STATEMENT OF THE ATLANTIC REFINING CO.
CONCERNING APPLICATION TO COMMINGLE
PRODUCTION & INSTALL AUTOMATIC CUSTODY TRANSFER
STATE "T" LEASE, DENTON FIELD
LEA COUNTY, NEW MEXICO
CASE NO. 2209

The Atlantic Refining Co. proposes to commingle production and install an automatic custody transfer system to handle Wolfcamp and Devonian production from all wells presently completed or hereafter drilled on the above leases. The equipment we plan to install is of the same general type previously approved by the Commission for installation in the State of New Mexico.

Attached is a plat showing the State "T" lease and location of the present tank battery. Also attached are two schematics of the proposed installation. Figure 1 covers the proposed method of commingling production; Figure 2 is a schematic of the proposed automatic custody transfer system.

At the present time we have four Devonian wells and four Wolfcamp wells. Two of the Devonian wells are flowing and two are being lifted by hydraulic pump. All four of the Wolfcamp wells are on hydraulic pump.

Figure 1

Power oil for the hydraulic pumps is obtained from two storage tanks. A battery of triplex pumps pumps the power oil to the various wells. The power oil is metered to each pool separately. A third meter is used for individual well tests.

Total production (oil, water and spent power oil) passes through a meter and sampler following a separator. A separator, meter, and sampler are provided for each pool plus a third separator, meter and sampler for individual well tests. The produced fluid is commingled in a common treating system after being measured and samples obtained from each pool separately. Clean power oil from the treaters enters two power oil tanks. Net oil production over flows into a surge tank and is sold to the pipe line through the automatic custody transfer unit. The net oil production from each pool is determined by subtracting the power oil from the total produced oil. The total produced oil is the metered volume times the percent oil in the sample obtained. At such time as water production is large enough to cause inaccurate metering a free water knockout can be installed between the separator and meter. All meters can be calibrated at any specified interval.

Figure 2

Oil will be transferred to the pipe line from a surge tank after being metered separately from each zone on each lease. Components of the LACT unit in flow order are as follows:

1. Pump: An electrically driven pump maintains a pressure in the metering system above the vapor pressure of the crude. It provides a constant flow rate through the system to insure meter accuracy.

2. BS&W Monitor: A BS&W monitor actuates a diverting valve which stops delivery to the pipe line when the water content reaches a predetermined amount. Delivery to the pipe line is restored when merchantable oil is present in the monitor probe.

3. Diverting Valve: A 3-way 3-position valve when accuated by the BS&W monitor stops delivery to the pipe line and diverts the crude through the treaters.

4. Strainer: A strainer removes any foreign particles which may interfere with the operation of the meter.

5. Sampler: Samples of the crude are taken at regular intervals during each period of transfer to the pipe line. The samples will be stored in a vapor proof container for gravity and BS&W measurement. The sampler is actuated by electrical impulses from the meter. This will give samples proportional to the amount of oil transferred.

6. Oil Meter: A positive displacement meter is used to measure the volume of oil transferred. This meter is equipped with a temperature compensator, non-reset counter registering barrels, tenths, and hundreths. The counter registers the amount of oil transferred corrected to 60° F.

7. Meter Proving Loop: A four valve proving loop will permit calibration of the oil meter at any time. This proving loop has a bleed valve between double in-line block valves to insure that no oil by-passes the calibration equipment.

8. Back Pressure Valve: The back pressure valve maintains a constant pressure in the meter. This pressure is above the vapor pressure of the crude.

9. Check Valve: A check valve prevents any backflow of oil from the pipe line to Atlantic's equipment.

A control panel, located on the skid, performs the following functions:

1. Stops booster pump on low surge tank level and holds all circuits locked out until the oil level returns to the high level switch. Starts the pump at the high level in the surge tank. A manual override permits starting the pump between level switches.

2. Divert crude to treaters due to high BS&W content.

3. A set-stop counter prevents overrunning of the scheduled monthly allowable. It must be manually reset each month.

4. Stops transfer of oil on a signal from the set-stop counter. Presents further transfer until the set-stop counter is reset.

5. Stops transfer of oil on a meter failure or if the flow rate drops below a present minimum. This is a lockout function and must be manually reset.

6. The control panel door can be sealed by the pipe line company. One overflow tank is provided in case the custody transfer unit is shutdown due to a malfunction. This tank is large enough to store all production during unattended operation.

The positive displacement meter can be calibrated jointly by the pipe line company and The Atlantic Refining Co. The meter can be calibrated by either a master meter or a test tank.

SUMMARY OF PRODUCTION DATA
ATLANTIC STATE "T" LEASE, DENTON FIELD

	Denton Devonian (4 wells)			Denton Wolfcamp (4 wells)		
	Oil BOPD	Gas MCFD	Water BWPD	Oil BOPD	Gas MCFD	Water BWPD
1960, July	753	765	348	166	33	19
August	729	732	336	250	77	34
Sept.	764	631	282	212	54	24
Oct.	748	764	282	180	26	17
Nov.	761	738	320	182	44	8
Dec.	766	723	283	232	57	25

Base Price - $3.01/bbl.

Average gravity of Devonian oil over three-month period: 45.2°

Selling price of 45.2° oil: $2.99/bbl.

Average gravity of Wolfcamp oil over three-month period: 43.8°

Selling price of 43.8° oil: $3.01/bbl.

Average gravity of Devonian and Wolfcamp oil if mixed: 44.9°

Selling price of 44.9° oil: $3.01/bbl.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4
CASE NO. 2221

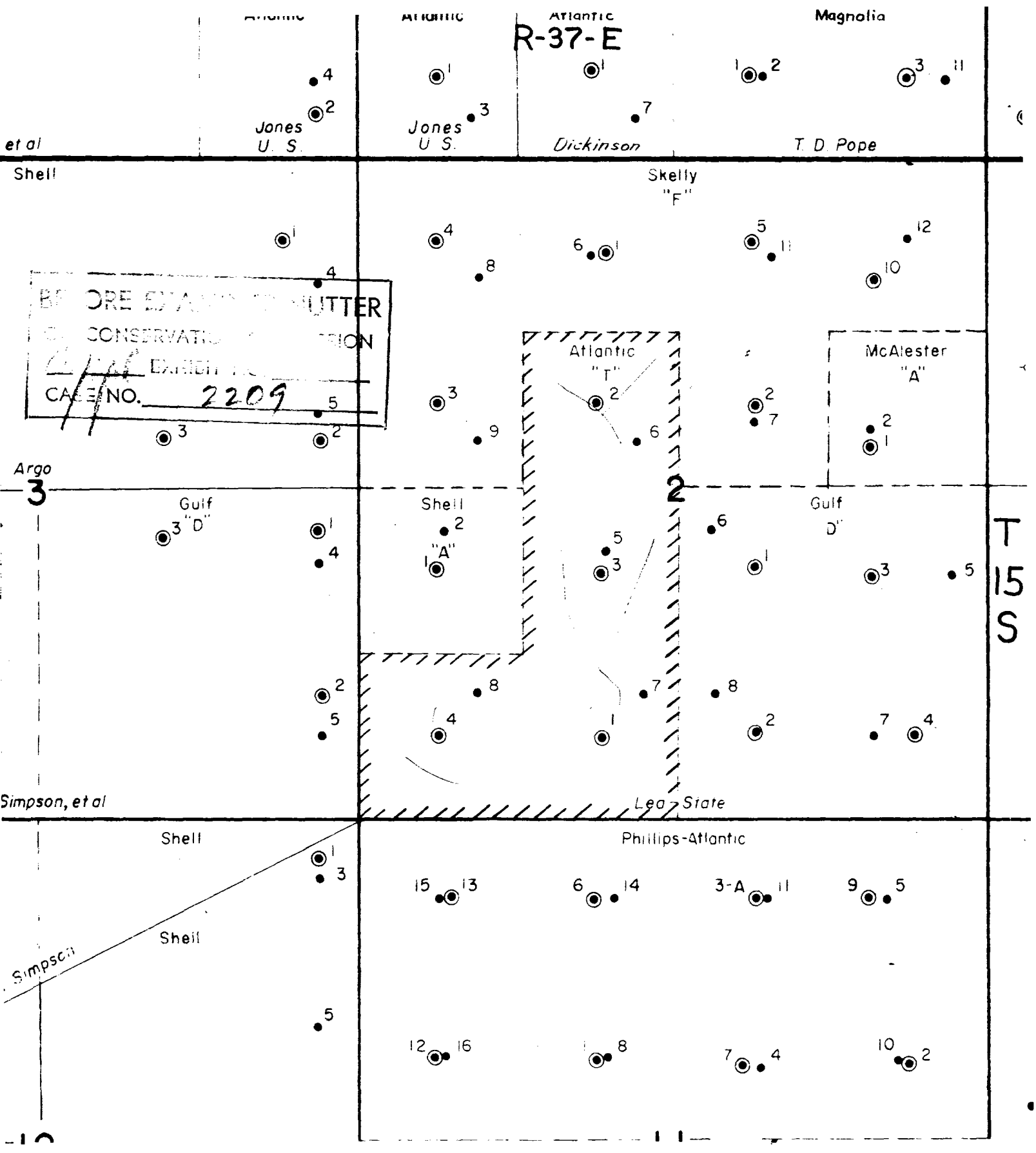
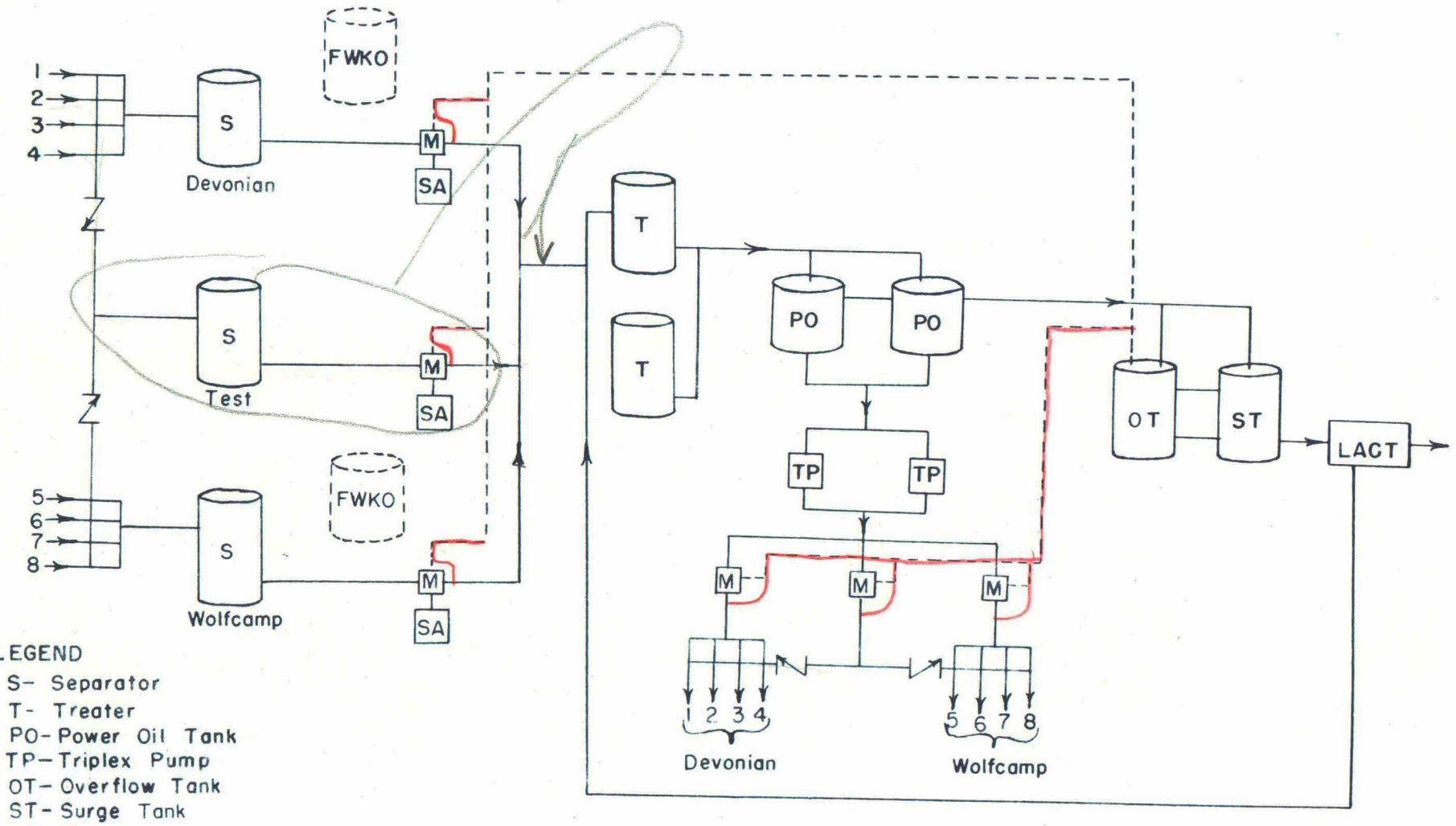


EXHIBIT A
ATLANTIC STATE "T" LEASE
DENTON WOLFCAMP AND DEVONIAN POOLS
LEA COUNTY, NEW MEXICO

LEGEND:

● - Wolfcamp

◉ - Devonian



LEGEND

S- Separator
T- Treater
PO- Power Oil Tank
TP- Triplex Pump
OT- Overflow Tank
ST- Surge Tank
M- Meter
SA- Sampler
1111 - Well Numbers
---- - Calibration Line
FWKO- Free Water Knockout

FIGURE 1
PROPOSED COMMINGLED PRODUCTION
THE ATLANTIC REFINING CO.
STATE "T" LEASE
DENTON FIELD, LEA COUNTY, NEW MEXICO

LEGEND

1– Surge Tank	8– Sampler
2– Pump & Motor	9 – P D Meter
3– Thermometer	10– Meter Proving Loop
4– Pressure Gauge	11 – Back Pressure
5– BS&W Monitor	12 – Check Valve
6– Bad Oil Diverting Valve	A- Low Level Switch
7– Strainer	B – High Level Switch

ATLANTIC EXHIBIT
CASE NO.

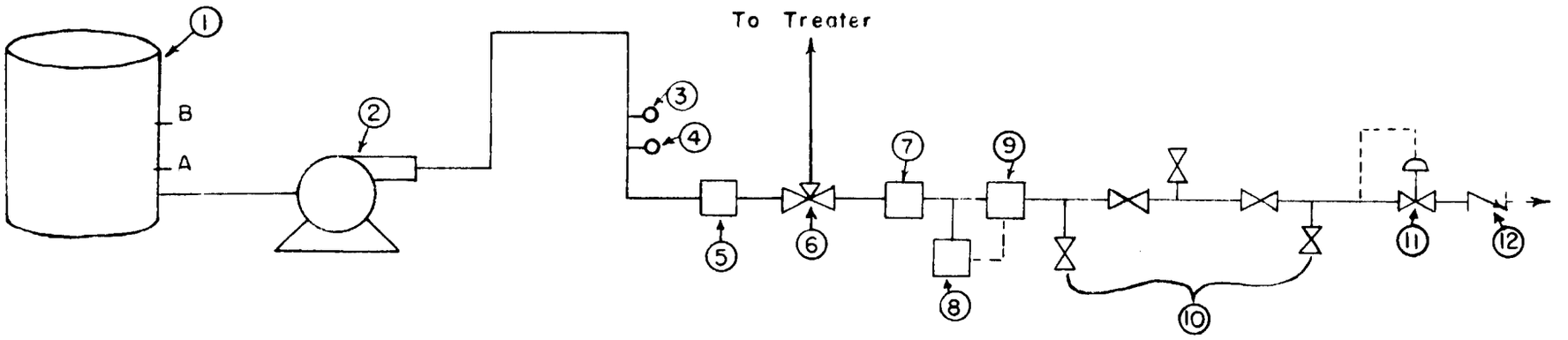


FIGURE 2
PROPOSED AUTOMATIC CUSTODY TRANSFER
THE ATLANTIC REFINING CO.
STATE "T" LEASE
DENTON FIELD, LEA COUNTY, NEW MEXICO

GULF REFINING COMPANY

CRUDE OIL AND PRODUCTS PIPE LINE

P. O. DRAWER 1150 MIDLAND, TEXAS

March 2, 1961

Atlantic Refining Company
P. O. Box 1610
Midland, Texas

Attention: Mr. H. E. Bond

Gentlemen:

After review of your proposed installation of an automatic custody transfer unit on your State "T" lease, Denton Field, Lea County, New Mexico, we are agreeable to using such measurements to determine the volume run from your lease to the Gulf Refining Company's Gathering System, should this installation be approved by the New Mexico Conservation Commission.

Very truly yours,

GULF REFINING COMPANY

R. L. Barker

R. L. Barker
District Superintendent

RLB/rs

LARGE FORMAT
EXHIBIT HAS
BEEN REMOVED
AND IS LOCATED
IN THE NEXT FILE