

Willard Says.....

THE DREDGE OPERATOR

Few other jobs in construction place as much responsibility for control of production costs on one employee, the dredge operator, as sand and gravel dredging. The dredge operator's job is somewhat unique. He is usually alone most of his working day. He is in command of a large and powerful machine, but there is little visible indication of what is being accomplished. Normally, very little physical activity is required and the scenery does not change much. The noise level is constant and provides little indication of the amount of work being done. These job ingredients can easily be used to fill a prescription of boredom. Yet, the operator must remain alert if high, efficient production is to be obtained. Constant slight adjustments must be made to maintain a high vacuum and immediate action must be taken when cave-ins threaten to interrupt production.

Where do you get good dredge operators? That is not an easy question to answer, however, before we put a butt in the seat let us be sure that the operator's environment is suitable.

Equipment

If the operator is to be productive the dredging system must also be capable of doing this job. The system components should be matched in capacity and be in good repair. The suction inlet must be fitted with an effective positioning system and a digging attachment that can support continuous production.

Comfort

An uncomfortable operator cannot and will not devote full attention to his job. Effective heating, air conditioning and ventilation are a must. A high noise level is harmful and illegal. Isolate the operator from the noise sources or provide soundproofing if necessary.

Reduce vibration to a minimum. One manager wanted vibration isolators for his dredge cab because the shaking was so bad the operator was threatening to quit. The vibration was breaking welds but the manager was determined to get "all the life" out of his out-of-balance pump impeller. We have achieved a remarkable reduction in vibration on our new dredges, which now feature isolator-mounted diesel engines.

A comfortable chair is a necessity. It needs to be a compromise between a cushy recliner that would encourage napping and a hard straight chair.

The operator's station should be clean. One operator I know of carpets the floor of his cab and does not tolerate tracking-in by anyone for any reason. That means that the whole dredge is clean and free of grease and dirt. Leaks, seeps, drips and spills are cleaned up promptly. Not a bad goal for any workplace.

Instruments & Controls

The proper instruments and controls enable all the mechanical components of a well-designed and equipped dredge to be used to maximum advantage. A full panel of engine or electric drive instruments enables the operator to monitor and utilize the available power and speed. A velocity meter to show the speed at which slurry is flowing through the system—*the key* to successful dredge operation. A vacuum gauge to indicate the rate of solids intake. A density meter to indicate the rate of solids production. A CONVAC bypass valve system to minimize the effects of cave-ins and assure continuous production. A tachometer to readout pump speed.

The controls should be easy, very easy to operate and convenient to hand. Electronic joysticks are the tools of choice. Levers connected to push-pull cables connected to a hydraulic control valve are no-nos. Manual clutch and brake levers and foot pedals should be grounds for bringing charges of cruel and unusual punishment.

Convenience

The operator must be able to easily maneuver the suction inlet and adjust pump speed in response to gauge readings and other visual signals. Ideally his cab should be elevated so that he has 360-degree visibility. The gauges and instruments should be positioned so that a sweep of his eye will enable him to readily note any change from normal. All operating controls and levers must be within convenient reach if he is to respond easily and promptly when required.

Training & Education

The operator must understand how his machine works. If he has some idea of what goes on inside the pump and pipeline it is very likely that his interest will be greater and the satisfaction that he gets from a job well done will increase. Subscribe to dredging magazines for him. Send him to short courses on dredging. Take him to visit other dredge operations. Get him a full set of *Willard Says*.

Where is the Dredge Operator Store?

“Where do I get a good dredge operator?” is a difficult question to answer. Perhaps a list of some positive attributes of a good operator would be of help in sorting through the crowd of applicants seeking a job running your dredge.

- Must come to work when scheduled. Every day without fail. Things are all screwed up if he does not show.
- Must be trustworthy. He will be working alone and responsible for his own safety as well as that of others along with maintenance and production. If you cannot trust him you don't want him.
- Must be capable of working alone. Happy operators like the idea of being independent. Operators do not get to spend time yakking about fishing or hunting or parties or girls or NASCAR. They need to do something else if they cannot stand a lonely job.

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- Must have some mechanical aptitude. Responsibility for a powerful machine with a bunch of mechanical stuff, all of which will fail if allowed to fall into disrepair, requires an operator with a sensitivity as to what is required to keep it running.
- Must feel a challenge to excel. The best operators go to work each day ready to try for a new production record. They make a game of it. If there is some limitation that prevents full production, they strive to keep production right at the edge of the envelope.
- Must want to learn more about his job. To the uninitiated there is little to indicate whether a dredge system is operating at full capacity or some sickly fraction thereof. The operator who understands the fundamentals of dredge system function will be a more productive employee.
- Must be physically capable of doing the job. I have seen operators so obese that they could not reach all the points that required lubrication. I have seen operators so decrepit that they cannot get into the workboat without aid.

Employers look for most of these attributes in any job applicant, however, successful dredge operation requires a person who is a cut above the ordinary.

When I relate my concerns about the performance of an operator to management it is not uncommon to hear that the guy is the super's brother in-law or a down-on-his-luck nephew or that the union is protecting the misfit's job. My recommendation is to promote the guy, give him a raise and put him in charge of counting trucks coming through the gate. Whatever it takes, get him off the dredge. He is killing profits! Put someone out there that will produce!

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