Mobil Oil Company
A Division of Socony Mobil Oil Company, Inc.
P. O. BOX 2406, HOBBS, NEW MEXICO

November 6, 1962

Mr. J. D. Ramey, District Supervisor
New Mexico Oil Conservation Commission
P. O. Box 2045
Hobbs, New Mexico

LACT CONSOLIDATION, SANTA FE
PACIFIC LEASES, CROSSROADS
DEVONIAN FIELD, LEA COUNTY,
NEW MEXICO

Dear Mr. Ramey:

Application is herewith submitted for permission to install a crude oil automatic custody transfer unit on Socony Mobil Oil Company's Santa Fe Pacific Leases in the Crossroads Devonian Field located in Sections 22, 23, 26 and 35, T36E, R9S, Lea County, New Mexico.

The installation will process all Devonian production from eight wells on our Santa Fe Pacific "B", "C", "D", "E" and "G" leases, all of which are one base lease (NM-1223). Current daily production amounts to 1650 Bbls. of oil which Magnolia Pipe Line Company is accepting at each quarter section or from a total of five batteries.

Enclosed please find prints and specifications of our proposed LACT installation and a map of the field showing its location.

Magnolia Pipe Line Company has indicated their approval by letter dated October 25, 1962, a copy of which is attached.

Yours very truly,

Glen W. Barb
Producing Superintendent

JHarrison/nrh
Attachments

cc: Magnolia Pipe Line Company
P. O. Box 1510
Midland, Texas

CO-273
(2-51)

INTEROFFICE CORRESPONDENCE

Send to

October 25, 1962

RECEIVED
OCT 29 1962
G. W. BARB

Glen W. Barb

cc:
J. G. Cayce
G. A. Lundberg
J. E. McGeath
K. B. Snider

File Auth.

150 - LACT - MOBIL OIL COMPANY
SANTA FE PACIFIC "E" LEASE
LEA COUNTY, NEW MEXICO

File Ref.

We have reviewed your proposal to install an automatic custody transfer system on Mobil Oil Company's Santa Fe Pacific "E" lease in Lea County, New Mexico.

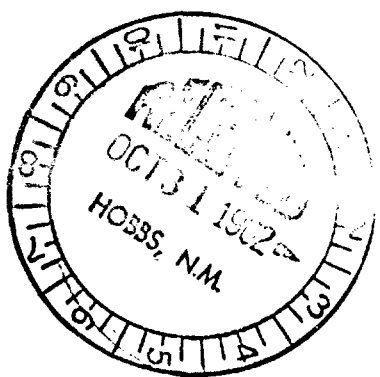
The system, as proposed, will utilize a temperature compensated positive displacement meter complete with the necessary sampling, monitoring, allowable counting, and fail safe features to prevent incorrect measurement and/or delivery of non-merchantable crude oil. The system as proposed should prove satisfactory.

We would like to request that the connection on the run tank be located on the tank side approximately one foot from the bottom. It is our understanding that you will provide a manually operated valve to recirculate the run tank bottoms as may occasionally be necessary. The recommended flow rate is 90 BPH at a back pressure of 30 psi.

Magnolia Pipe Line Company has no objection to the proposed unit. We would appreciate receiving a copy of the New Mexico Conservation Commission's approval of the unit for our file.

Kendall W. Miller

RHHalpert:ed



MOBIL OIL CO. - HOBBS DISTRICT

STANDARD ACT
LIST OF EQUIPMENT

1. 1 - Goulds Model 3196-STD pump with an "S" frame 1¼" shaft, 6S stuffing box cover fitted with an inside unbalanced mechanical seal, 6" frame adapter, and a 1½ x 3-6 casing and impellar assembly with pipe tap No. VII (suction nozzle gauge connection). Pump to be complete with bed plate No. 1, coupling, coupling guard and 5 hp, 3500 RPM, 440 volt, 3 phase, 60 cycle, totally enclosed fan-cooled squirrel cage induction electric motor.

2. 1 - 1½" 150# ASA weld neck flange and 4 studs and 8 nuts.

3. 1 - 2" x 1½" butt welding reducer with 45° miter sample probe, installed.

4. 1 - 2" butt welding long radius 90° ell.

5. 2 - 2" 150# ASA weld neck flange and 4 studs and 8 nuts.

6. 1 - 2½" x 2" butt welding reducer.

7. 1 - A. O. Smith TEB-15 combination strainer and air eliminator.

8. 1 - A. O. Smith S-13 positive displacement meter complete with ATC, model C-AE transmitter and type 107 horizontal non-reset counter.

9. 1 - Rockwell Nordstrom figure 3413 3-way three port 200# WOG lubricated plug valve (arrangement No. 4) or equivalent.

10. 1 - 125# Cast iron blind flange with 2" hole drilled in center and 1/8" drilled and tapped in edge to accomodate a 1/8" NPT nipple.

11. 1 - Crane steel Barstock Angle No. 223½H male and female 1/8" valve or equivalent.

12. 1 - Rockwell Nordstrom Figure 3413 3-way three port 200# WOG lubricated plug valve (arrangement No. 5) or equivalent.

13. 2 - 2" Screwed 125# cast iron flanges with 4 studs and 8 bolts.

14. 2 - OPW 633-F Kamlok Quick Coupler adaptors with male NPT or equivalent.

15. 2 - OPW 634-B Kamlok coupler dust caps with chain or equivalent.

16. 1 - Fisher 2" type 219-1 [illegible] stainless steel seat 125# ASA flanged back pressure valve. This valve is to be drilled and tapped with a 1/4" hole on upstream side of body to accomodate copper tubing to provide control pressure to diaphragm case.

The charge pump is unaffected by detection of bad oil by the BS&W monitor. Bad oil passing the probe will cause the diverting valve and relay "R1" to de-energize thus routing the bad oil to the bad oil tank and illuminating the beacon. Monitor failure will also have the same result.

Placing the "H-O-A" selector in the "hand" position will by-pass the "stop" and "run" level switches in the delivery tank but will have no other effect on the circuitry.

PRINCIPLE OF OPERATION

The standard LACT unit will function in the following manner:

Closing circuit breaker "S1" will energize transformer "T1" illuminating the "Power On" lamp. The BS&W monitor will also be energized but a short period is required before the monitor functions properly. During this period the diverting solenoid "Sol" and relay "R1" are not energized. The "divert" lamp and the beacon are illuminated thru the closed "R1" contacts. If the monitor is working properly and good oil is passing the probe, the diverting valve solenoid "Sol" and relay "R1" will be energized within one minute. At this time the "divert" lamp and beacon will be extinguished and the "shipping" lamp will be illuminated.

The "allowable S.S.C." contacts will remain as shown until the allowable for the month is reached. If the charge pump has not stopped because of low flow rate, contact "TM11-12" will be closed. Placing the "H-O-A" selector switch in the "auto" position will have no effect until the fluid builds up to the run level in the delivery tank. At this time the "hi-tank level" contact will close energizing holding coil "M" and thus starting the charge pump. Contact "Mx" will close and the pump will run until the fluid level in the delivery tank is low enough to open the "lo-tank level" contact.

When the charge pump is started, timer motor "TM" is energized as well as the sampler mechanism. The sampler contacts are arranged so that the sampler motor "S" will only make a few revolutions before these contacts mechanically change position. The sampler motor will not be energized again until the PD meter contacts change position one barrel later. Thus the sampler motor and the "TM clutch" are energized once for each barrel pumped. Timer "TM" is designed so that it is reset to "O" time when the clutch is energized. If the flow rate should fall below a preset rate, the "TM" clutch" will not be energized to reset the timer before contact "TM 3-4" closes and contact "TM 11-12" opens.

Contact "TM 11-12" will stop the charge pump and contact "TM 3-4" will energize relay "R2". Relay "R2" will illuminate the "low flow rate" lamp and the beacon. The reset push button must be depressed to reset timer "TM" before the charge pump can again be started.

The lease allowable set stop counter coil "SSC" is energized once for each barrel pumped. When the allowable is reached, the "Allowable S.S.C." contacts will be reversed. This will stop the charge pump and illuminate the "allowable made" lamp and the beacon.

If the fluid should build up to an emergency level in the delivery tank, the "emer. high tank level" contact will open and de-energize the diverting valve so that any further production will flow into the bad oil tank. Relay "R1" will also be de-energized and the beacon will start.

17. 1 - Maintenance Engineering Corporation Model HB-3V pipeline sampler, 150 psi with 5 gallon container. Sampler piston rod is to be hollow thru piston and have valve on upper end. Sample inlet is to be tied into sample probe thru gate valve and check valve. Sample outlet is to be tied into pump suction thru gate valve.

18. 1 - 1/4 h.p. 1750 RPM 3 phase 440 volt 60 cycle totally enclosed, fan cooled squirrel cage induction electric motor.

    1 - Viking Model No. F72G rotary gear pump with coupling and coupling guard and mounting base for direct drive by above motor.

    Suction of pump is to be tied into sample inlet probe thru tee. Tee is to be fitted with bar stock valve. Discharge of pump is to be tied into the valve on the upper end to the piston rod of sampler, with enough fiber-rubber hose to allow full travel of the piston rod.

19. 1 - 8' x 44-7/8" Skid to be constructed of 2 - 4" I beams for runners, 2 - 2-7/8" tubing end hitches, 2 - 3" channel iron cross braces and 5/16" floor plate, 4 way pattern, to cover skid from end hitches to edge of flange on "I" beam. Skid is to have three supports welded to floor plate to support the equipment.

JMMcGee/mc
9-12-62

Sprinkler
Rubber Hose

SPECIFICATIONS FOR CONTROL PANEL

LACT UNIT

HOBBS PRODUCTION DISTRICT
MIDLAND C&E DEPARTMENT
MOBIL OIL COMPANY

Sheet 1 - Electrical Schematic

Sheet 2 - Enclosure, Drawing

Sheet 3 - Miscellaneous Details, Enclosure

Sheet 4 - Movable Panel Layout

Sheet 5 - Movable Portion, Wiring Diagram

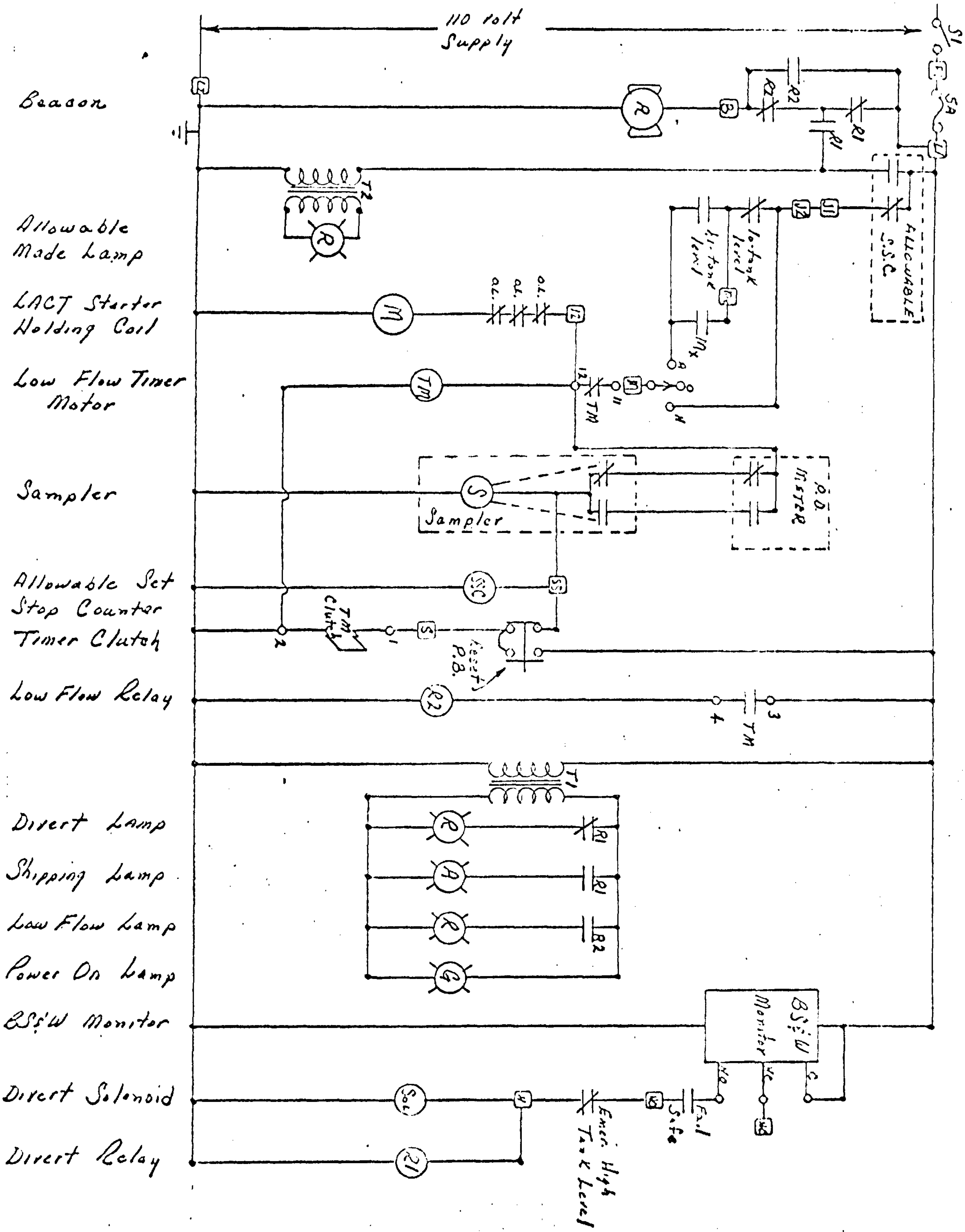
Sheet 6 - Controller, External Wiring

Sheets 7, 8 - Principle of Operation of the LACT Unit

JMMcGee/mc

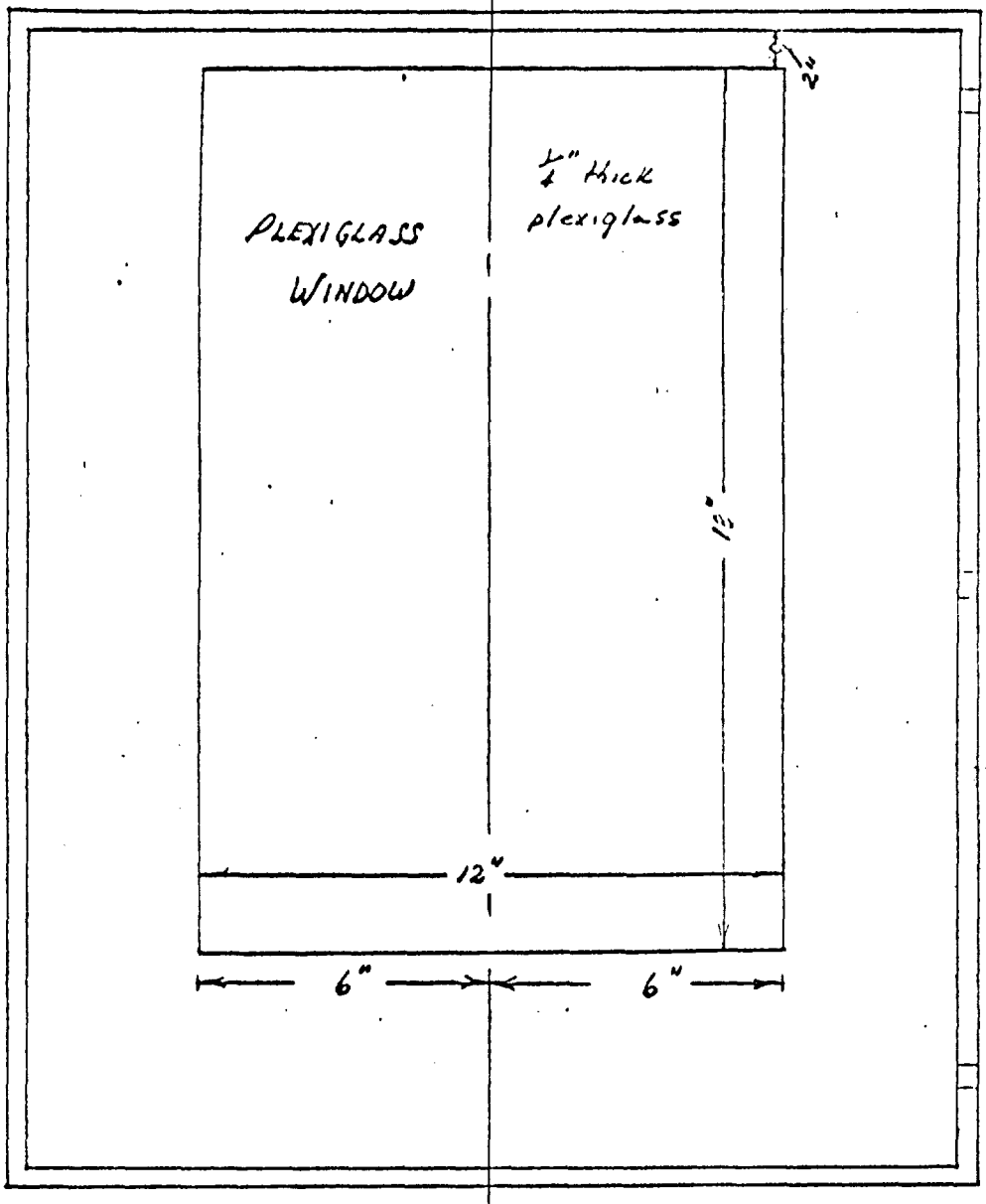
September 26, 1962

BY T.K. DATE [illegible] SUBJECT [illegible] SHEET NO. OF
CHKD. BY DATE Standard LACT Unit JOB NO.
Midland Division

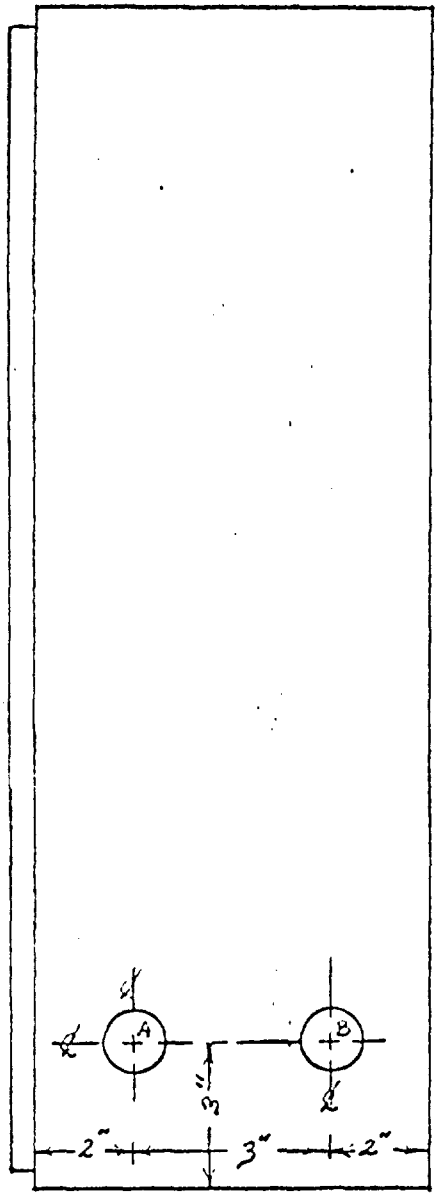


BY T.K. DATE 9/17/62 SUBJECT Standard Act SHEET NO. 2 OF 6
CHKD. BY [illegible] DATE 2/22/63 Enclosure - Midland Div. JOB NO.
Midland C.E. Dept.

FRONT VIEW



SIDE VIEW

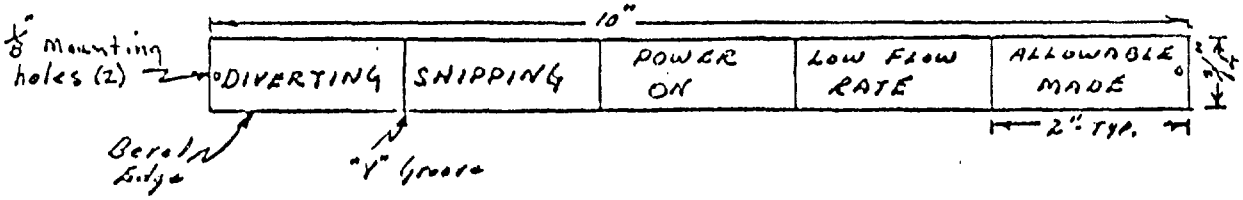


HOFFMAN NEMA TYPE 12 ENCLOSURE:
CAT. No. 242008 WITH WINDOW ADDED.

C/L

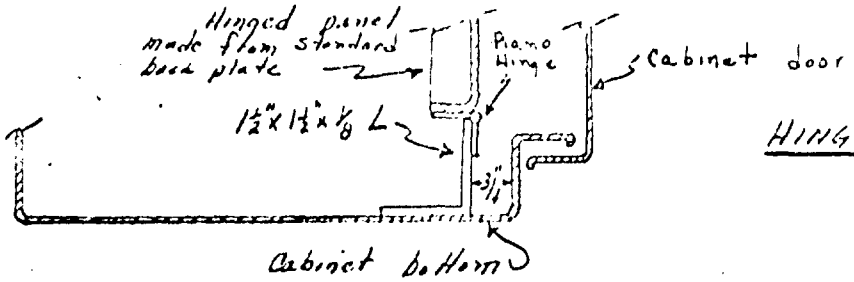
A - SQ-D "HAND-OFF-AUTO" SELECTOR SWITCH TYPE TS-3A or equivalent

B - SQ-D "RESET" PUSH BUTTON TYPE TR-1A or equivalent

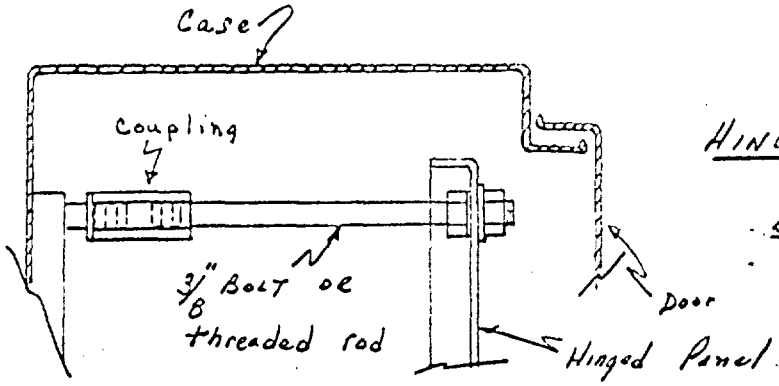


Laminated Phenolic Nameplate. Black background. ¼" White letters.

NAMEPLATE DETAIL



HINGED SECTION DETAIL

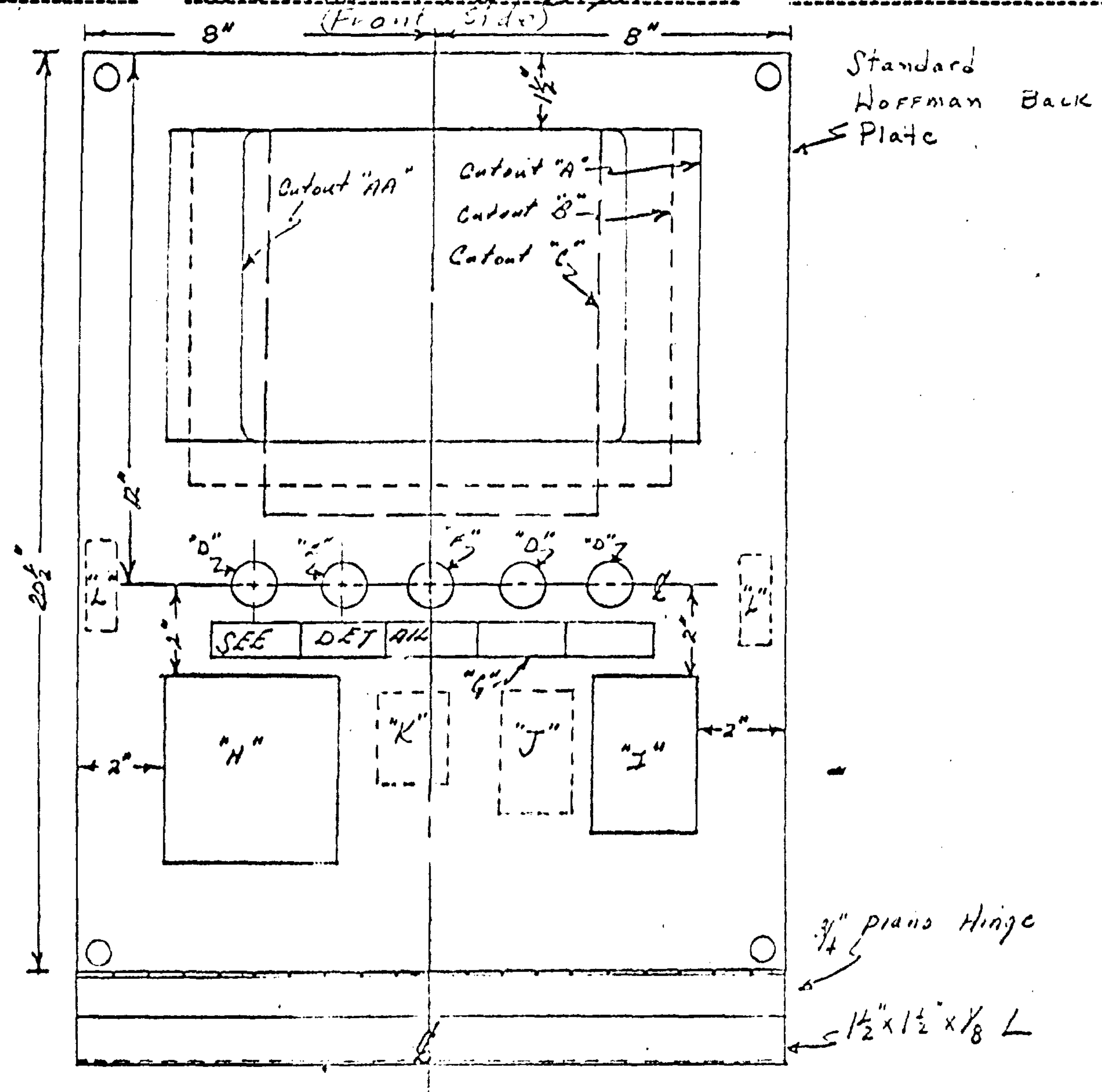


HINGED PANEL ANCHORING DETAIL

BY TK DATE 8/20/62 SUBJECT Standard LMCT Unit SHEET NO. 4 OF 6

CHKD. BY [illegible] DATE 8/21/62 Metallic Panel Layout JOB NO.

Midland C&E Dept



"AA" - Cutout for Fisher Type 707 Diverter Controller

"A" - Cutout for United Engineers BS&W Monitor Model TDM

"B" - Cutout for Instruments, Inc. BS&W Monitor Model 1728

"C" - Cutout for United Engineers BS&W Monitor Model TDM-10

"D" - Dialco half inch enclosed lamp holder Type 111 with G.E. Bulb type 47

"E" - Dialco half inch enclosed lamp holder Type 113 with G.E. Bulb type 47

"F" - Dialco half inch enclosed lamp holder Type 112 with G.E. Bulb type 47

"G" - Nameplate See Detail Page

"H" - Eagle Signal Co. Model HP50A601 Timer

"I" - Presin Model F185 Predetermining Electrical Counter

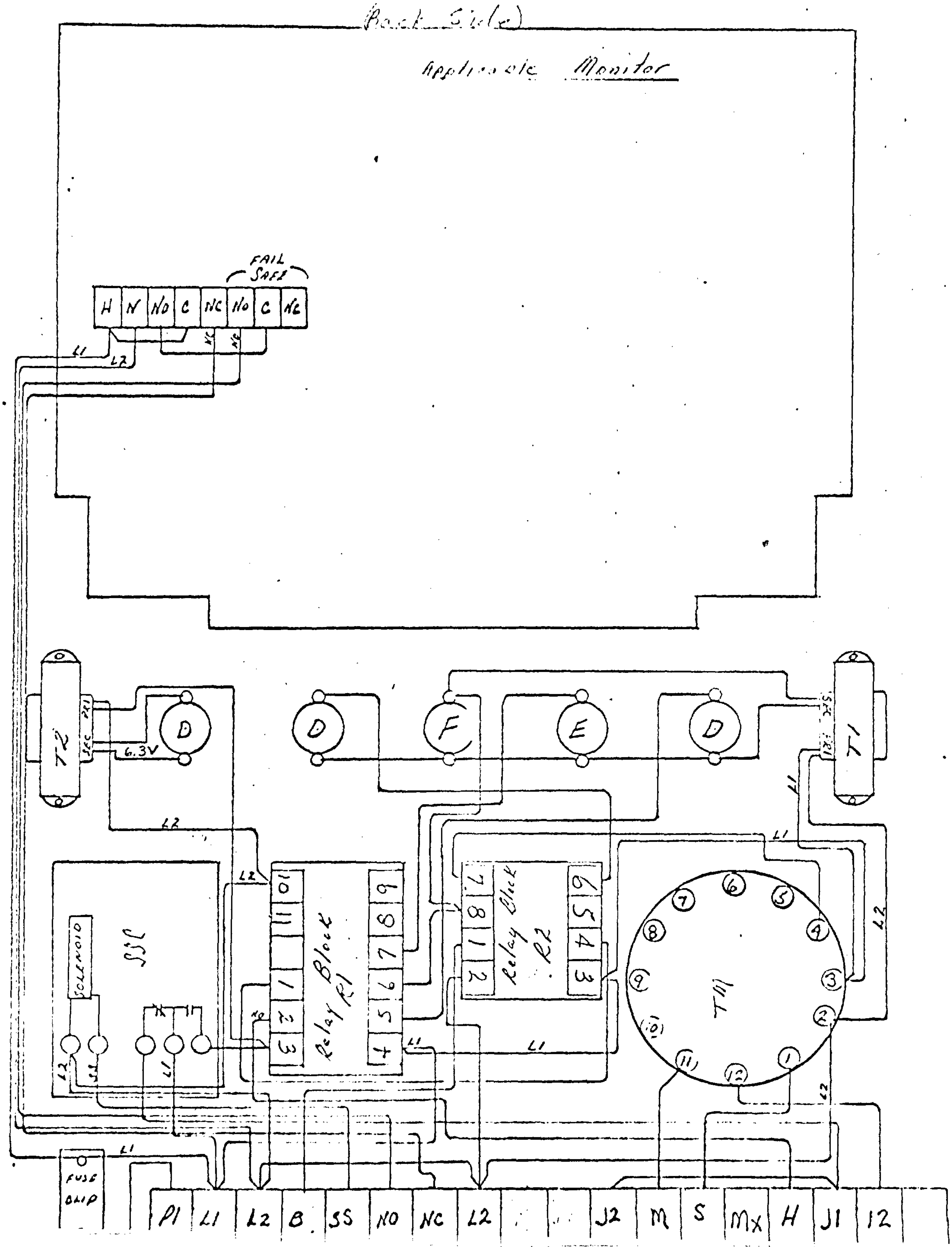
"J" - Potter & Bramfield enclosed relay Type KRP14A with 11 pin Socket

"K" - Potter & Bramfield enclosed relay Type KRP11D with 8 pin socket

"L" - Stancor Filament transformer Type P6134

BY T.L. DATE 8/24/— SUBJECT Monitor Position SHEET NO. 5 OF 5
CHKD. BY ______ DATE ______ Wiring Diagram - Standard JOB NO. ______
Lost Unit - Mounted ...

All wiring shall be ... (?) ... 300 volt, No. 16 or larger machine tool wire spec No. GE-SI-58175 or Anaconda 06102.



BY TK DATE [illegible] SUBJECT [illegible] SHEET NO. [illegible] OF [illegible]
CHKD. BY ______ DATE ______ Standard [illegible] Unit - Midland JOB NO. ______
[illegible] - Midland [illegible]