Eco-Logic Dewatering Technology for the Oil and Gas Industry

Advantages and Benefits

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Hazardous Waste – Oil & Gas

During oil and gas drilling operations, vast quantities of drilling mud waste are produced—a complex, often hazardous byproduct that poses significant environmental, economic, and regulatory challenges for operators and contractors.

In the current method, waste mud is collected onsite in tanks and removed using vacuum trucks. The trucks transport the waste to off-site facilities for disposal, commonly in open pits. This process involves high transport costs, emissions, and potential spill risks during transit.

Average drilling operation generates 10,000–20,000 barrels of waste mud depending on the well.

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Eco-Logic Dewatering System

Eco-Logic's dewatering system is based on proprietary chemical additives (coagulants/flocculants) followed by centrifuges or filter presses that separate water and solids.

The clean water can be reused or safely released, and the leftover dry solids are much easier and cheaper to dispose of. This method reduces waste volume, lowers transport costs, and is better for the environment

The dewatering system provided by **Ecologic** offers a specific design that is flexible, simple to operate, and adaptable to different site needs. It allows for the use of **Ecologic** customized chemicals solution to improve the efficiency of separating water from solids.

This ensures higher water recovery rates and produces drier solids that are easier and cheaper to dispose of, making the system both environmentally friendly and cost-effective.

An operation is currently underway with Rig 207(Abraj) in Saffa(Oxy).

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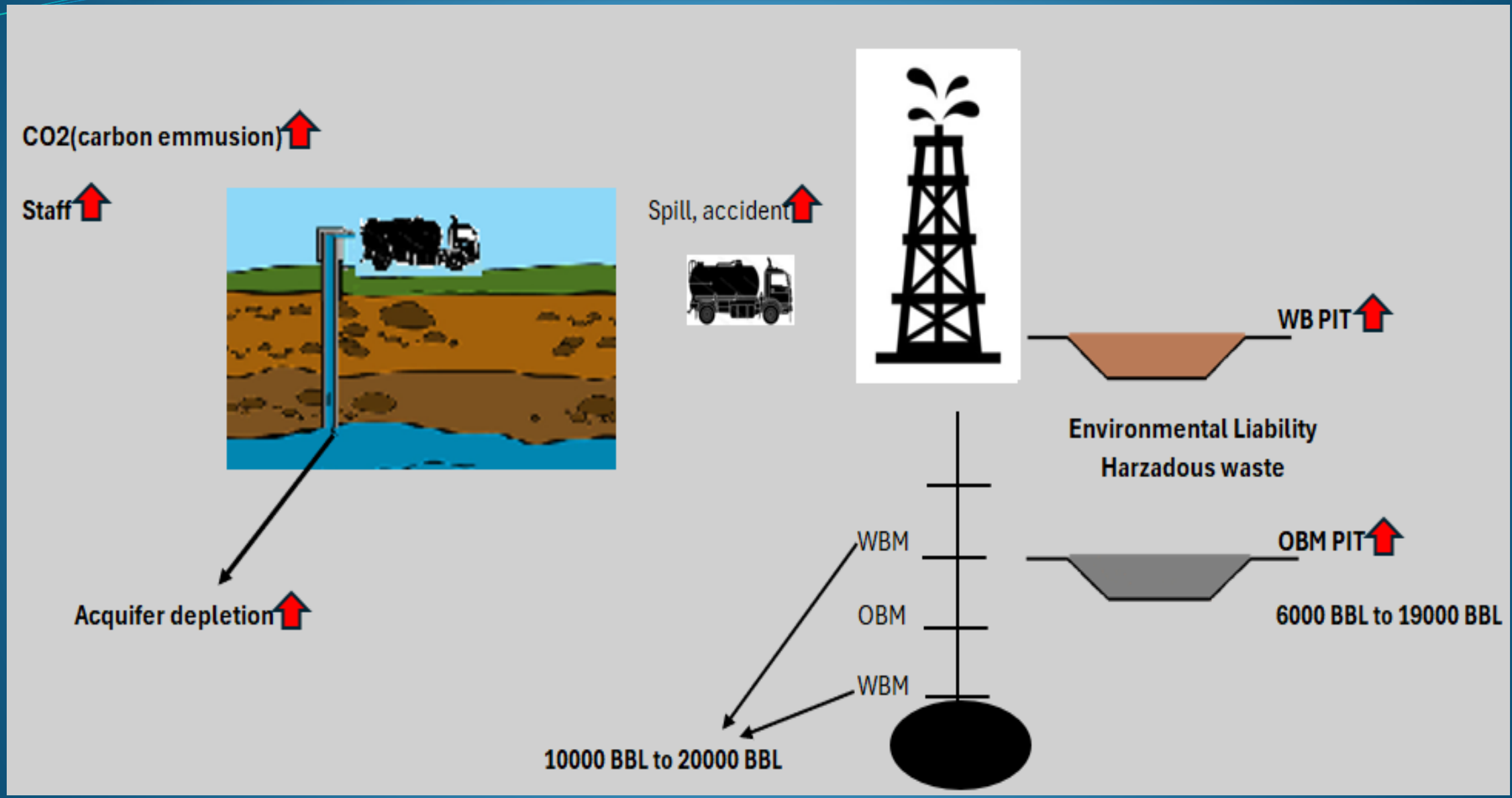
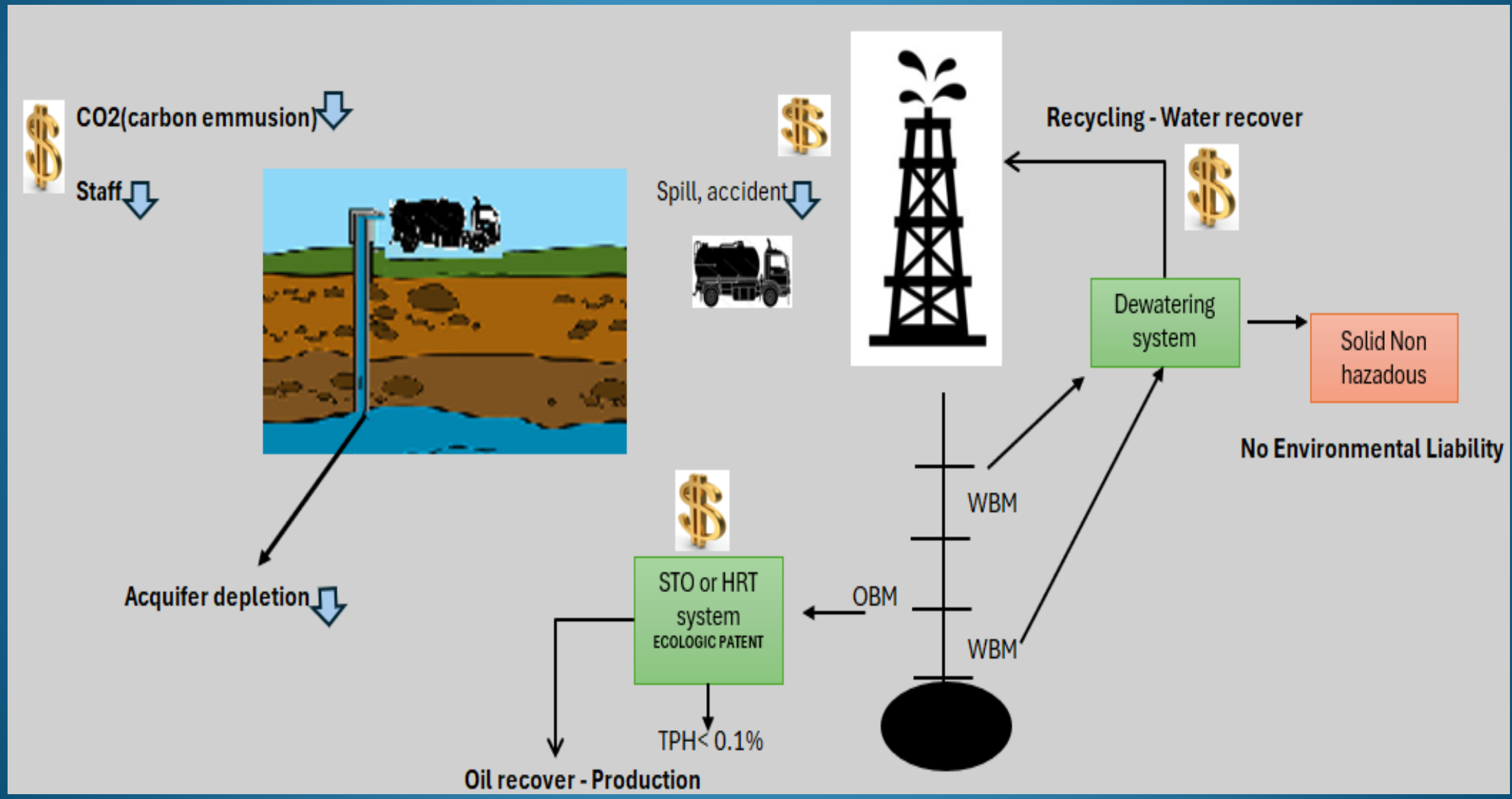
Existing Model



Eco-Logic Solution for WBM & OBM



Environmental Impact Comparison

Parameter	Current System (Vacuum Truck & Off-site Disposal)	Dewatering System (Eco-logic)
CO_2 Emissions	High (due to frequent transport)	Low (onsite process reduces trucking)
Spill Risk	High (during loading and transport)	Low (contained treatment process)
Water Reuse	None	Up to 80% recovered and reusable
Waste Volume	High	Significantly reduced
Compliance	More challenging	Easier (cleaner separation)
Pit Requirement	Requires large pits for mud storage	No need for pit construction
Water Cost	High (due to total loss of water in mud)	Reduced (water recovered and reused)
Manpower Requirement	More staff needed for transport and handling	Fewer staff required for operations

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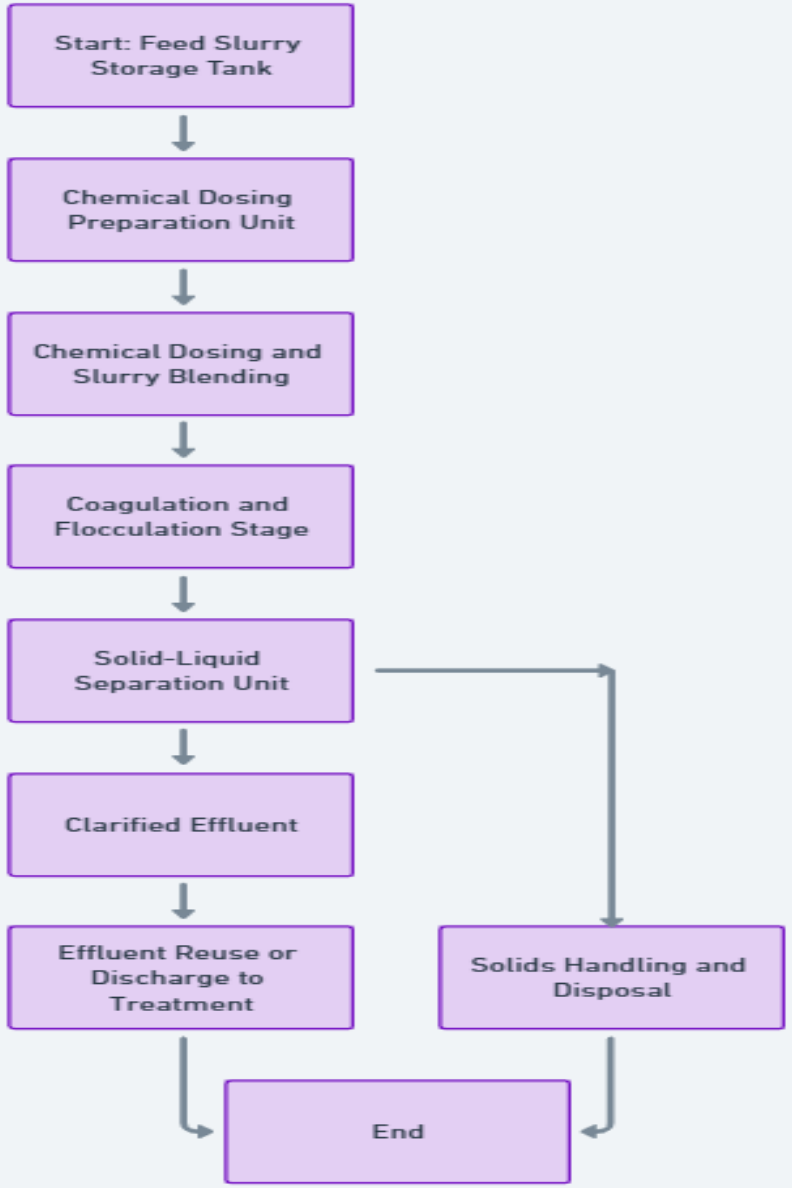
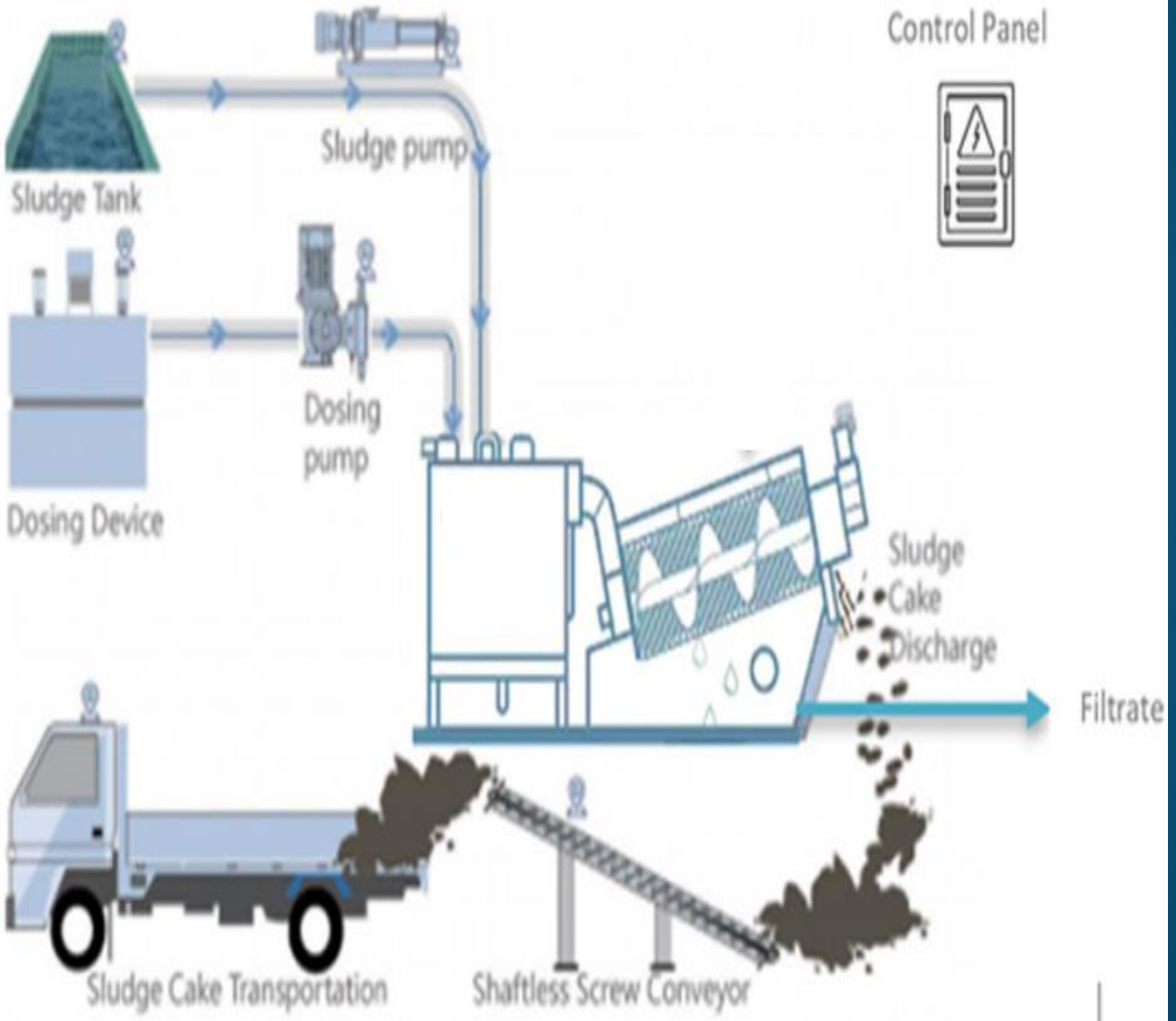
Dewatering Applications in Oil & Gas
Drilling Operations
Treat drilling mud and cuttings
Reduce volume and recover water
Suitable for onshore and offshore rigs
Workover & Well Intervention
Coiled tubing cleanouts
Snubbing operations
Manage large volumes of solids and fluids
Completion & Stimulation
Fracking flowback fluids
Acidizing jobs
Separate solids for reuse and reduced disposal
Tank Cleaning & Pit Dewatering
Clean storage tanks
Dewater reserve pits
Pre-site abandonment or maintenance
Produced Water & Separator Sludge Treatment
Treat separator sludge
Oily waste management
Water recovery and solid minimization
Pipeline Cleaning Operations
Pigging and flushing waste slurry
Solids separation
Disposal volume reduction
Emergency Spill Response
Contaminated water treatment
Onsite cleanup of solids and liquids

Dewatering System – Flow chart





Approach and Services

- Design of dewatering equipment (dewatering units & centrifuges) – tailored to application (containerized or open, zone rated if required, onshore or offshore)
- Site/rig surveys – professionally conducted site/rig surveys, survey reports with findings & recommendations
- Lab & field testing of WBM waste fluid (selection of most suitable Coagulants and Flocculants)
- Consumption calculations/estimations, chemical supply and logistics
- Commercials/budgeting
- Site/rig setups & layouts – based on site/rig surveys
- Start up support and execution of projects (if required)
- Daily and project reporting
- Specialized manpower recruitment – project management and/or operations personnel

Summary

- Mobile, modular plant allows flexibility in deployment – offshore, onshore, in situ, at waste repository
- Scalable to any required processing rate (MT/hr)
- Limited human interaction and exposure within the reclamation process, limited HSE exposure & risks
- It offers a lower overall cost compared to the current system of using vacuum trucks and off-site disposal
- No noxious odors, no HSE exposures
- Low maintenance schedules, no required/forced shut down periods due to scheduled maintenance

Fore more information:
http://eco-logicenvironmental.com/product/wbm-water-based-drilling-fluids-systems-dewatering
http://eco-logicenvironmental.com/

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