

GILES CHEMICAL		
COMPANY PROCEDURE		
Standard Operating Procedure	Page : 1 of 2	Revision : Date : 6/12/2007
Author: Patrick Owen	Title: (00)Liquid Loading System	

### Personnel responsible:

Material Handler and Lead Operator

### Safety:

Safety shoes and safety glasses are required when working in the plant. Ensure all hoses and couplings are working because the Liquid Loading system uses compressed air to clean lines.

### Summary:

The Giles Liquid Loading System uses a mass flow meter for controlling the percent  $MgSO_4$  and the total weight of a liquid load. Most operator effort is making sure the hoses are connected to the proper place and the right information for the load is entered into the Monitoring System.

### Procedure:

#### Data Entry

1. Go to the "Liquid Load" screen on the Monitoring System
2. Click on "Operator Initials", type in your initials, and press ENTER.
3. Click on "Load Number", type in the load number, and press ENTER.
4. Click on "Percent  $MgSO_4$ ", enter the percent using the popup, and click OK.
5. Click on "Load Weight (Pounds)", enter the load weight in pounds, and click OK.

#### Setup

6. Ensure the small press is ready for use, the plates are aligned, and the Liquid Loading System control panel has the green "Ready" light on.
7. Ensure a hose is connected to the Liquid Load pump from the Brine Storage Tank.
8. Ensure a hose is connected from the Liquid Load pump to the Small Press Line.
9. Ensure a hose is connected from Small Press Line to the left side of the 3-way press valve.
10. Ensure small press valve is turned with yellow handle to the right.
11. Ensure hoses to flow meter and load line are connected.
12. Ensure hose is connected from manual 3-way valve to the Mother Liquor Tank line (hose on right side, valve in middle).
13. Ensure 3-way valve is lined up to deliver the load waste to the Mother Liquor tank (valve handle in middle)
14. Ensure Load Hose is securely in the truck hatch and that the air valve is off, if equipped.

#### Starting the Brine

15. Open the valve on the Brine Storage Tank, to feed brine to the Liquid Load Pump.
16. Start the Liquid Load Pump.
17. Ensure the Water Control Valve blocking valves are open.

#### Loading

18. When product is going through the system and bypassing to the Mother Liquor Tank, press the green "Start Load" button on the Liquid Loading System control panel.
19. The Bypass Valve should shift to the Load Line and the "Loading" light should come on.
20. Watch the system for leaks, and verify the information on the Monitoring System is correct – it can be changed while the load is in progress.
21. When the load is finished, an Alarm will sound and "Stop the Pump and Close the valve" light will come on.

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### Backwash

22. Stop the Liquid Load Pump, and close the Brine Storage Tank Valve.
23. Presses “Start Wash” button on the Liquid Loading System control panel.
24. Press will automatically backwash until density drops, then it will blow out line to ML tank.
25. Wait until the “Ready” light comes on before getting ready for the next load.

### Emergency Stop

1. If for any reason, you need to stop the load, press the red “Manual Stop” button on the liquid loading control panel.
2. Continue the backwash sequence starting at step 22.

### Using Mud to Make a Liquid Load

1. When setting up, instead of connecting a hose from the Brine Tank to the Liquid Load Pump, connect a hose from a Mud Tank to the Liquid Load Pump.
2. At the press area, connect a hose from the left side of the manual 3-way valve to the Brine Feed Tank line.
3. Start mud through the press and into the Mother Liquor tank as normal.
4. When ready for the load, press the “Start” button on the Liquid Load Control Panel.
5. AFTER the blowout valve to the Mother Liquor tank closes, switch the manual 3-way valve to the side, sending brine to the Brine Feed Tank after the load is finished.
6. This setup will make brine after the load is finished – just don’t start the backwash and the system will continue making brine and sending it to the Brine Feed Tank.
7. When you are finished making brine, close the Mud Tank Valve and disconnect the hose from the Mud Pump.
8. Then connect the hose to the Brine Storage Tank line.
9. Stop the Liquid Load Pump.
10. At the Liquid Load Control Panel, press the black button to start the backwash.
11. Backwash will take longer because of mud cake.
12. AFTER backwash is finished and the green “Ready” light is on, switch the manual 3-way valve back to the center position, going to the Mother Liquor Tank.

### Making Only Brine – no Liquid Load

1. Follow directions for “Using Mud to Make a Liquid Load”, but enter a load weight of 5 pounds, so no load is made.

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## TRAINING DOCUMENTATION

	EMPLOYEE	TITLE	SIGNATURE	DATE
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