We would like to provide the following information about the used dredge.

Model:	MOHR & FEDDERHAFF 10YARD GANTRY STYLE (NEW IN 1979, NEW ELECTRONICS IN 1995, NEW BUCKET IN 1995, FLOATS REBUILT IN 1995, REFURBISHED IN 2008)
Grab capacity:	10 cu. yd.
Dredging depth:	150 ft.
Hoist drive system:	AC Variable Frequency Regenerative

CONVEYORS:

(3) ROHR floating conveyors (100' + 180' + 100'), including, pontoons, stanchion and rotary bearing, idlers, walkway, belt and all necessary cable tray, wiring, E-stops and controls. The conveyors are connected with rotary bearings for more flexibility and minimal material spillage.

(1) ROHR land stanchion and rotary bearing

Gravel Dewatering Screen:

Deister 6x20 double deck with 30 Hp motor. SN 659524

Fine Sand Recovery System:

Including:

- 1 NEW 6 x 12' Deister Heavy Duty Horizontal Dewatering Screen with (2) 10 HP TEFC motors. SN 1050682.
- 1 NEW Galagher 8" series 5000 vertical slurry pump
- 1 NEW 26" Weir Cavex rubber lined hydro-cyclone for increased fines recovery Model 650 CVX
- Electric controls are included in automation package.
- Associated steel tower structure, piping, sump tank, fines catch bin and hardware.

Silt pump:

This is a New Galligher 4" 5000 series, rubber lined slurry pump with twin 25 HP motors and will improve production by pumping the silt away from the current digging area. The sump box is constructed with 3/16" plate. **The pump discharge line is provided by the customer.**

Extended gantry for bucket service and removal:

Crusher

The dredge is equipped with a Telsmith 3042 jaw crusher (SN222M7890) and necessary transfer conveyors. The crusher is powered by a 150HP TEFC electric motor.

TECHNICAL DATA

10 YARD

Weight of the complete unit		345 tons (approx)
Pontoon Footprint		98'x43'
Digging Well Opening		31'x24'
Trolley Beam Length		86'-6"
Bucket	volume	10 cubic yards
	weight	11 tons
	average bucket opening	12 seconds
	average bucket closing	18 seconds
	Serial #	MRS 1796
Trolley	working load	25 tons
	track gauge	15.5 feet wide and approximately 80' long
	excavating depth	150 feet
	hoisting	212 feet/minute
	trolley traveling	120 feet/minute
Anchoring winches 4x		
tractive force		5 tons
holding power		12 tons
spooling		25 feet/minute
cable diameter		3/4 inch
take-up length		524 feet of 3/4 inch cable
Gravel Dewatering Screen:		Deister 6 x 20 feet double deck SN659524
Sand Dewatering Screen:		Deister 6 x 12 feet SN 1050682

Motor outputs

hoisting and lowering	2 x 250 HP
trolley travelling	1x 25 HP
hoist brake	1 x 1/2 HP
bucket opening and closing	1 x 75 HP
hopper gate hydraulic	1 x 30 HP (hydraulic)
dewatering screen (main)	1 x 30 HP
dewatering screen (sand)	2 x 10 HP
fine sand pump	1 x 100 HP
anchoring winches	4 x 7.5 HP
TS 30x42 jaw crusher	1x 150 HP
Floating conveyor	1x 20 HP
Floating conveyor	1x 30 HP
Floating conveyor	1x 20 HP
Rake grizzly	1x 15 HP
Conveyor under jaw	1x 20 HP
Conveyor for Diester discharge	1x 15 HP
Silt Pump	2x 25 HP

Hoist Drive: Siemens #S150A-40800-10985-Z+K50+K50+M11+M90
Variable Frequency Drive (NEW 11-08)

SCOPE:

A. PONTOONS

B. GANTRY

C. STAIRS, LANDINGS, CATWALKS AND HANDRAILS

D. HOIST

E. TROLLEY FRAME AND HOUSING

F. TROLLEY TRAVEL DESIGN

G. HYDRAULIC BUCKET AND MOTOR

H. POWER SUPPLY TO BUCKET

I. HOPPER AND AUTOMATED FEED GATES

J. DEWATERING SCREEN

K. TWO WAY RAKE GRIZZLY SYSTEM

L. OPERATOR'S CABIN AND CONTROL ROOM

M. TRANSFORMER HOUSING OR WORKSHOP AREA

N. ELECTRICAL CONTROLS AND EQUIPMENT

O. DREDGE AUTOMATION PROGRAM

P. ANCHORING WINCHES

Q. FLOATING CONVEYORS

R. CRUSHER

S. SUBSTATION, TRANSFORMERS, GROUND FAULT INTERRUPTER, CABLE TRAY & POWER CORD

T. SPARE PARTS - NEW HOIST TROLLEY

U. BOTTOM DUMP CLAY BOAT

DREDGE GENERAL DESCRIPTION

A. PONTOONS

The pontoon configuration is 98' long, 43' feet wide. This large footprint provides stability with minimal rocking or tipping, providing better screen stability and increased output.

Each individual pontoon chamber is approximately 20' long. The baffles are solid wall stiffeners, providing excellent overall stiffness of the pontoon.

Each chamber is accessible by a hatchway. Since the pontoons are baffled every 20', in the event of severe water leakage, overall stability is still maintained.

B. GANTRY

The gantry is constructed with two deep box girders and end ties.

End bumpers secure the trolley house at each end of the crane rail, in the event of over travel.

C. STAIRS, LANDINGS, CATWALKS, HANDRAILS AND LADDERS

The catwalks and landings are positioned for easy inspections and maintenance of the screens, hopper gates, hydraulics, and other moving parts.

Wide stairway to operators cab provides safe and easy access. Stairs and landings are constructed of open, skid resistant grating.

D. HOIST

The original hoist is designed and manufactured by Mohr & Fedderhaff. The new hoist is designed and manufactured by ACE World Co. to duplicate the characteristics of the original hoist.

One drum brake unit is used to hold each cable drum in position.

Safety equipment includes an emergency upper limit switch, and a rotary limit switch for limiting maximum (upper and lower) bucket positions.

E. TROLLEY FRAME AND HOUSING

Trolley Frame is a wide flange beam and channel construction, designed to withstand large shock loading.

Motor and hoist mounts are attached to fixed plates to assure exact location.

The entire trolley house is accessible by open grate catwalks. It is totally enclosed by sheet metal sides and roof. It has doors, which provide easy viewing and access.

F. TROLLEY TRAVEL DESIGN

One 25 HP electric motor connects through a gearbox and brake system to the crane-style trolley wheels via a drive shaft. This provides two wheels with power and gives the entire trolley incredibly smooth travel and good acceleration.

G. HYDRAULIC BUCKET AND MOTOR

Spade-nosed bucket

Opening Pressure	3000-5000 psi (estimate)
Closing Pressure	3000-5000 psi (estimate)
Motor Power	75 HP
Volume	10 cubic yards
Weight	11 tons
Opening Time	12 seconds
Closing Time	18 seconds

H. POWER SUPPLY TO BUCKET

The dredge uses a hanging counter weight system. This allows smooth and even tension to the electric cable.

I. HOPPER AND AUTOMATED FEED GATES

Hopper is constructed from plate with gussets and braces and has a loading capacity of approximately three buckets.

Single feed gate distributes material onto the primary screen. The gate can be controlled either automatically with the PLC programming, or over-ridden and controlled manually with a joystick. The gate is visible from the operator's cab.

J. DEWATERING SCREEN

The dredge utilizes a 6'X20' Deister double deck dewatering screen. The wider screen provides for better material processing. Deister screens are made in Fort Wayne, Indiana. This provides for support and replacement parts that are domestically available.

K. TWO WAY RAKE GRIZZLY SYSTEM

The dredge uses a two way rake grizzly system to allow the fine material to be fed into the hopper and screening system. The oversized material is raked on direction into the crusher or the other direction to be discarded via the bottom-dump clay boat. The two way rake system is powered by a winching and pulley system. **This system was installed new in 2008.**

L. OPERATOR'S CABIN AND CONTROL ROOM

The operator's cabin is spacious, with large windows to give the operator excellent visibility. Control panels are ergonomically located for easy operation of the entire dredge system.

M. TRANSFORMER HOUSING OR WORKSHOP AREA

A 20' shipping container mounted on the pontoon deck provides storage for the 4160v / 480v transformer.

N. ELECTRICAL CONTROLS AND EQUIPMENT

The electrical controls and equipment are provided by Allen Bradley and includes a Programmable Logic Control (PLC) that controls most of the operations of the dredge.

Some of the controls in operator's cabin include:

- Joystick for bucket and trolley manual control
- Switch for automatic bucket and trolley control
- Joystick for manual operation or override of feed gate
- Selector switch for manual or automatic operation of feed gate
- Control for operation of rake grizzly

- Emergency stop buttons
- Four joystick controls for activation of deck winches
- Lighting panel for cab and dredge

O. DREDGE AUTOMATION PROGRAM

Using the powerful Allen Bradley PLC controls, the dredge can make minor adjustments automatically, such as locating the bottom, monitoring belt speeds, and making the corresponding adjustments. The PLC can also automatically eliminate most potentially damaging or dangerous situations that could occur from the machine running out of sequence. For example, if the bucket is over the hopper, the grizzly will not travel. And if one floating conveyor shuts down, all operations in the cycle before that conveyor will also be shut down.

P. ANCHORING WINCHES

Four very powerful winches are provided for anchoring and moving the dredge

Q. FLOATING CONVEYORS

The conveyor system includes (2) 30"X100' floating conveyors and (1) 30"X180' floating conveyor for a total conveyor length of 380'. The conveyors are connected with rotary bearings for more flexibility and less material spillage.

R. CRUSHER

The dredge is equipped with a Telsmith 3042 jaw crusher. The crusher is powered by a 150 HP TEFC electric motor.

S. SUBSTATION AND HIGH VOLTAGE TRAIL CABLE

The dredge is powered by commercial line power through two new transformers. The first transformer steps down the line voltage from 34,500v to an intermediate voltage of 4160 v. This equipment is followed by a disconnect switch and ground fault monitoring system. All of the above equipment is manufactured by Square D Co. There is approximately 2,000' of mining grade, 4160v trail cable housed in Thomas & Betts aluminum cable tray. Finally, a new Square D dredge- mounted transformer steps the 4160v to 480v .

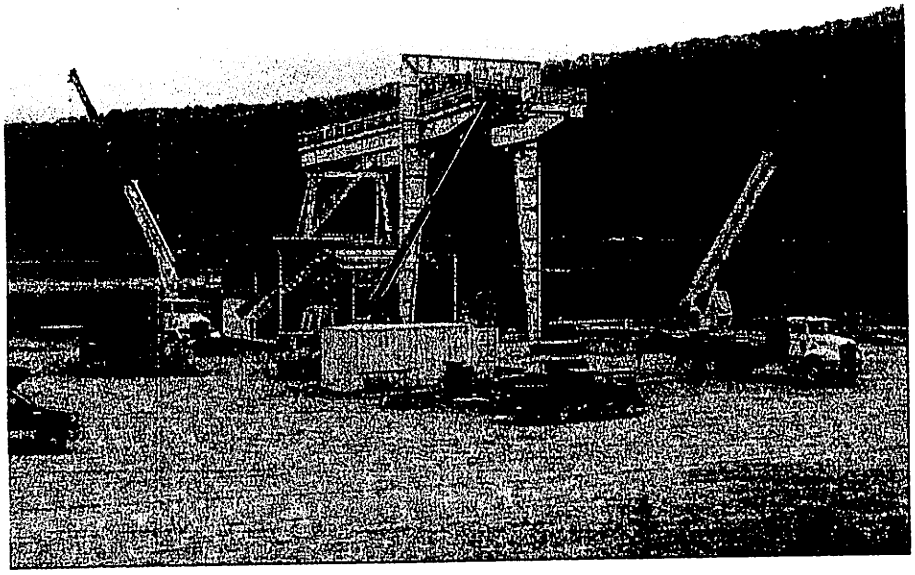
T. SPARE PARTS – NEW HOIST TROLLEY SLED

There is a new hoist trolley sled included. This is one of the most critical components of the dredge with the longest lead time (more than 26 weeks for major components.) Having this spare hoist trolley is very important to maintaining production uptime. It is the operator's intent to alternate the use of the original hoist trolley sled with the new one in order to insure relatively uninterrupted production. The new hoist trolley sled consists of the following components:

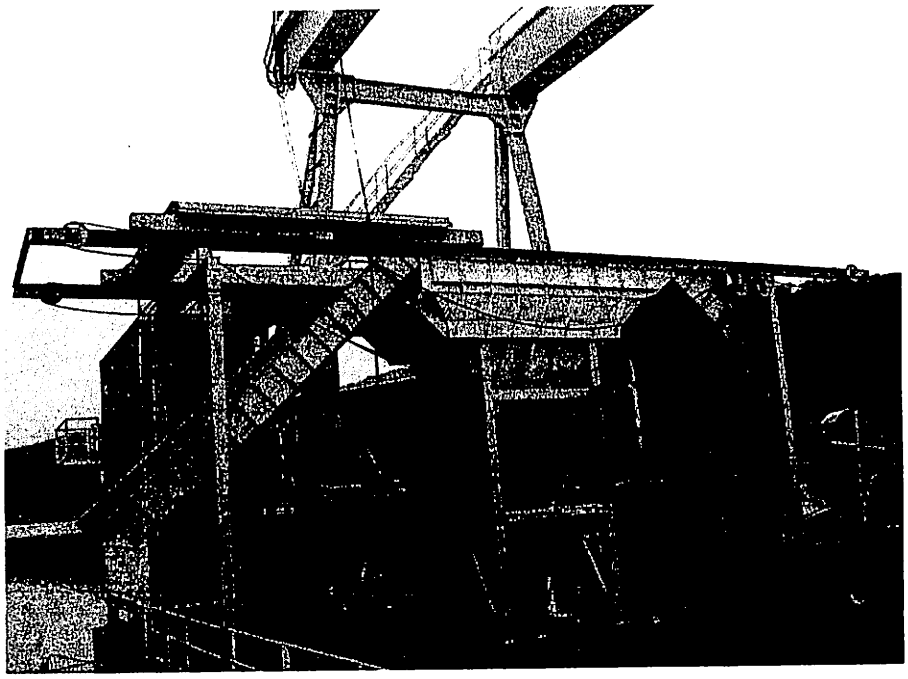
1. Fabricated Steel Frame	Supreme Mfg.
2. Forged Trolley Wheels	Crane Tech. Co.
3. Two Hoist Drums	ACE World Co.
4. Two 250 HP Motors + 25 HP travel	Han Tek Co.
5. Brake Actuator Systems	Han Tek Co.
6. Spare Actuators	Han Tek Co.
7. Two Hoist Gearboxes	ACE World Co.
8. One Trolley Gearbox	ACE World Co.
9.Variable Frequency Drive	Siemens

U. SELF- PROPELLED BOTTOM-DUMP CLAY BOAT

This boat was manufactured by ROHR Corporation in 1995. It is 52 feet long, 12 feet wide and 5.25 feet deep. The hopper section is 23 feet long and comes with an 18 inch coaming. The operator's house with controls is also included.

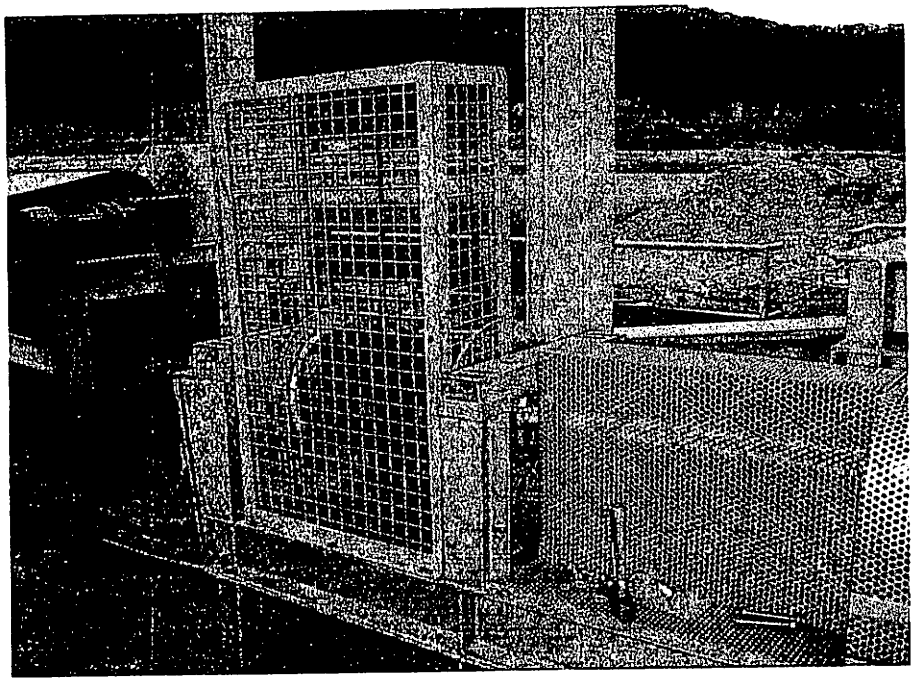


DREDGE OVERVIEW



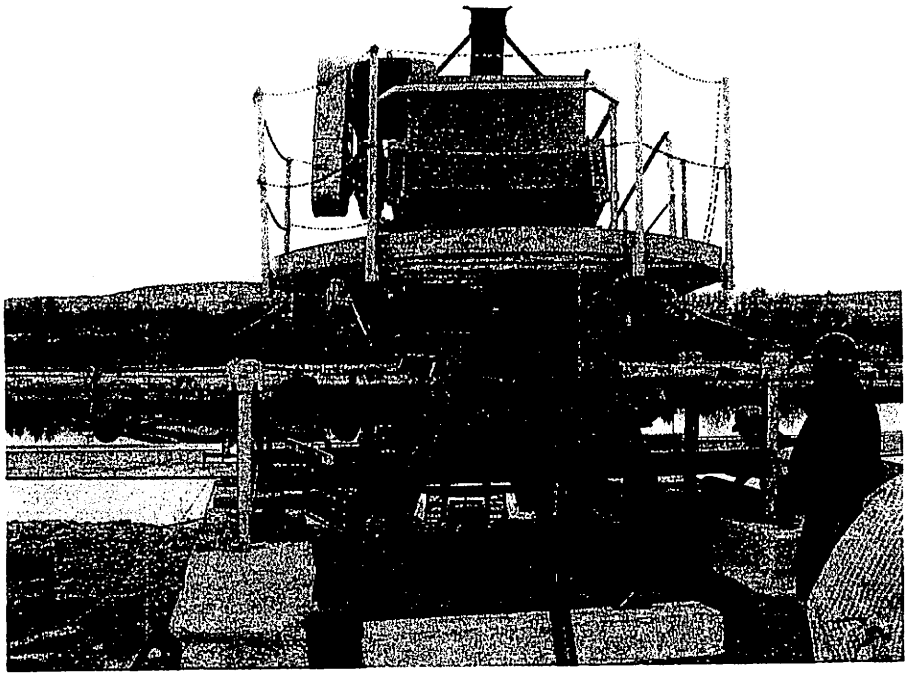
TWO WAY RAKE GRIZZLY, HOPPER, SCREEN & CRUSHER

FINE SAND RECOVERY SYSTEM

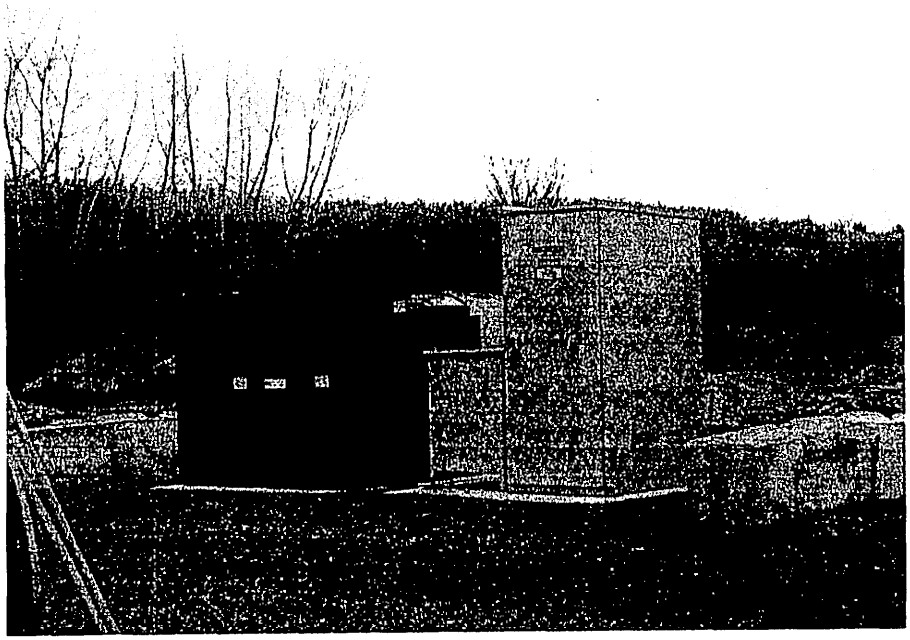


GRIZZLY WINCHES AND OFF LOAD CONVEYORS

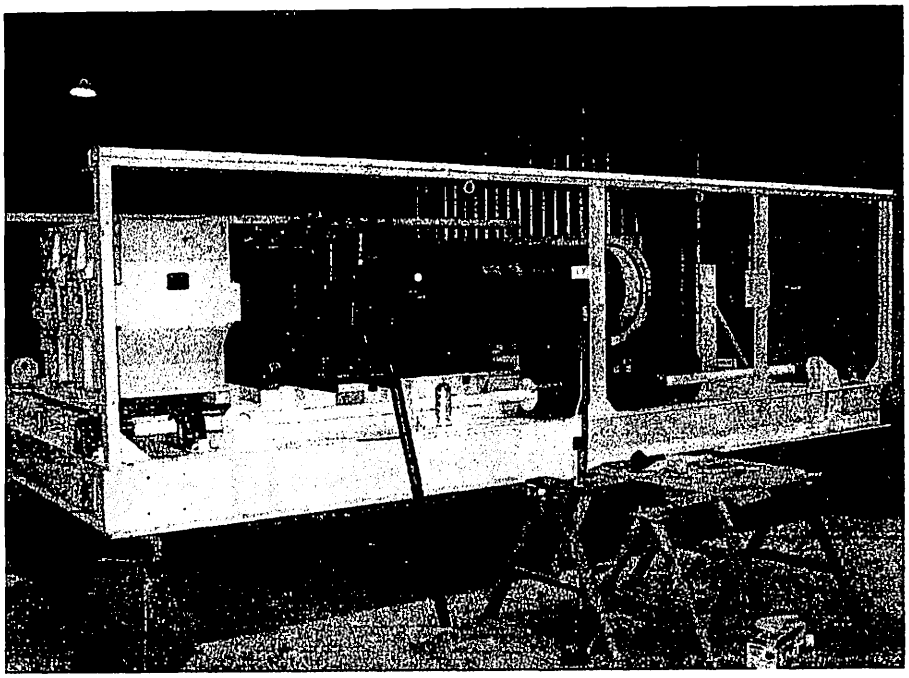
FLOATING CONVEYOR



LAND STANCHION



ELECTRICAL SUBSTATION



NEW SPARE HOIST TROLLEY SLED

ROCK BARGE (SIDE)