EXHIBIT

PAN AMERICAN PETROLEUM CORPORATION

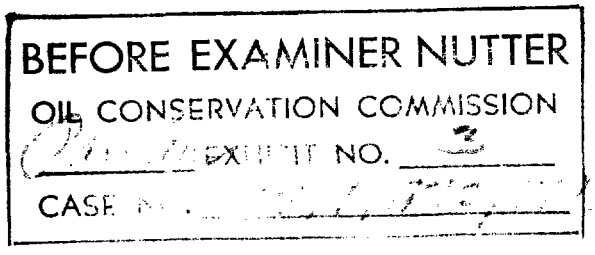
LEASE AUTOMATIC CUSTODY TRANSFER INSTALLATION
STORAGE SYSTEM I - EMPIRE ABO POOL
EDDY COUNTY, NEW MEXICO

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

OF

SEPTEMBER 30, 1959



CONTENTS

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 Storage System I, Empire Abo Pool, Eddy County, New Mexico.

The proposed LACT unit will be located at the site of Storage System I, located in NE/4 NW/4 Section 11, T-18-S, R-27-E, Eddy County, New Mexico. This tank battery stores and the LACT unit will handle oil produced from several Federal Leases in S/2 SE/4 (NM-025604) and NE/4 SE/4 (LC-065478-B) of Section 3, E/2 (LC-065478-B) of Section 10 and N/2 and SW/4 (LC-067858) of Section 11, T-18-S, R-27-E, Eddy County, New Mexico. Attachment No. 1 is a plat of these leases, the tank battery and the connected wells.

Permission to commingle oil produced from the above described leases was granted by Order No. R-1399 which was entered by the Commission after hearing Case No. 1662.

Prior to commingling, Pan American will separately measure the production from each lease with corrosion-resistant type meters which will be maintained in such a manner as to insure accurate measurement of the produced oil at all times. The meters shall be checked for accuracy in accordance with the instructions of the Commission.

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.
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 facilities.

LACT UNIT

Equipment

The positive displacement meter type LACT unit is to be installed at Storage System I, 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-1346 ~~1994~~), the South Vacuum Unit, Lea County (Order No. R-1327), and the Caprock-Queen Pool, Chaves County, (Order No. R-1326).

EXHIBIT

PAN AMERICAN PETROLEUM CORPORATION

LEASE AUTOMATIC CUSTODY TRANSFER INSTALLATION
STORAGE SYSTEM I - EMPIRE ABO POOL
EDDY COUNTY, NEW MEXICO

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING
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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 each lease served by Storage System I enters the tank battery and passes through the respective lease separator or treater. The treated crude is then measured by individual lease production meters. From the lease meters the oil is collected and transferred to common storage in 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

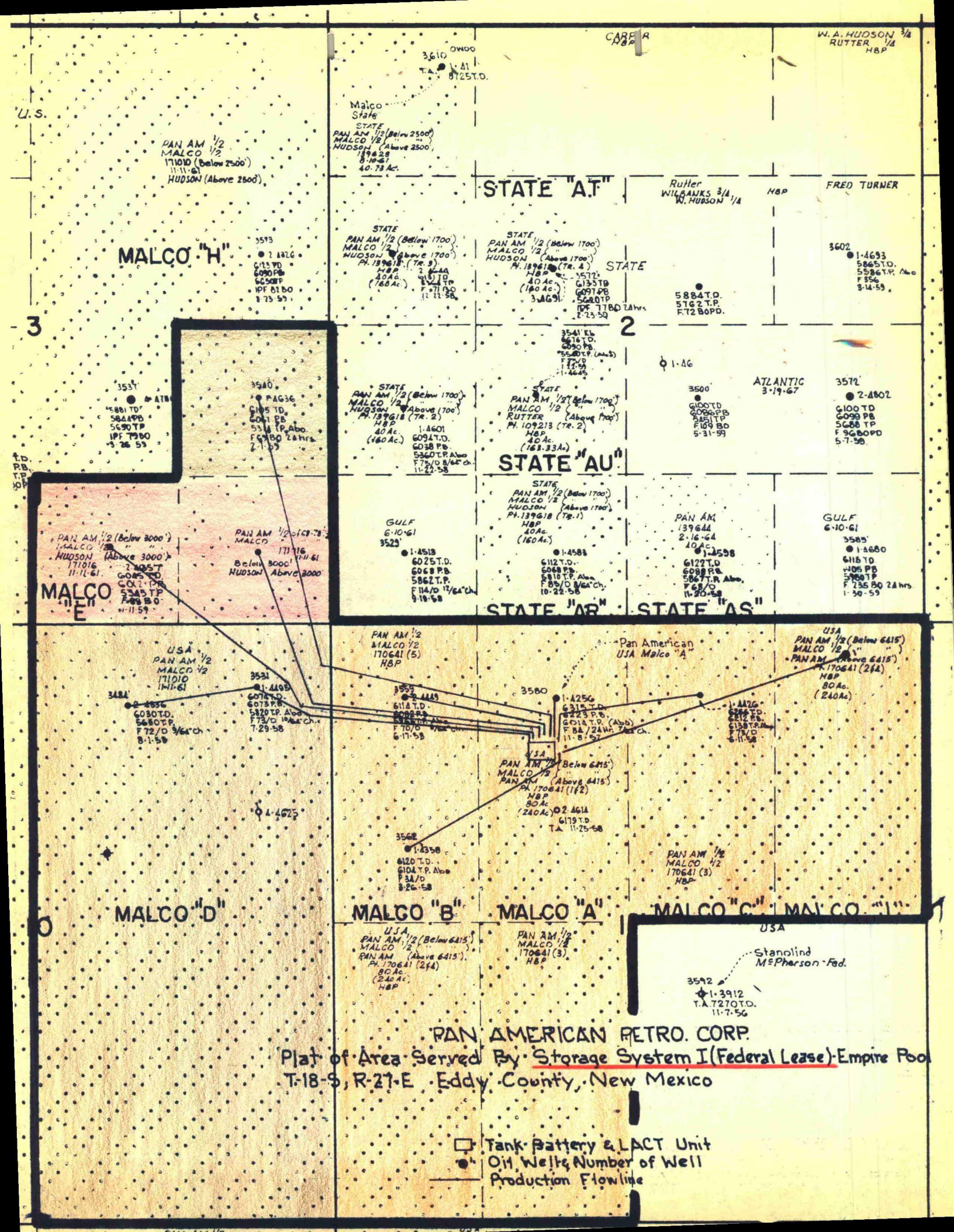
The LACT unit will be checked daily by a pumper. All operations are designed to be fail-safe for unattended operation as follows:

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 LACT 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

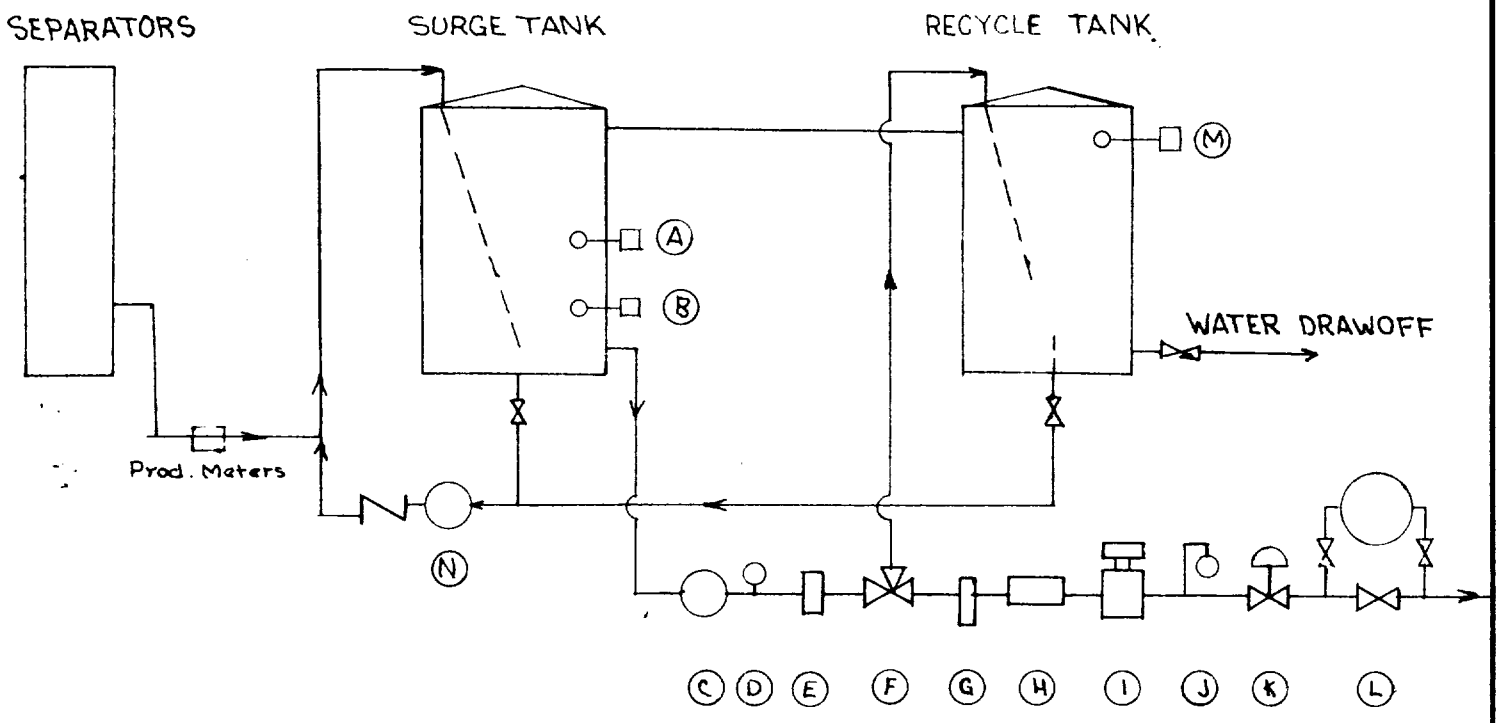
The P.D. meter cumulative barrels counter is non-resettable. The BS&W monitor controller and the LACT unit control panel will be locked to prevent tampering. The prover tank plug valves will be sealed at all times except during proving runs by authorized personnel.



PAN AMERICAN PETRO. CORP.

Plat of Area Served By Storage System I (Federal Lease) - Empire Pool

T-18-S, R-27-E Eddy County, New Mexico



PAN AMERICAN PETROLEUM CORPORATION
P. D. METER LACT UNIT
STORAGE SYSTEM I (FEDERAL LEASES)
EMPIRE 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. BS&W 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

1628 19TH 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 LACT units in lieu of conventional manual gauging.

Yours very truly,

SERVICE PIPE LINE COMPANY

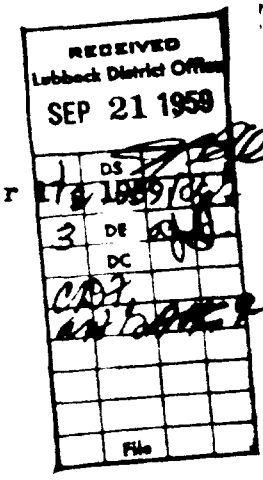
Charles E. Wilson

Charles E. Wilson
Division Manager

ILLEGIBLE

IN REPLY REFER TO:

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



September 17, 1959

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

ILLEGIBLE

EXHIBIT

PAN AMERICAN PETROLEUM CORPORATION

LEASE AUTOMATIC CUSTODY TRANSFER INSTALLATION
STORAGE SYSTEM III - EMPIRE ABO POOL
EDDY COUNTY, NEW MEXICO

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

OF

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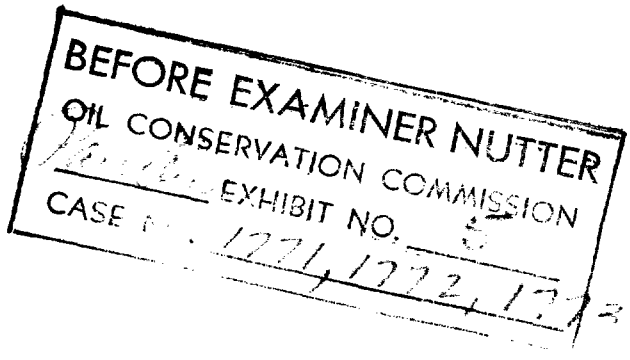

CONTENTS

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 Storage System III, Empire Abo Pool, Eddy County, New Mexico.

The proposed LACT unit will be located at the site of Storage System III, located in the SW/4 SW/4 Section 3, T-18-S, R-27-E, Eddy County, New Mexico. This tank battery stores and the LACT unit will handle oil produced from several Federal Leases in the N/2 NE/4 and SW/4 NE/4 (NM-033825) of Section 4, SE/4 NE/4 (NM-025530) of Section 4, SE/4 (LC-061783-A) of Section 4, NE/4 and N/2 SE/4 (NM-025604) of Section 9, S/2 SE/4 (LC-065478-B) of Section 9, N/2 NW/4 and NE/4 and E/2 SW/4 and NW/4 SE/4 (LC-065478-B) of Section 3, W/2 SW/4 (LC-061783-B) of Section 3, W/2 (NM-025604) of Section 10, T-18-S, R-27-E,Eddy County, New Mexico. Attachment No. 1 is a plat of these leases, the tank battery, and the connected wells.

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Operation

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

Production from each lease served by Storage System III enters the tank battery and passes through the respective lease separator or treater. The treated crude is then measured by individual lease production meters. From the lease meters the oil is collected and transferred to common storage in 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.

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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.

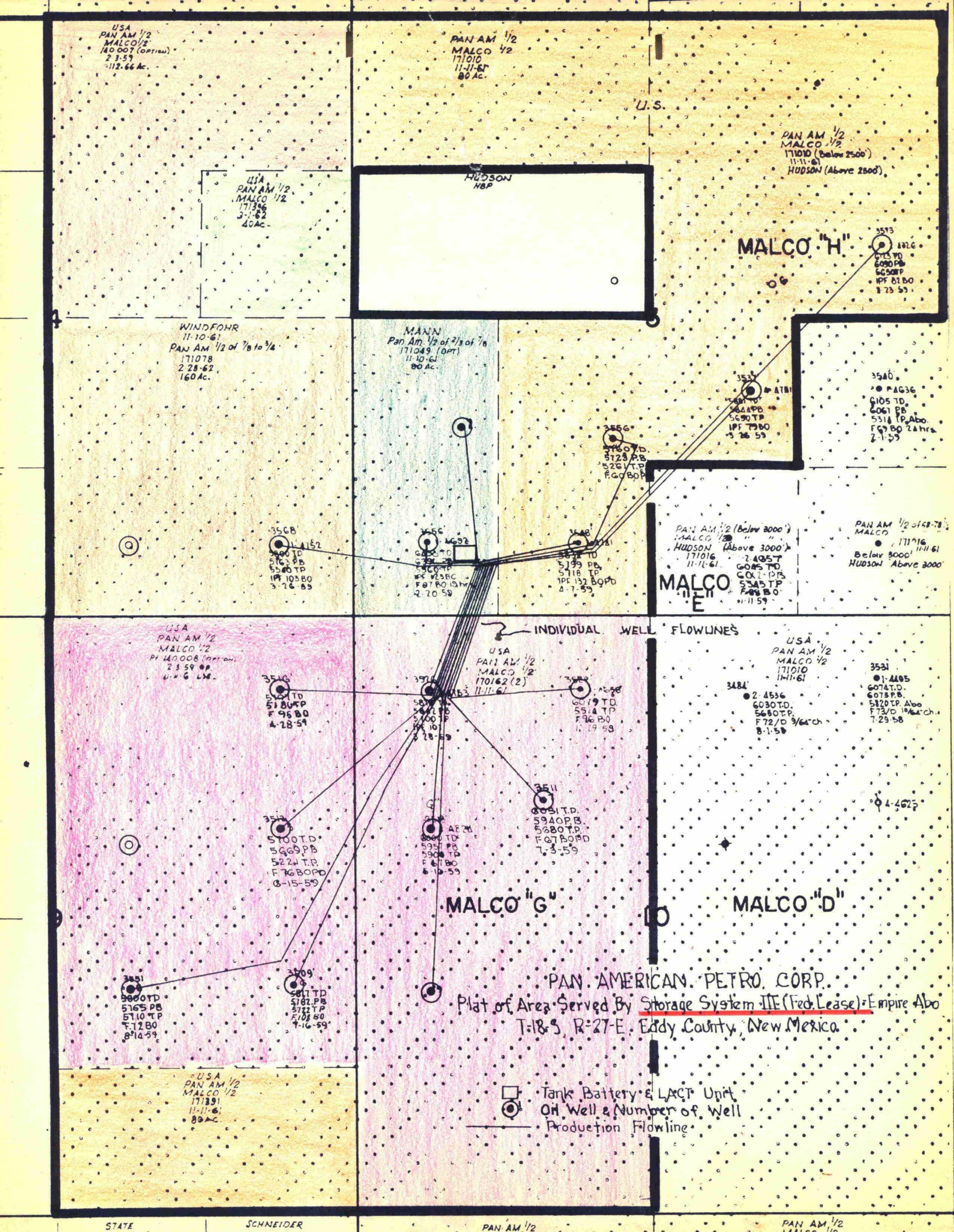
EXHIBIT

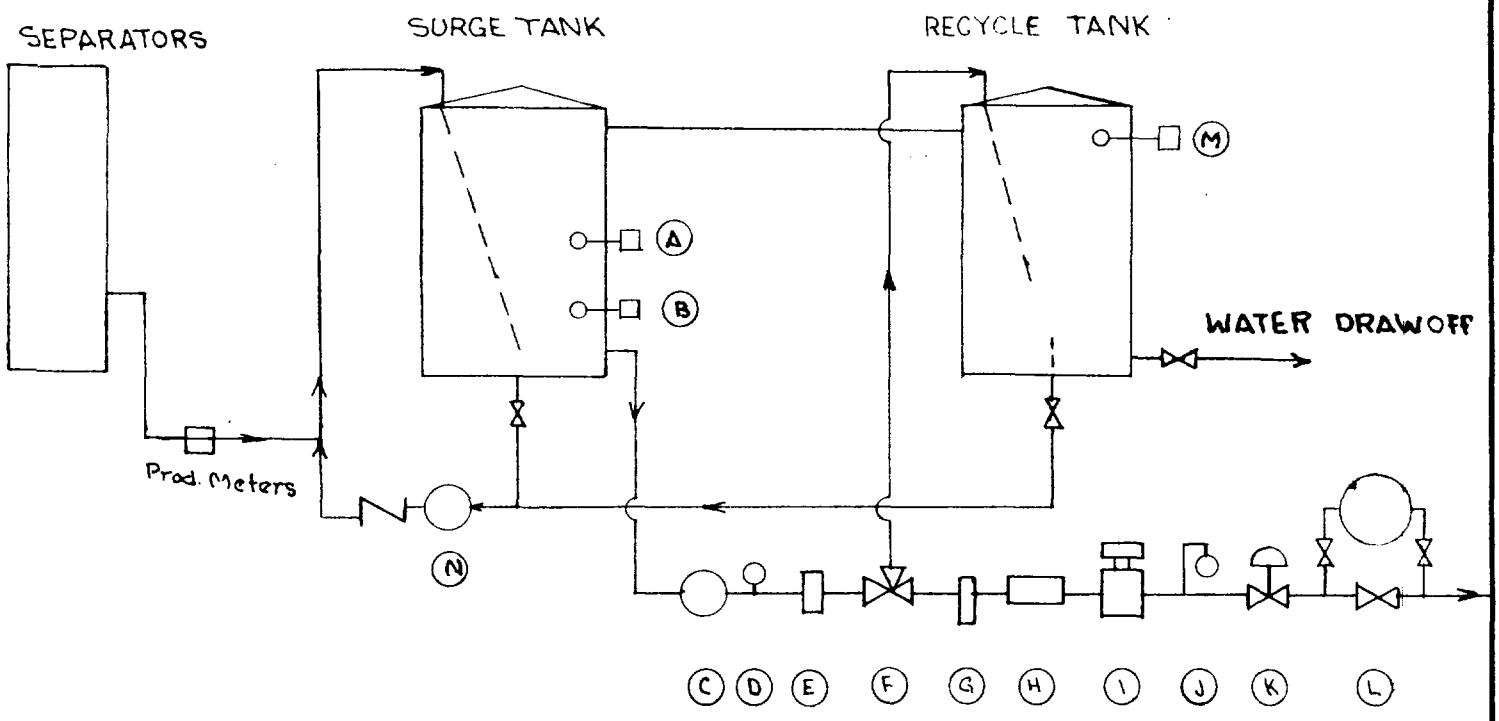
PAN AMERICAN PETROLEUM CORPORATION

LEASE AUTOMATIC CUSTODY TRANSFER INSTALLATION
STORAGE SYSTEM III - EMPIRE ABO POOL
EDDY COUNTY, NEW MEXICO

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING
SEPTEMBER 30, 1959


USA
PAN AM 1/2
MALCO 1/2
140007 (OPTION)
2-3-59
112.66 Ac.
PAN AM 1/2
MALCO 1/2
171010
11-11-61
80 Ac.
U.S.
PAN AM 1/2
MALCO 1/2
171010 (Below 2500')
11-11-61
HUDSON (Above 2500')
USA
PAN AM 1/2
MALCO 1/2
171396
3-1-62
40 Ac.
HUDSON
HBP
MALCO "H"
WINDFOHR
11-10-61
PAN AM 1/2 of 7/8 to 3/4
171078
2-28-62
160 Ac.
MANN
Pan Am 1/2 of 2/3 of 7/8
171049 (OPT)
11-10-61
80 Ac.
PAN AM 1/2 (Below 3000')
MALCO 1/2 " "
HUDSON (Above 3000')
171016
11-11-61
MALCO "E"
PAN AM 1/2 of 6/8-7/8
MALCO
171016 11-11-61
Below 3000'
HUDSON Above 3000'
INDIVIDUAL WELL FLOWLINES
USA
PAN AM 1/2
MALCO 1/2
PI 140008 (OPTION)
2-3-59
USA
PAN AM 1/2
MALCO 1/2
170162 (2)
11-11-61
USA
PAN AM 1/2
MALCO 1/2
171010
11-11-61
MALCO "G"
MALCO "D"
PAN AMERICAN PETRO. CORP.
Plat of Area Served By Storage System III (Fed. Lease) Empire Abo
T-18-S, R-27-E, Eddy County, New Mexico
Tank Battery & LACT Unit
Oil Well & Number of Well
Production Flowline
USA
PAN AM 1/2
MALCO 1/2
171391
11-11-61
80 Ac.
STATE
SCHNEIDER
PAN AM 1/2
PAN AM 1/2



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SERVICE PIPE LINE COMPANY

WEST TEXAS DIVISION

C E WILSON
DIVISION MANAGER

September 1, 1959

1628 19TH STREET
LUBBOCK, TEXAS

Automatic Custody Transfer
Facilities - Empire Abo
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Yours very truly,

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Charles E. Wilson

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bm

ILLEGIBLE

IN REPLY REFER TO:

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GEOLOGICAL SURVEY
P. O. Box 6721
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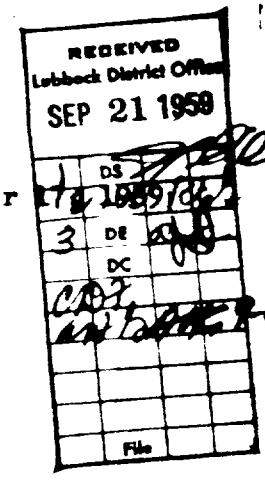

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Acting Oil and Gas Supervisor

ILLEGIBLE