS&W monitor will cause the diverting valve (F) to close the meter run and direct all bad oil into the recycling tank. When the BS&W content of the

oil returns to a satisfactory range as determined by the BS&W monitor, the diverting valve (F) will close to the recycling tank and again direct the flow of oil to the LACT meter run. Merchantable oil passes through the strainer (G), the gas eliminator (H), and on through the positive displacement meter (I). The P.D. meter will be an A. O. Smith Model S-12 automatic temperature compensated, corrosion resistant meter equipped with fail-safe controls, counter-ticket printer and set-stop counter to allow the pumper to follow daily and monthly lease production. After being metered, the oil is sampled at point (J), passes through the back pressure valve (K), and flows on to the pipeline. The back pressure valve will be set at approximately 5 psi to assure that a positive head is held across the P.D. meter (I) and to prevent flow when the transfer pump (C) is not operating. The meter prover tank (L) is located downstream of the back pressure valve. When sufficient oil has been transferred to the pipeline to lower the fluid level in the surge tank to the low level float switch (B), the pipeline pump is automatically stopped. When lease production again fills the surge tank up to the level of float switch (A) the automatic custody transfer cycle again commences.

Any unmerchantable oil which is collected in the recycling tank will be treated in the tank. After the water is drawn off from the tank bottom, the recycle pump (N) will return the treated oil to the LACT unit surge tank. The volume of unmerchantable oil will be a very small percentage of the total lease produced volume as the wells on the leases served by this tank battery now produce little or no water.

Sampling

A composite representative sample of all oil delivered to the pipeline will be obtained by the sampler (J). The A. O. Smith P.D. meter

will be equipped with an electric impulse transmitter which will signal the electric pump driven sampler to extract a proportionate sample of each unit volume of oil passing through the meter. Collection of a composite sample will be accomplished in a vapor-proof container. The sample will be tested by the pipeline. Calibration of the BS&W monitor, if required, will be made on the basis of the analysis of the composite sample.

Meter Proving

The LACT unit P.D. meter will be proven to the satisfaction of the New Mexico Oil Conservation Commission, the pipeline company, and Pan American Petroleum Corporation. Meter proving tests will be witnessed by representatives of the pipeline and Pan American.

The meter will be proven against a fixed volume tank calibrated to the satisfaction of the pipeline and Pan American. The tank will be built to conform to the standards of API Code 1101. The inside surfaces of the tank will be plastic coated to prevent corrosion and the adherence of crude products to the vessel, thereby reducing to an absolute minimum meter proving errors introduced by such factors. Oil collected in the prover tank during the meter proving tests will flow out of the tank and into the pipeline by gravity.

Fail-Safe Features

The LACT unit will be checked daily by a pumper. All operations are designed to be fail-safe for unattended operation as follows:

1. No oil can be run from the battery without passing through the LACT unit P.D. meter.

2. The P.D. meter will be equipped with a safety switch which will automatically de-energize the pipeline pump if the meter counter fails to operate or if the oil flow rate through the meter falls below a preset value.
3. In the event of failure of the low level float switch (B), a low pressure safety shutdown switch (D) will de-energize the pipeline pump, thereby preventing the lowering of the fluid level in the surge tank to the point that air or vapors would be drawn into the meter run.
4. In the event of failure of the high level float switch (A) the surge tank can overflow via an equalizing line into the recycle tank. If the recycle tank fills up to the level of float switch (M) all leases served by the battery will be automatically shutin. Combined storage will contain a minimum of one day's production. The battery and IACT unit will be checked daily by a pumper.
5. The P.D. meter will be equipped with set-stop controls to prevent over production.
6. The BS&W monitor performance will be automatically checked by the manual determination of sample BS&W content at the end of each month or during intervening periods as desired.
7. On electric power failure, transfer of oil to the pipeline will stop.

Tamper Proof Design

The P.D. meter cumulative barrels counter is non-resettable. The BS&W monitor controller and the LACT unit control panel will be locked to prevent tampering. The prover tank plug valves will be sealed at all times except during proving runs by authorized personnel.

EXHIBIT

PAN AMERICAN PETROLEUM CORPORATION

LEASE AUTOMATIC CUSTODY TRANSFER INSTALLATION
MALCO "F" LEASE - EMPIRE ABO POOL
EDDY COUNTY, NEW MEXICO

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING
SEPTEMBER 30, 1959

ATTACHMENTS

PER

MALCO
HBP

1-2152
220070
GULF
61061

CARPER
HBP

W.A. HUDSON
RUTTER 1/4
HBP

Rutler
WILBANKS 3/4
W. HUDSON 1/4
HBP

FRED TURNER

STATE

2

5884 TD
5102 TP
F1280 PD

3602
1-4693
5845 TD
5586 TP
F154
3-4-59

3540

ATLANTIC
3-19-67

3572
2-4801
6100 TD
6099 PD
5222 TP
F 9680 PD
5-7-59

PAN AM
39644
2-16-64
1-1-59
6122 TD
6089 PD
5867 TP
F 6870
11-26-54

GULF
61061
3585
1-1680
6115 TD
106 PD
5900 TP
F 735 PD 28 MS
1-30-59

STATE "AS"

Pan American
USA Malco "A"

USA
Pan 121 1/2 (Below 6415)
MALCO 1/2 ("")
PAN AM (Above 6415)
PAN 10641 (214)
HBP
80 AC
(210 AC)

PAN AM 1/2
MALCO 1/2
170641 (3)
HBP

MALCO "C" MALCO "J"

USA

Stanford
MEPherson Fed.

3592
1-3912
TA 7270 TD
10-7-56

USA
PAN AMERICAN 1/2
MALCO 1/2
1-1-59
46-32 AC

3078 TD
6339 PD
5120 TP
F1880 PD
7-7-59

MALCO "F"

3617
6081 TD
6081 PD
5866 TP
F 6880 PD
5-20-59

3613
6103 TD
6103 PD
5785 TP
F 8380 PD
5-23-59

3580
6115 TD
6101 PD
6089 TP
F 8290
1-11-59

3601
3-4801
6150 TD
6140 PD
6110 TP
F 1080 PD SW
7-21-59

3621
1-1885
2408 TD

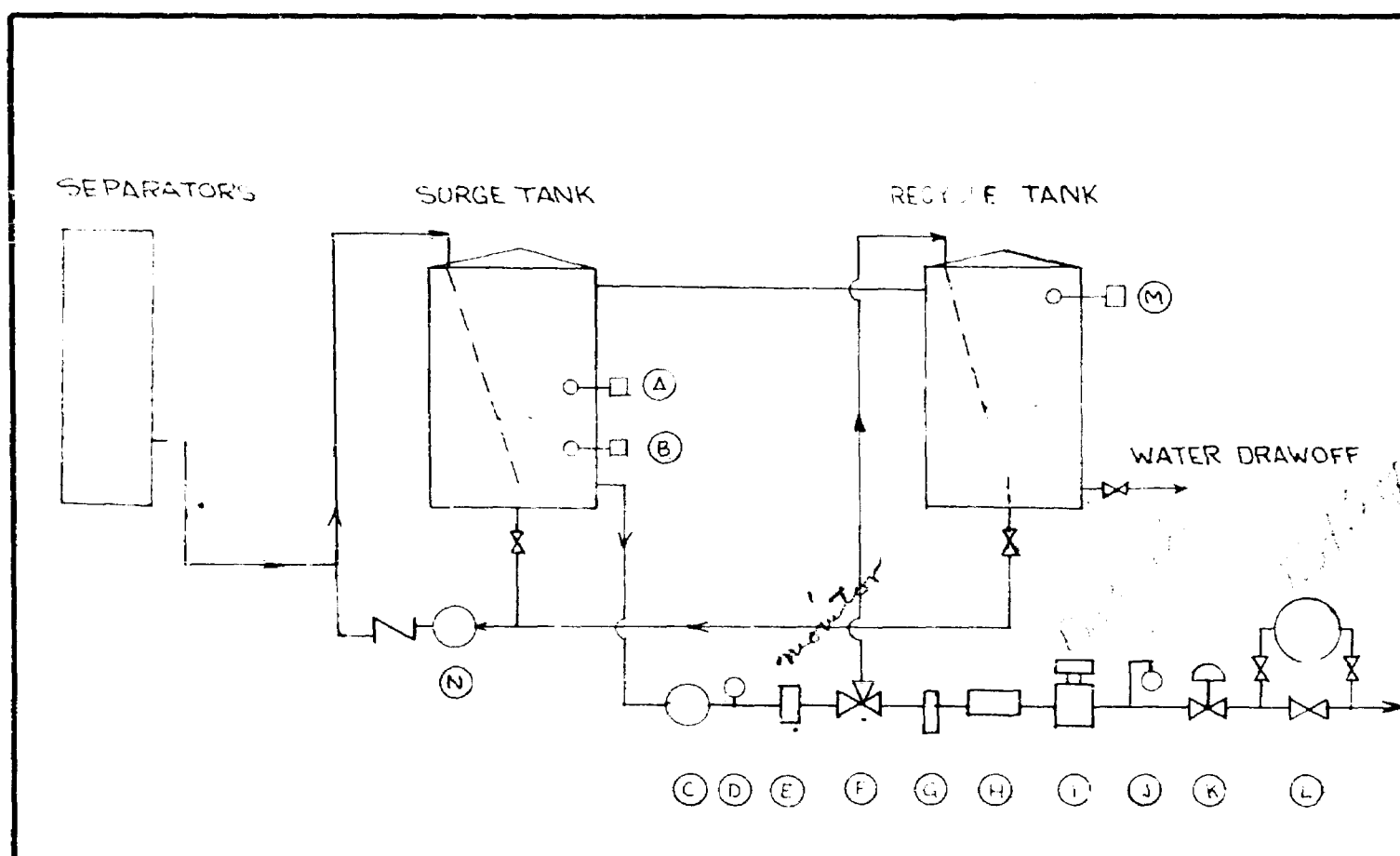
HUMBLE
2-1-60

6210 TD
6128 TD
F12080 PD
6-27-59

PAN AMERICAN PETROLEUM CORP.
Flat of Malco "F" Lease - Empire Abo Pool
T-18-S, R-27-E Eddy County, New Mexico

□ Tank Battery & LACT Unit
● Oil Well & Number of Well
— Production Flowline

12



PAN AMERICAN PETROLEUM CORPORATION
 T.D. METER LACT UNIT
 MALCO "F" LEASE BATTERY NO. 1
 ENTIRE ABO POOL
 EDDY COUNTY, NEW MEXICO

- A. High Level Float Switch
- B. Low Level Float Switch
- C. Pipeline Pump
- D. Pressure Safety Shutdown Switch
- E. BSSW Monitor
- F. Bad Oil Diverting Valve
- G. Strainer
- H. Air Eliminator
- I. P.D. Meter
- J. Sampler
- K. Back Pressure Valve
- L. Prover Tank
- M. Lease Shutdown Switch
- N. Recycle Pump

SERVICE PIPE LINE COMPANY

WEST TEXAS



DIVISION

C. E. WILSON
DIVISION MANAGER

September 1, 1959

1028 18TH STREET
LUBBOCK, TEXAS

Automatic Custody Transfer
Facilities - Empire Abo
Field, Eddy County, New
Mexico

Mr. Neil S. Whitmore
District Superintendent
Pan American Petroleum Corporation
P. O. Box 268
Lubbock, Texas

Dear Mr. Whitmore,

We have reviewed your plans for lease automatic custody transfer by meters in the Empire - Abo Field, Eddy County, New Mexico.

The facilities shown in these plans are satisfactory with Service Pipe Line Company, and we will accept custody of oil delivered by the proposed IACT units in lieu of conventional manual gauging.

Yours very truly,

SERVICE PIPE LINE COMPANY

Charles E. Wilson
Division Manager



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. Box 6721
Roswell, New Mexico

IN REPLY REFER TO:

September

RECEIVED	
Lubbock District Office	
SEP 21 1959	
1	DS
3	DE
	DC
COT	
12-20-59	
	File

Pan American Petroleum Corporation
P. O. Box 268
Lubbock, Texas

Attention: Mr. Neil S. Whitmore

Gentlemen:

Your letter of August 26, 1959, requests our approval of the use of lease automatic custody transfer equipment for the shipment of lease products from three separate storage facilities located in the Empire Abo field, Eddy County, New Mexico.

The storage facilities are located in sections 1, 3, and 11, T. 18 S., R. 27 E., N.M.P.M., on leases Las Cruces 062412, 061783(b), and 067858, respectively.

The method that you have proposed for custody transfers of lease production from the aforementioned storage facilities is satisfactory to this office.

Very truly yours,

EDWIN M. THOMASSON
Acting Oil and Gas Supervisor