



## Sand & Gravel, Inc.

### New Task Training Form Record 30 CFR Part 46

Equipment #: CD-1  
Task: The operation of a 5 yard Rohr Dredge  
Estimated Time: 5 to 10 days

#### **General Safety & Precautions:**

- \_\_\_ Life vests must be on at all times while you are on the dredge or near the water.
- \_\_\_ Explain to the trainee what personal protection equipment must be worn at all times while on the dredge. Hardhats, earplugs, steel toed boots, safety glasses, and no rings.
- \_\_\_ Explain to the trainee that on a dredge there are a lot of things that become a tripping hazard. Point out where these tripping hazards are and instruct him/her on being cautious while walking around the dredge.
- \_\_\_ Underneath the pilot house is the electrical house. Explain how to shut down and lockout/tag out a particular piece of equipment on the dredge that needs to be worked on. **\*\*This can not be stressed enough\*\***
- \_\_\_ Explain to the trainee the area's where they will be required to wear fall protection do to maintance work that will have to be preformed.
- \_\_\_ Show the crush and pinch points on the dredge; the boom, rake, clam bucket, and winch cables.
- \_\_\_ Show and explain the where the Com-Ed power comes in on the dredge and where the transform is on land. There are a series of breakers that can be turned off if need be to kill all power to the dredge. Show how the operation of these breakers. Explain and show how to inspect the ground cable are to be inspect for damage.

#### **Floating Conveyors:**

- \_\_\_ All floats must be inspected must be inspected and pumped empty monthly.
- \_\_\_ Head and tail pulleys must be greased.
- \_\_\_ All electrical cords must be inspected for damage, wear spots, or pinch points weekly.
- \_\_\_ Safety chains must be connected and in place to prevent accidental falls.
- \_\_\_ Explain about the safety trip cable for stopping the conveyor that runs on either side of the conveyors.
- \_\_\_ Show the trainee where the electrical switches are on the conveyors as well.

#### **Dredge Electrical:**

- \_\_\_ Show how to inspect the wires and trays that lead to and from the electrical panels.
- \_\_\_ Explain the lockout/tag out procedures again.\*\*\*
- \_\_\_ Show the location of all the breakers as well as explain what the function of each one is.

- \_\_\_ Inside the electrical house is where all the resistors, main breakers, starters, relays, and plc controls are located.
  - Explain the function of resistors
  - Explain what the breakers do
  - Explain the function of the PLC
  - Show the location of starters and motion sensor panel
- \_\_\_ Explain the common electrical problems and trouble shooting procedures.

### **Jaw Crusher:**

- \_\_\_ Explain the safety concerns around this machine, such as high noise (which breaks the 95dbm while this machine is running), guarding which must be in place while in operation, and possible debris that can fly out of the top of the crusher while running.
- \_\_\_ Show where the safety chains for the door is, and explain how they are used.
- \_\_\_ Demonstrate how to adjust the jaw tensioner in order to adjust the crushing size.
- \_\_\_ Explain the procedures to check the condition of the jaw, which should be done weekly.

### **Boom & Hoist:**

- \_\_\_ Show the grease points.
- \_\_\_ Demonstrate the operation of the hoist.
- \_\_\_ Explain the brake function and how to adjust .
- \_\_\_ Explain how to inspect the cables for signs of wear.
- \_\_\_ Show where the fluid checks are and how to read them .
- \_\_\_ Discuss the pinch points, hazards, and lockout/tag out procedures.
- \_\_\_ Show and explain the function of the bucket position sensors on the hoist.
- \_\_\_ Explain the function of the proximity sensors on the cable reel, jib swing arms, and bucket control cable reel.
- \_\_\_ Discuss common problems and solutions related to the boom and hoist.

### **Main Dewatering Screen:**

- This screen handles most of the dewatering for the plant, and sizing of coarse and fines.
- \_\_\_ Explain how to inspect the screen clothes for wear or damage.
- \_\_\_ show how to replace screen cloths, by locking out/tagging out.
- \_\_\_ Show how to check the oil levels for both eccentric tubes.
- \_\_\_ Discuss safety related to the screens, including pinch points, lockout/ tag out, and the skirts around the springs.
- \_\_\_ Discuss proper adjustment and operation of the hopper clam gate.
- \_\_\_ Explain the use of impact skirts in the discharge chute.

### **Sand Pump / Secondary Dewatering Screen:**

- Depending on how much fine material is needed on shore the dredge may be using only the sand pump, which discharges most of the sand back into the water. If both

the sand pump and screen are running in tandem then most of the fines are going to shore.

- \_\_\_ Show where the grease points are on the screen and pump.
- \_\_\_ Discuss the common problems and how to trouble shoot them.
- \_\_\_ Discuss the maintance items
  - Screen cloth replacement
  - Washing out the silt tray
  - Inspecting the shaker motors

### **Hydraulic Package:**

- The hydraulic Pac powers the boom travel and the material gate on the main dewatering screen.
  - It is important to watch for leaks and replace absorbent pads to prevent contamination of the water.
- \_\_\_ Show how to check the oil levels.
  - \_\_\_ Explain how to check hoses for signs of wear or damage.
  - \_\_\_ Discuss common maintance issues and trouble shooting.

### **Anchor Winches:**

- There are four anchor winches, which are located in the four corners of the dredge. These winches keep the dredge in place or allow it to move to another location.
- \_\_\_ Explain the function and operation of each winch.
  - \_\_\_ Explain the need to visually examine each winch before and after every move.
  - \_\_\_ Show how to grease each winch.
  - \_\_\_ Discuss winch safety; winches and high tension cables can be very dangerous. Only properly trained personal can operate these safely.

### **Fresh Water Pump:**

- The fresh water pump supplies water to the hoses that keep the deck clean of built up material. It also allows material to flow and wash the silt pans.
- \_\_\_ Show how to prime and start the pump.
  - \_\_\_ Discuss maintance items.
  - \_\_\_ Explain hose placement.

### **Large Material Rake:**

- On top of the main screen is a rake that moves oversized material to the jaw crusher, or to the chute that drops the very oversized material into a rock barge for removal.
- \_\_\_ Explain the operation and procedures to move the rake.
  - \_\_\_ Explain how to check the cable tension and grease points on the shivs.
  - \_\_\_ Explain and demonstrate how to reset the rake if it jumps its track.
  - \_\_\_ Show how to pick boulders off the grizzly to move to the rock barge.

— Discuss safety procedures and issues.

### **Operators Cab:**

- The operators cab is where the majority of the shift is spent. From here a person can control most of the functions of the separate systems that make up the dredge. Proper training and operations of all the controls is essential to operate this dredge safely and efficiently.

#### — Manual Controls

- All manual control functions inside the cab must be explained
- Boom and hoist controls
- Hopper gate controls
- Main and secondary circuit breakers
- Stacker conveyor movement
- Anchor winch controls

#### — Automatic Controls

- Automatic controls will allow for the primary functions of the dredge to run continuously without input from the operator. This mode is run from the PLC control panel.

- 1.) Start-up screen
- 2.) Operators Screen
- 3.) Time Selection Screen
- 4.) Conveyor Bypass Screen

#### 1.) Start-up Screen

- This page has controls to start most of the primary functions.
- Explain the start-up procedures
- Trainee should be familiar with how to use all the controls on this screen.
- Explain the emergency shut-down procedures

#### 2.) Operators Screen

- The operators screen displays information about the running status of the dredge, including depth, cycle count, warnings, run time, and time of day.
- Explain how to read this information.
- Show how to reset the counters.

#### 3.) Time Selection Screen

- The time selection screen is used to control how long each individual function operates during a cycle.
- Explain what every time is and how it affects the overall process.
- Discuss the different common settings and how to change them for various materials.

#### 4.) Conveyor Bypass Screen

- The conveyor bypass screen is used to clear faults generated by the conveyors. You are able to jog conveyors, and display their operational information.

- Explain how to clear the faults
- Show how to change conveyor settings

**Operation of the machine**

\_\_\_ The designated company trainer will observe the trainee as he/she operates the clam dredge and the overall operation of each individual function of the dredge machinery.

\_\_\_ If the trainee fails to show proper operating procedures, the trainer will go back over the information for the failed procedure. Once covered material is covered the trainer will re-observe the trainee perform the task again until the trainer is satisfied that the trainee has the proper skills to perform tasks with this piece of equipment.

\_\_\_ The remainder of the task training will be accomplished through the employee (trainee) practicing the operational steps while being closely observed by a competent trainer while performing the task. When the competent person states that the newly-assigned employee has demonstrated proficiency in performing the task safely, the task training will be considered completed. Once completed; the signatures of both employees are required below.

**Completed Date:** \_\_\_\_\_ **Trainee (Print):** \_\_\_\_\_

**Completed Date:** \_\_\_\_\_ **Competent Person (Print):** \_\_\_\_\_

**Company Name:** Thelen Sand & Gravel, Inc. **Duration of Training:** \_\_\_\_\_

<b>Mine ID#:</b>	<b>11-01228</b>	<b>47-03434</b>	<b>11-03221</b>
<b>&amp;</b>	<b>&amp;</b>	<b>&amp;</b>	<b>&amp;</b>
<b>Location:</b>	<b>Antioch Pit</b>	<b>Lange Road Pit</b>	<b>Petersen Pit</b>

**Trainee (Signature):** \_\_\_\_\_ **Date:** \_\_\_\_\_

(I certify that the above training has been completed)

**Competent Person (Signature):** \_\_\_\_\_ **Date:** \_\_\_\_\_  
 (Signature of person responsible for health and safety training)

**\*\*False certification is punishable under section 110(a) and (f) of the Federal Mine Safety and Health Act\*\***