V TECH`S DAM CLEANING SOLUTIONS.

CLEANING SOLUTIONS FOR MINING




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We at V TECH have a unique cleaning system to cleaning dams and with this system we are able to separate the water and mud. With this solution you are able to tip the de water mud in to ore pass systems and tip the mud on conveyor belt systems.

The Hydro cyclone is working with our submersible pump systems.

At the end of the day this specialized cleaning system add value to our clients where we make a positive difference on Recovery (mud up the belt grade) and secondly clean dams gives the client water capacity and less where and tear on equipment.

This system can be install as a permanent installation that does continues cleaning.




METHOD STATEMENT.

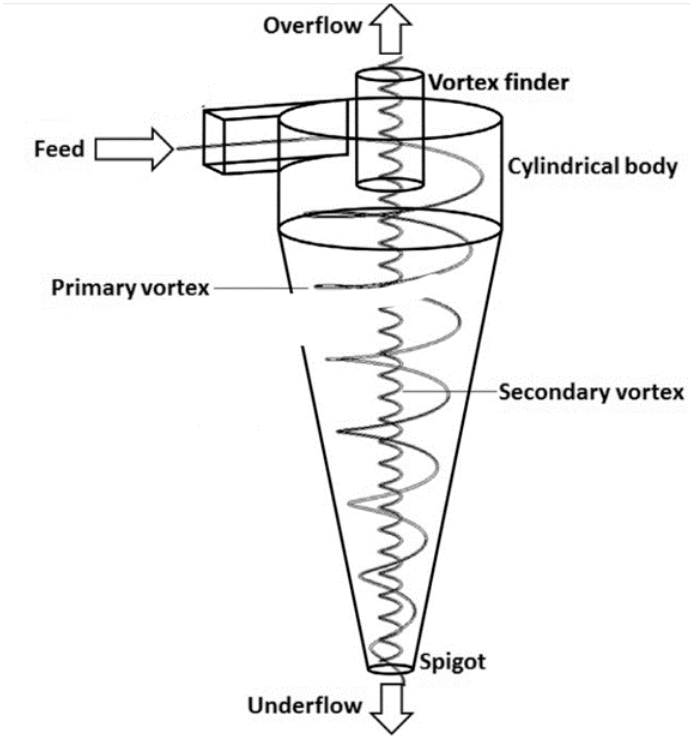
The scope of work is to clean dams that are full of mud and the cleaning process need to be safe, fast, effective and lastly to be efficient.

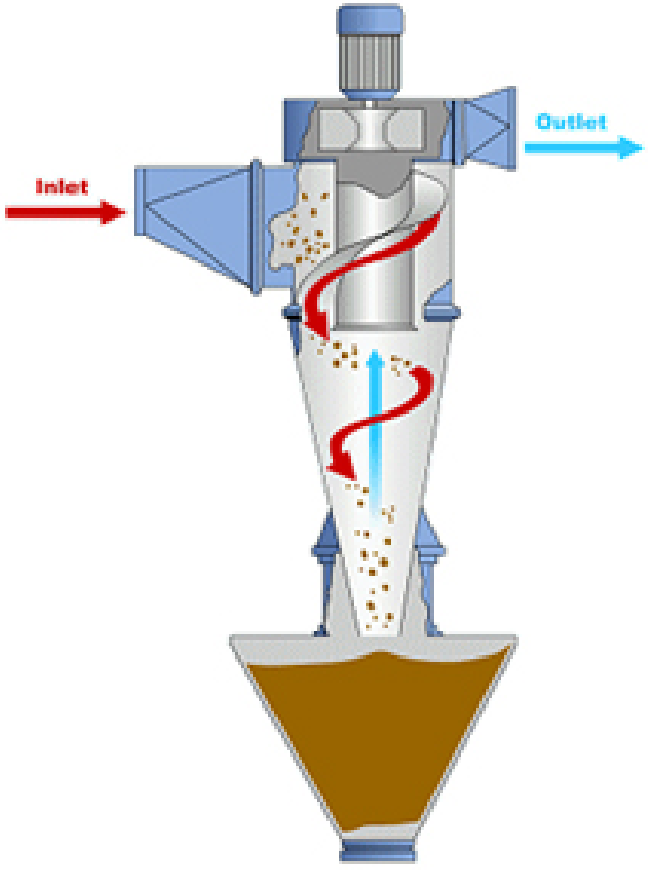
A submersibleslurry pump get installed into the dam that needs to be cleaned, from the pump installation a pump column is install up to the point where the Hydro cyclone is installed (that can be at the conveyor belt or at a ore pass system) then the column get connected. A second overflow column gets then install from the cyclone to the point where the overflow water will be discharged.

Most cases we then make use of pressure water to wash and break up the mud, mud is then pumped by slurry pump and the slurry then goes through the hydro cyclone where the water and mud get separated and the mud falls onto the conveyor belt or down the ore pass system. The over flow water gets tipped either back into the dam or into sump with a pump in.




HYDRO CYCLONES.





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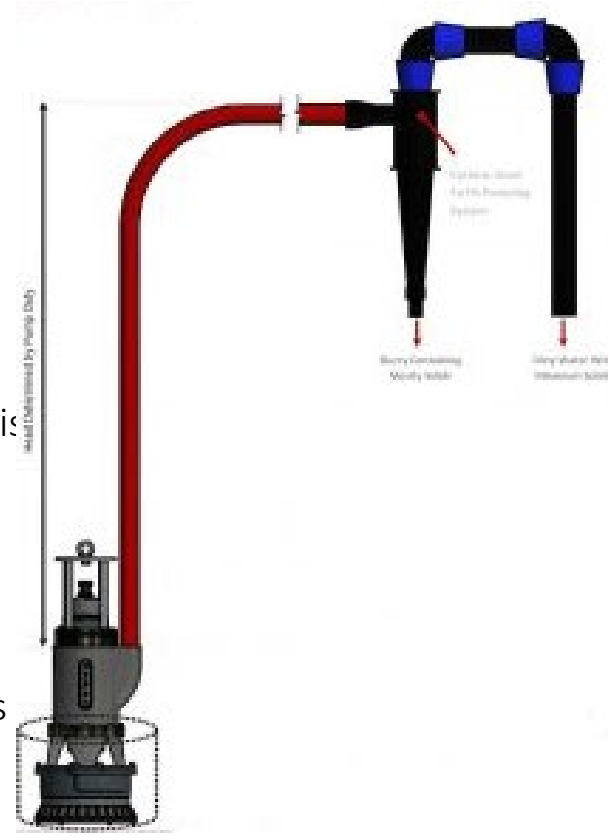
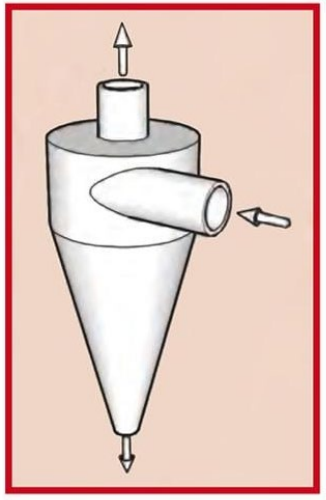
- **Summary:**
  The Cyclone Solid Separation Pump System is ideal to use in applications where fluids with solids need to be separated from the liquid. Different materials are used depending on whether the fluids that need to be pumped contained hardened solids or abrasive liquids.
- **Objective:**
  To separate the solids that are contained in the fluids from the liquid
- **Operation:**
  The fluids that contain solids are pumping using a Hippo Submersible Pump through a cyclone. In this process, the solids are separated from the liquid.
- **Application:**
  It is suitable for use in any application where solids have to be removed from the liquid
- **Duty:**
  The head and volume that needs to be pumped will determine the submersible pump size as well as the flow rate of the cyclone
- **Materials of construction:**
  To enable the pump system to pump liquids containing hardened solids, high chrome castings are used. And for applications with corrosive liquids, duplex stainless steel is used as the standard material for the castings.

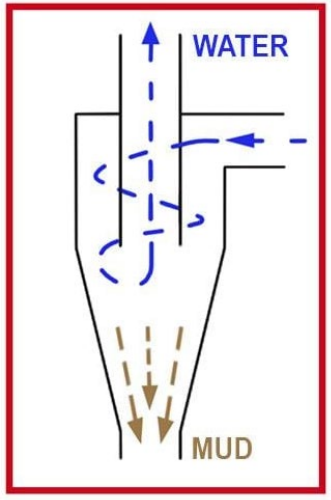


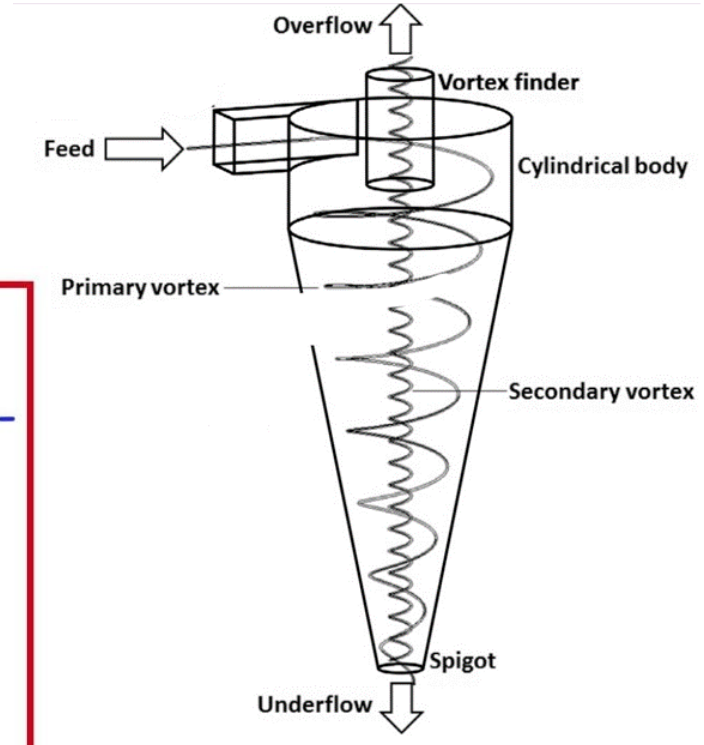



FIVE POINTS TO KNOW ABOUT HYDRO CYCLONES.

- Hydro cyclone are used for desilting, dewatering and sizing a variety of products, including sand, construction aggregates and industrial minerals.
- Containing no moving parts, these machines are relatively straightforward.
- A Hydro cyclone, or more commonly referred to as a cyclone, is simply a configured pipe tee.
- It requires certain elements in its design in order to perform a separation of material based on size gradation, but a hydro cyclone is straightforward.







THERE WILL ALWAYS BE SOME FINES IN THE UNDERFLOW.

- Simply put, fines will always follow the water. Since the underflow of a Hydro cyclone or Separator will always contain some water, there will be fines.
- The amount of bypass fines will be reduced. With a Hydro cyclone, this is accomplished by adjusting the spigot size.
- Too small of a spigot will cause roping in the Hydro cyclone and decrease separation efficiency, while too large a spigot will increase the bypass.
- For these reasons, Hydro cyclones work best when the through out is consistent.

INSTALLATION OF A HYDRO CYCLONE.

- Hanging of Hydro cyclone above a conveyor belt or tipping ore pass, you always to use a safety harness for open excavations and for working on heights.
- Hydro cyclone to be chain up to a solid construction or hanging wall by weans of a chain and I-bolts.
- The hydro cyclone must be elevated in a vertically position.
- 4" Pipe column for the inlet feed supported to the mine standard, and a 6" Pipe column for the overflow supported to mine standard that’s flowing back to separate dam or pump.
- While working on a Hydro cyclone all pumps must be lock out before work commence on the Hydro cyclone.
- At all times should there be a guard by the Hydro cyclone should any problems occur when Hydro cyclone is operational to switch it off.




SUBMERSIBLE SLURRY PUMPS.

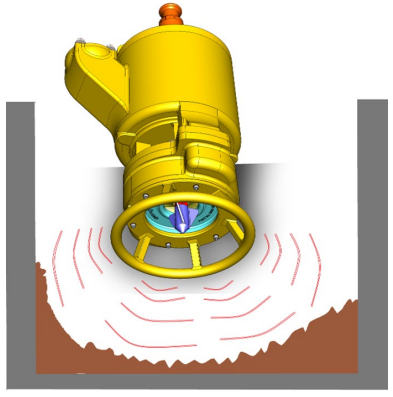
SUBMERSIBLE SLURRY PUMPS.

- Pump 65% Solids and Pump up to 40mm particle size. High Solids Removal
- Can pump up to 90degrees Pumping Temp.
- Pump Slurry 2.8 SG.
- Pump has an Integral Agitator
- 500m Pumping Distance
- Set up time is fast
- Electrical motors from 380 volt to 550 volt
- Get the pump in 30KW and 90KW and 112KW




SUBMERSIBLE SLURRY PUMP`S INDUCER EFFECT.

- Our slurry pumps Inducer sends out a hydraulic shock wave (known as a sphere of influence) down below the pump. These shock waves make any settled solids within a 1 meter radius start to flow so that they can be pumped.
- The slurry pumps Inducer is kept close to the lower bearing so that the bending moment on the shaft is reduced when it comes into contact with large particles.
- Because the Inducer is fitted close to the inlet, it also prevents oversize particles from entering the pump



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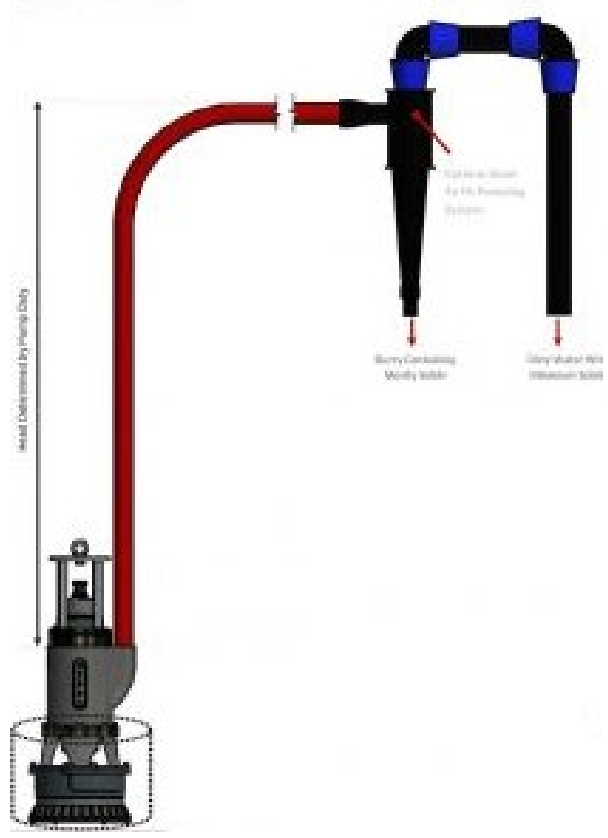
ADVANTAGES.

- If settler dams are kept clean the water, you re - use is mud free.
- Less mud or no mud in water system - less wear and tear on pumps and equipment.
- Less mud or no mud in dams - no problems with water capacity in dams.
- Less mud in water system - less dust pollution in work places.
- Cleaning water dams and settlers reduces the risk of overflowing of these dams and settlers that puts a risk to the environment.
- In general, if your systems are clean – good housekeeping = safe and productive work place and satisfied employees.




CONTACT DETAIL



Please look at our web page.

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