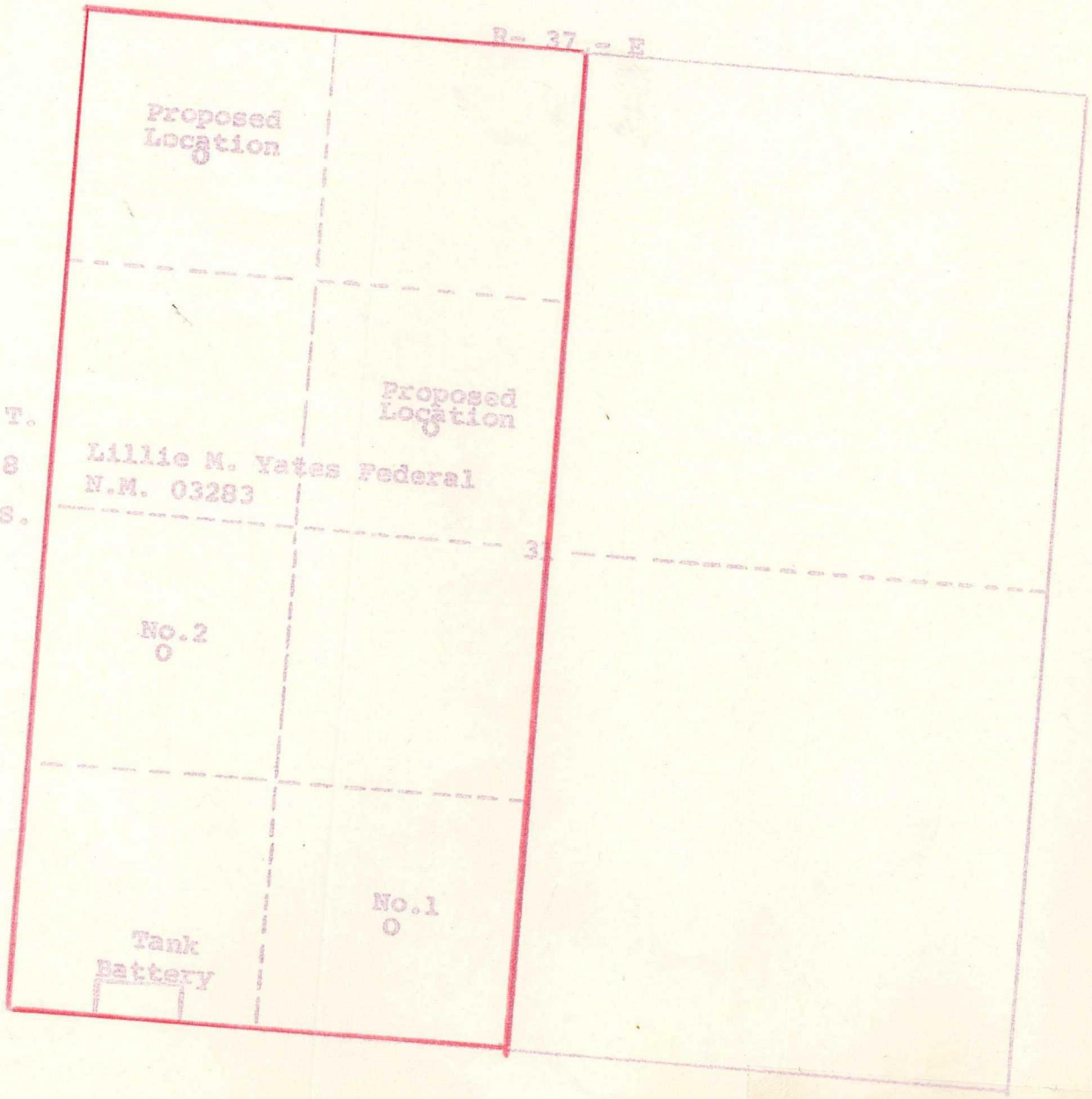
BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 1
CASE NO. 2163

YATES DRILLING COMPANY

Yates Drilling Company has the west half of Section 31, Township 8 South, Range 37 East (as outlined in red)



ILLEGIBLE

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 6721
Roswell, New Mexico

RECEIVED JAN 19 1961

January 18, 1961

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 2163

Yates Drilling Company
309 Carper Building
Artesia, New Mexico

Attention: Mr. Ken Reynolds

Gentlemen:

Your proposed automatic custody transfer system for lease New Mexico 03283 covering the W½ sec. 31, T. 8 S., R. 37 E., N.M.P.M., Roosevelt County, New Mexico, as described by the diagrams submitted with your letter of January 12, is hereby approved.

The two copies of the diagrams of the proposed automatic custody transfer system are being retained for our files.

Very truly yours,

JOHN A. ANDERSON
Regional Oil and Gas Supervisor

Artesia, New Mexico
January 23, 1961

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Gentlemen:

The undersigned owners of the production from the wells drilled and to be drilled on Federal Oil and Gas Lease NM 03283, described in the Application of Yates Drilling Company, Case No. 2163, before the Oil Conservation Commission of the State of New Mexico, do hereby acknowledge receipt of a copy of the Application and hereby give their consent to the installation of the automatic custody transfer system described in the Application.

Very truly yours

O. P. Yates

Martin Yates III

Neerburg & Ingram

Tom L. Ingram

Eugene Eneanburg

Frances May

by Ralph May

ARTESIA BROADCASTING CO.

By Martin Yates III, Pres.

RECEIVED JAN 2 0 1961

Mobil

Magnolia Pipe Line Company

P. O. Box 1073, Midland, Texas

January 18, 1960

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4
CASE NO. 2163

Mr. Ken Reynolds, Drilling Supt.
Yates Drilling Company
309 Carper Bldg.
Artesia, New Mexico

150 LACT - YATES DRILLING CO. -
LILLIE M. YATES FEDERAL LEASE

Dear Mr. Reynolds:

Magnolia Pipe Line Company will be the gatherer and transporter of crude oil from the Yates Drilling Company's Lillie M. Yates Federal Lease in Section 31, T8S, R37E in the Allison Pennsylvania Field, Roosevelt County, New Mexico. We have received your proposal to install an automatic custody transfer system to deliver the crude oil from this lease to our pipe line.

It is our understanding that the liquid will be measured by a system utilizing a temperature compensated positive displacement meter. The unit will also be equipped with all the necessary sampling,allowable counting, and safety devices to prevent incorrect measurement or delivery of non-merchantable crude oil. This system should prove very satisfactory as our experience with units of similar design indicates they are an accurate and reliable means of receiving crude oil.

In regard to the proposed installation we would like to make the following comments:

1. The BS&W monitor should be equipped with a 0-60 second time delay and should be wired for fail-safe operation on power and component failure.

2. The unit should shutdown on high pressure, register failure, low fluid level in the surge tank and when the allowable has been reached. These shutdown functions should all be of fail-safe design.

3. We will want to test the unit for accuracy, reliability, and fail-safe operation prior to commencing automatic custody transfer.

4. It may be necessary to install a pump to empty the prover tank between calibrations.

5. We would prefer to have a bleeder located in the bottom of the discharge line upstream from the prover tank discharge valve in order to empty the tank completely without getting air in our line.

6. Although the prover tank has been factory calibrated, we hereby request a check calibration. A satisfactory arrangement would be to perform the check calibration before it is shipped from Jones & Laughlin Supply in Odessa.

Magnolia Pipe Line Company has no objections to a request by the Yates Drilling Company to the New Mexico Oil Conservation Commission for an exemption to State-wide Rule 309. We would appreciate receiving a copy of the application and the Commission's approval.

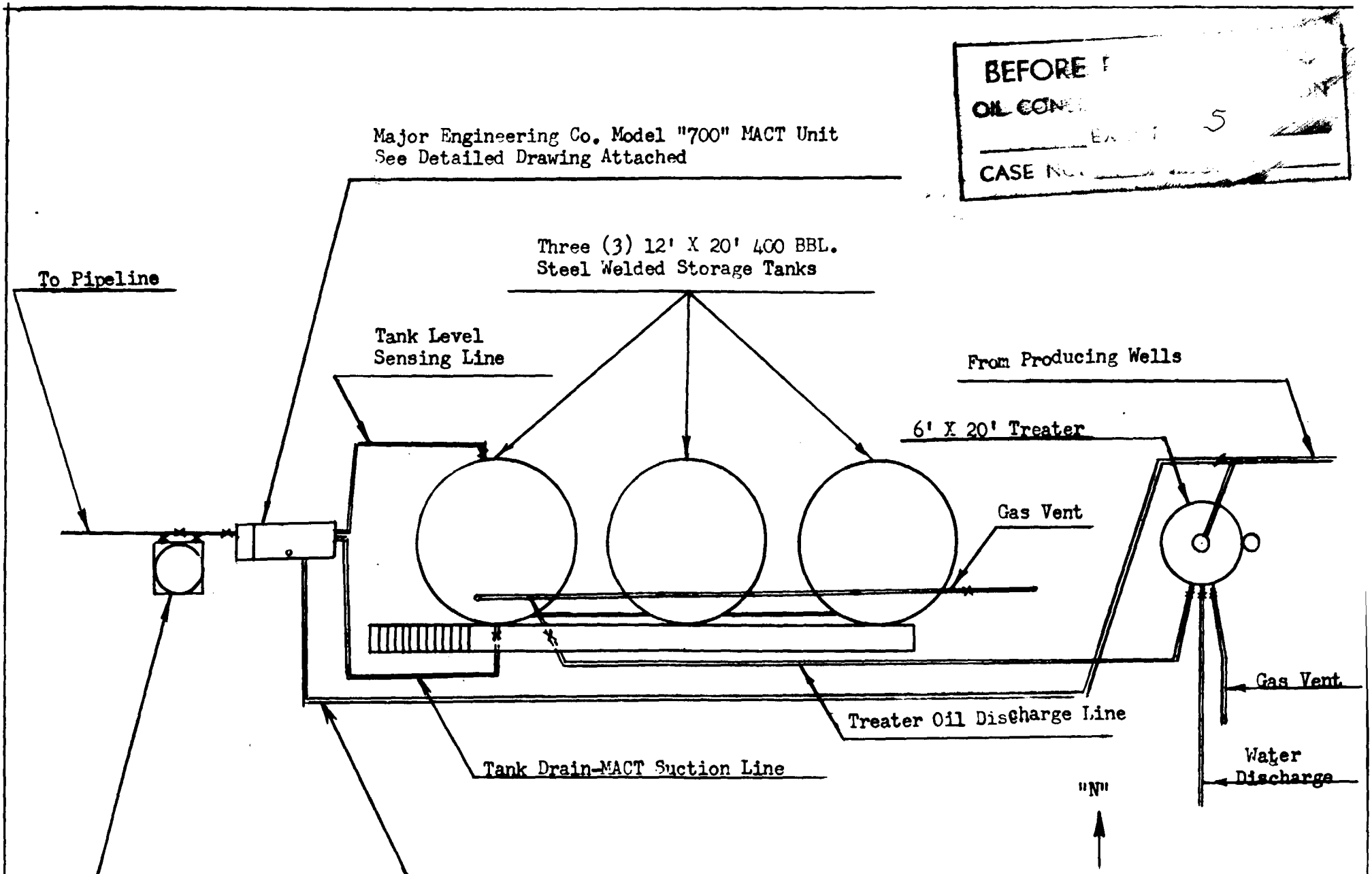
Yours very truly,

Kendall W. Miller

Kendall W. Miller
Division Manager

RHHalpert:ed

cc: K. B. Snider
C. M. Brecheisen
J. E. McGeath



BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5
CASE NO. 2163

S.P. YATES DRILLING CO.

ROOSEVELT CO. NEW MEXICO

FEATURES OF MAJOR ENGINEERING COMPANY TULSA MACT UNITS

ALL ELECTRIC — no instrument gas required. Since gas operated controls can malfunction due to dirty, wet, corrosive lease gas, an all electric unit is more dependable.

COMPLETELY PACKAGED — No field wiring (except connecting electric power to the unit) — no field assembly — no field poured foundation — no cutting into the surge tank for float-switches or any other connection — field installation saving from $400 to $1,200.

HOUSING — meters, sample and container, and instrument panel housed in rugged 14 gage steel housing built for 30 years of oil field handling. Provides protection for fine components against dust, rain, snow, and salt air. Provides a protected place for operating personnel while changing run tickets, proving meters, or working on components. Based on experience with other items of lease equipment, a typical automatic custody transfer unit will be moved at least twice during its life. Due to complete packaging, salvage value is 100%, and cost of transferring is negligible.

OPERATING CONVENIENCE: All components, controls, instruments, etc. face the front of the unit. No walking all around the unit to read instruments or service the unit. Not awkward to get at components.

REPAIR CONVENIENCE: All control panel relays are hermetically sealed, plug in for long life and quick replacement. A malfunctioning sampler or Major pressure switch can be exchanged without delay for a nominal exchange cost. The pump motor is separate from the pump for quick replacement from local sources. All major components are readily removable by unbolting grooved couplings.

DURABILITY: All purchased components are procured from leaders in their fields. Fabrication and assembly is closely supervised for quality workmanship. All units are pressure tested, and the entire electrical system is operated and checked for performance before shipment. All wiring in conduit is first run through plastic tubing to provide trouble free wiring for 30 years. All sampler tubing is stainless steel for rigidity and long life.

STANDARDIZATION: Standardization has resulted in years of experience with one design of unit, which has been perfected as a result of this experience to the point that it is as dependable and trouble free as possible. Because of standardization, a large inventory of components at the factory makes possible immediate delivery of any repair component or part. Since normal delivery from component suppliers runs from a week to 5 months, the Major stock assures of no delay in case of emergency. Standardization also makes feasible the stocking of parts by the sales and service organization, making it unnecessary for the user to stock repair components. Standardization has also made possible quantity production, reducing fabrication cost and improving quality of workmanship, to the ultimate benefit of the user.

RESPONSIBILITY: As the designer and manufacturer of Major MACT units, Major is responsible for the satisfactory performance of the equipment. Major guarantees the unit and its components against defects in materials and workmanship for a period of 1 year after installation. For the first 3 months of operation, Major and its sales and service representative are responsible for any malfunction not due to improper operation.

DESIGNED AND MANUFACTURED BY

MAJOR ENGINEERING COMPANY TULSA

BOX 15607 TULSA, OKLA.

SOLD AND SERVICED EXCLUSIVELY BY

Jones & Laughlin

SUPPLY DIVISION – Tulsa

BULLETIN 961.35 9-1-60

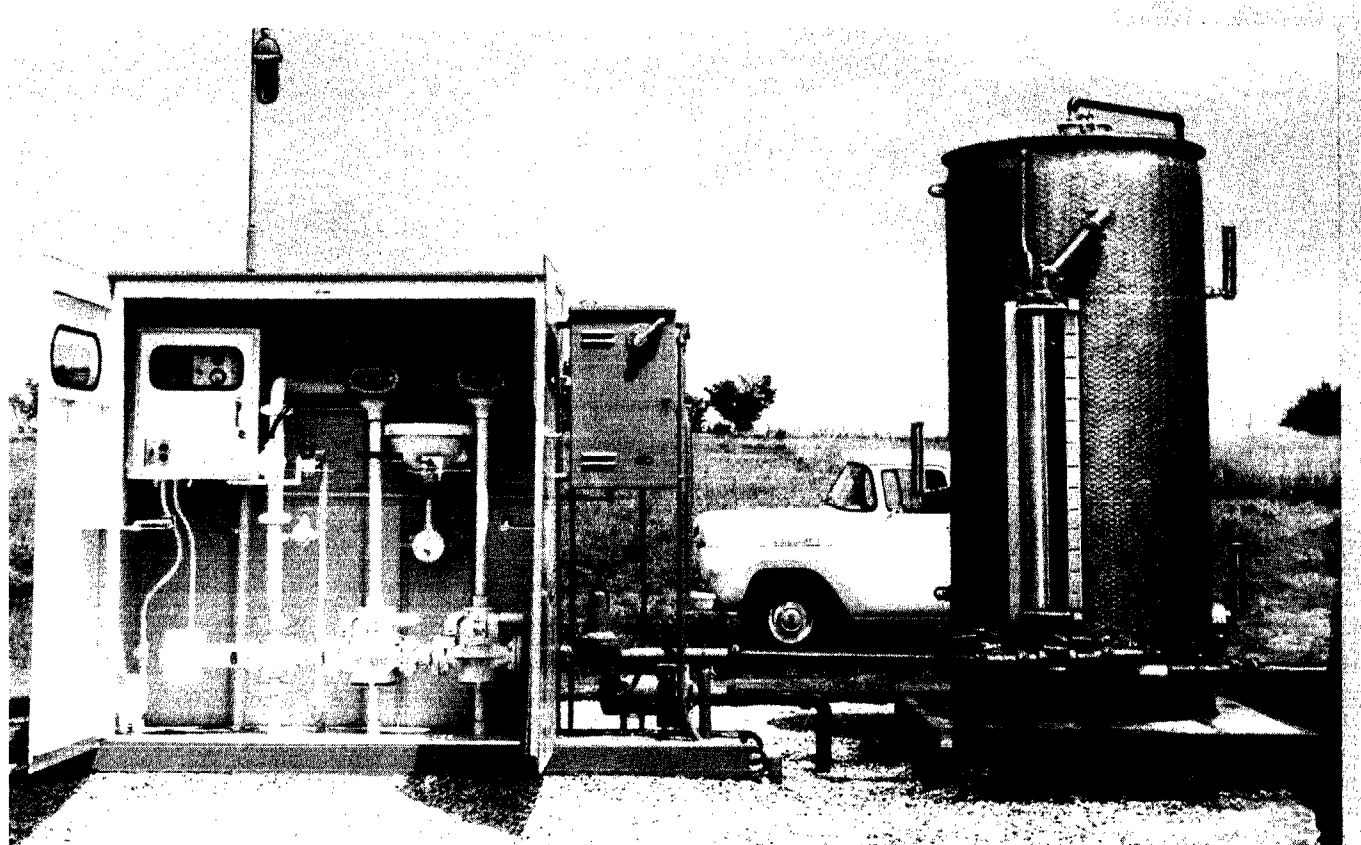
PRINTED IN U.S.A.

THE MAJOR ENGINEERING COMPANY TULSA

MACT

METER AUTOMATIC CUSTODY TRANSFER

UNIT



1,000 B/D "700" UNIT WITH MAJOR 10 BBL. PROVER TANK

- Eliminates conventional tank battery
- Increases liquid recovery by minimizing evaporation loss
- Frees pumpers for other duties
- COMPLETELY automatic
- LOW installation cost
- Quick, simple installation
- Designed for MINIMUM MAINTENANCE

MAJOR ENGINEERING COMPANY TULSA

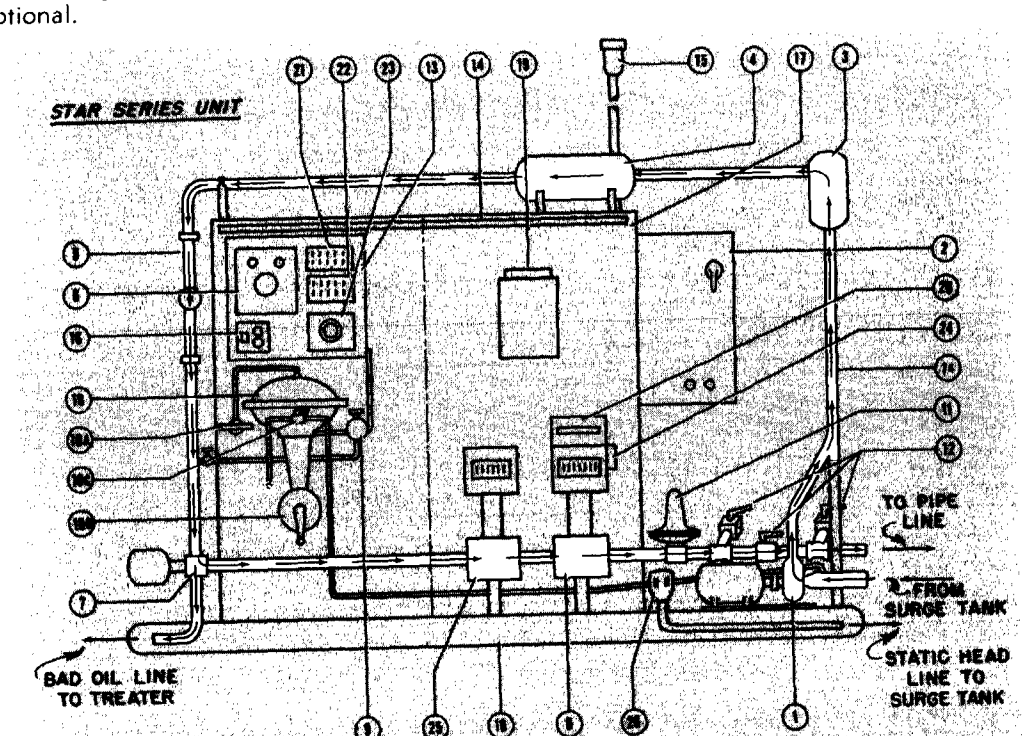
OPERATION

GENERAL: When the oil in the surge tank reaches the level for which the static head pressure switch (26) is adjusted, the holding coil in the motor controller (2) is energized, starting the pump (1) which immediately builds up sufficient pressure to open the back pressure valve (11), whereupon oil is pumped through the MACT unit to the pipe line. From the pump discharge the oil passes through the strainer (3), air eliminator (4), BS & W monitor probe nipple (5), three-way valve (7), check meter (25-optional), production meter (8), back pressure valve (11) prover by-pass valve (12) and to the pipe line.

BAD OIL: When the BS & W monitor probe (5) indicates to the monitor (6) that the BS & W content of the oil exceeds the pipe line allowable for which the monitor is set, the three-way valve (7) closes, stopping flow to the pipe line and diverting it back to the treating equipment.

SAMPLING: When good oil is being run to the pipe line, the proportional electric sampler (9) proportions small samples to the 5 gallon sample container (10). A Hycar diaphragm across the sample container isolates the oil, eliminating evaporation loss. When the meter run ticket is changed, the composite sample is mixed by the geared mixer (10B). After thoro mixing, a sample is drained out by means of the three-way valve (10C) into the hydrometer jar, for manual determination of API gravity and BS & W content, to enter on the run ticket. The remainder of the composite sample is then emptied from the container to the pump inlet by turning the three-way valve (10C) and building up pressure on top of the Hycar diaphragm by means of the hand pump (10A).

METERS: The basic unit is equipped with one meter (8). If desired, check meter (25) can be provided, in series with the production meter, as a safety feature in case of malfunction of the production meter. A large numeral counter is provided with the meter on the basic unit, with a ticket printer (20) as optional.



METER MONITOR: If only one meter is desired, a meter monitor (23) is available as an optional item, as a safety device in case of meter malfunction. The monitor receives electrical impulses from a switch (24), which is actuated once each barrel by the meter register. The monitor is set for the normal pumping rate. If due to any malfunction of the meter or counter, the counter slows below this rate while the pump is pumping good oil to the pipe line, the unit will shut down and the alarm light (15) will be energized. The monitor can be adjusted to shut the unit down at any desired percentage of normal rate. The plug in monitor is electronic, solid state, with no moving parts in normal operation, and is designed to give years of absolutely trouble free service.

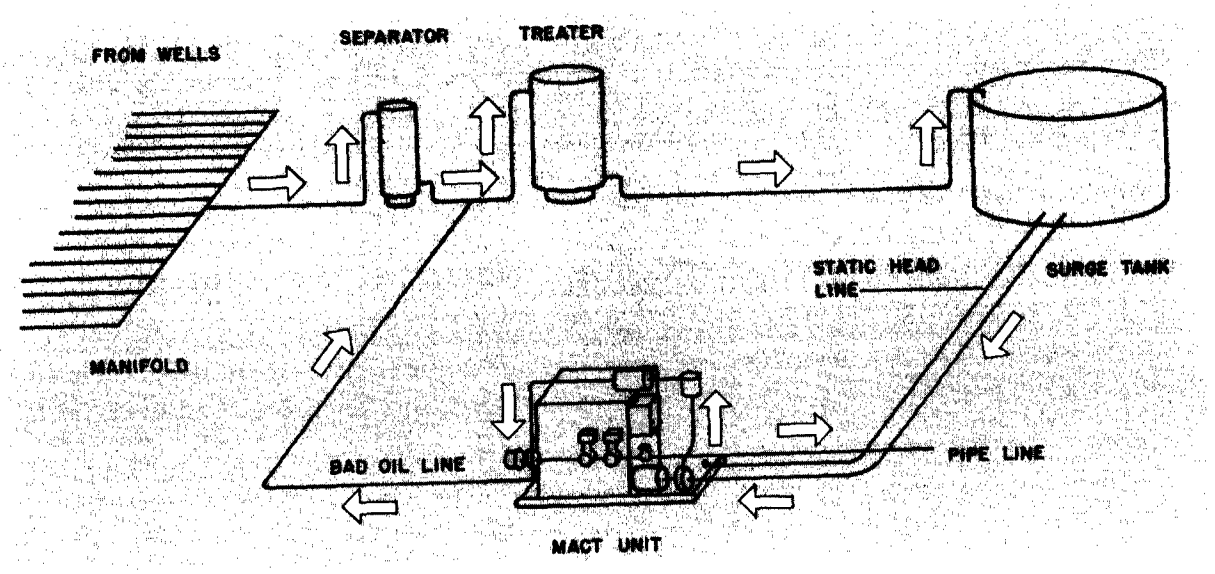
MONTHLY ALLOWABLE CONTROL: A monthly allowable control is offered as an option. The electric predetermined counter (21) is pulsed by the meter counter switch (24), one pulse per barrel. The upper register of the counter is pre-set for the desired number of barrels. It runs backwards, and the lower register runs forwards, until the allowable has been run, whereupon the unit shuts down until the counter is manually reset.

DAILY ALLOWABLE CONTROL: The daily allowable control is offered as an option. It operates in the same manner as the monthly allowable control, except that at a pre-set time each day, as determined by the setting of a clock in the control panel, the counter automatically resets to zero.

INSTALLATION

The steel skid base of Major MACT units is filled with pre-stressed light weight concrete, saving the cost of a field poured foundation. Normally, a crushed rock shell, or calieche pad is provided, and unit is spotted when delivered.

Field piping consists of connecting the inlet connection to the surge tank outlet, the pipe line connection to the pipe line, the bad oil connection to the treater inlet, and the pressure switch connection to the surge tank drain connection. Field wiring consists of bringing electric power to the unit. Experience with a number of installations has indicated that the work can be accomplished in half a working day with a pusher, three roustabouts, and an electrician, with a total cost for labor and materials of from $200 to $400. The unit is shipped completely assembled and wired, with no unpacking or field assembly work required.



SPECIFICATIONS

MAJOR AUTOMATIC CUSTODY TRANSFER EQUIPMENT

		MACT UNITS					
	"700"	One Star	Two Star	Three Star	Four Star	Five Star	Six Star
Capacity — Normal, B/D at 25 PSI	1,000	1,650	3,290	6,580	9,600	13,600	20,500
Capacity — maximum, B/D at 20 PSI	1,200	2,060	4,120	8,230	12,000	17,100	25,700
Shipping Wt. Approx. Lbs.	2,500	4,000	4,800	6,100	7,800	9,900	11,200

Basic Unit Includes:

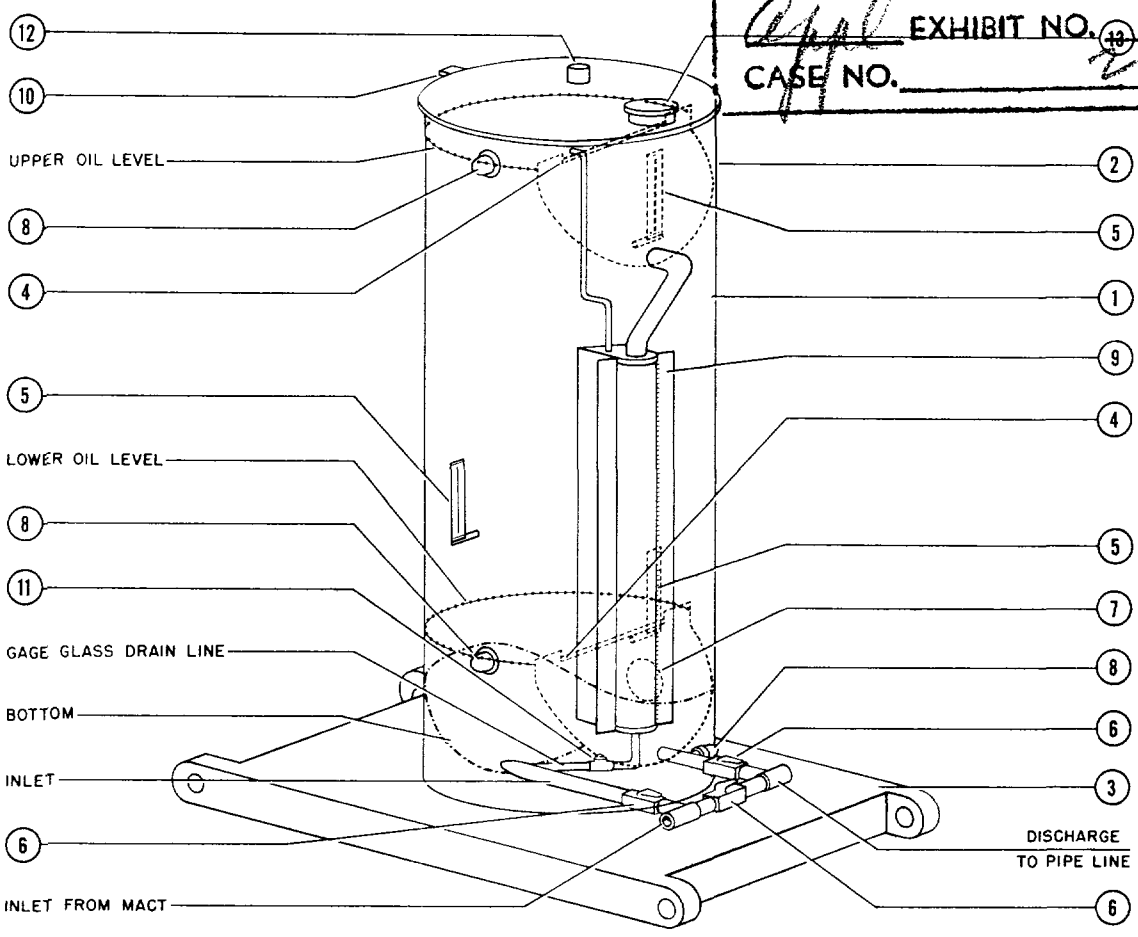
1. Goulds Centrifugal Pump coupled to 1750 RPM drip proof motor (except Aurora pump on the "700" unit), w/pressure gage on discharge
2. Cutler-Hammer motor controller c/w fused safety switch, 3 coil thermal overload relay, magnetic contactor, 440-110 volt transformer, and start-stop switch
3. Strainer
4. Air Eliminator
5. Monitor probe
6. Instruments, Inc. BS & W Monitor
7. Hydromotor three-way valve
8. 1 meter (Brodie, Granco, Rockwell or Smith) c/w automatic temperature compensator and large numeral counter
9. McFarland BNC electric sampler
10. McFarland 5 gallon sample container w/ purge pump and geared mixer
11. Fisher back pressure valve
12. Three valve prover by-pass w/ double seal valves and tell tale bleed between seals
13. Control panel, dust tight, w/ hermatically sealed plug-in relays, color coded wiring, and all terminals code numbered
14. Illuminating light
15. Elevated alarm light
16. Convenience outlet
17. Housing for meters, sampler, sample container and control panel
18. Light weight pre-stressed concrete filled steel skid base (no foundation required)
19. Instruction manual w/ wiring diagram

Optional Equipment: (factory installed and wired)

20. Ticket Printer
21. Monthly Allowable Control
22. Daily Allowable Control
23. Meter Monitor (Meter counter failure detector)
24. Electric Pulse transmitter
25. Second Meter w/ Automatic temperature compensator and large numeral counter
26. Major Dual Liquid Control Pressure Switch (takes the place of two tank float-switches)

THE MAJOR ENGINEERING COMPANY TULSA PROVER TANK

10 BBL



SPECIFICATIONS

STATIONARY UNIT

	Diameter	Height
10 BBL.	3½′	8′ (tank)
20 BBL.	5′	8′ (tank)

PORTABLE UNIT

	Overall Height	Tread
10 BBL.	10′ 2″	73″
20 BBL.	10′ 2″	73″

STANDARD EQUIPMENT

1. Internal Coating — 5 mils Epoxy
2. External Insulation — 1½″ Weatherproofed
3. Steel Skid Base 5′ wide by 6′ long-filled with light weight concrete
4. 2 Stainless Steel edged weirs
5. 3 Thermometers, 10° - 120°
   ½° Graduations
6. 3 Double Seal plug valves w/ tell tale bleed cock
7. 6″ Cleanout opening
8. 3 Sight glasses — high oil level, low oil level, & empty
9. 6″ Dia. x 48″ overflow gage glass w/ stainless steel calibrated scale
10. Plumb bob lugs for levelling, c/w plumb bob and wire
11. Check valve on gage glass drain
12. 2″ Female thread vent connection
13. 8″ Thief Hatch
    Complete piping
    Prime and finish — industrial enamel except tank (aluminum)
    Factory Calibrated and certified by U. S. Testing Company

Same equipment as Stationary Unit plus:

21. 1 - Torsion Spring Axle
22. 2 - Wheels w/ 12 Volt electric brakes, tires and hub caps
23. 2 - Stop, turn and tail lights
24. 4 - Reflectors
25. 2 - Fenders
26. 2 - Hoses 2″ Dia. x 25′ w/ Quick Connect Couplings
27. 1 - Hose Rack
28. 3 - Levelling Jacks w/ pads
29. 2 - Levels (in place of plumb bob)
30. 1 - Trailer Hitch
31. 1 - Electrical plug & socket**
32. 1 - Brake and light Controller**

** To be installed by user on user's vehicle

* CONSTRUCTED IN CONFORMANCE WITH API STANDARD 1101

OPERATION

The prover tank is first wetted and brought to oil temperature, and the lower oil level is established at the lower weir by filling tangentially from the inlet below the lower weir. The dump valve empties the tank to the lower weir level. The first run is then made by filling to and over the upper weir. The fill valve is closed as the oil is seen to enter the large gage glass at the side of the tank, and the gross volume is read directly from the 48" stainless steel gage glass scale. When proving is completed, the oil from below the lower weir is run to the pipe line by shutting down the meter charging pump and opening the fill valve. Detailed written instructions are furnished with the tank.

The double weir type prover tank assures no inaccuracy due to sediment and paraffin collection in the bottom, quick and effective draindown from all wetted surfaces, and no mis-reading due to inconvenient gage glass and thermometer locations. Other advantages are:

ACCURACY: The 0.001 barrel divisions on the gage glass scale are 0.35" apart, making it practical to interpolate to 0.0001 barrel, ten times the reading accuracy of the meter. The scale reads the calibrated volume directly in barrels.

DRAINDOWN: All oil wetted surfaces are vertical, making draindown fast and complete. There are no oil wetted horizontal surfaces for paraffin to collect on in the measuring portion.

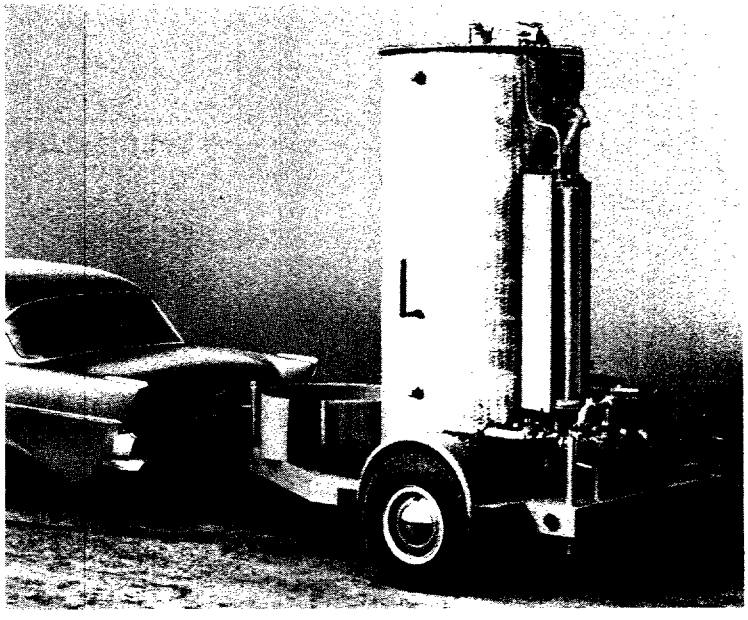
CONVENIENCE: All readings can readily be taken at ground level, eliminating the inconvenience and hazard of climbing ladders to read thermometers and gage glasses.

TEMPERATURES: More representative temperatures are possible, as each thermometer bulb can be accurately positioned at the mid-point of its proportionate volume of oil, not possible with a vessel of non-uniform cross section.

INTERNAL COATING: With the bolted deck removed, the entire interior is exposed for first class sandblasting and coating.

INSTALLATION COST: Installation consists only of connecting the inlet and discharge. No field assembly, foundation work, painting, or parts procurement is necessary.

LOW HEIGHT: Low overall height permits factory calibration, as the tank can be shipped vertically on its skid base, preventing damage in shipment. No exaggerated configuration is necessary to reduce the height of portable tanks.



MAJOR 10 BARREL PORTABLE PROVEN TANK

DESIGNED AND MANUFACTURED BY

MAJOR
ENGINEERING COMPANY
TULSA

BOX 15607 TULSA, OKLA.

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