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December 11, 2008

Dale Rundquist Compliance Project Manager Energy Facilities Siting Division 1516 Ninth Street, MS-2000 Sacramento, CA 95814-5512



## Re: Dewatering Unit

Dear Mr. Dale Rundquist,

Enclosed please find the Process Diagram and Theory of Operation for the Dewatering Unit to be used for removal of sump solids at Bottle Rock Power LLC.

This in meant as further detail to the request to utilize a dewatering unit at Bottle Rock Power, LLC submitted on October 16, 2008.

Please contact me with any questions or concerns at 707-928-4578

Respectfully,

Karon Thomas

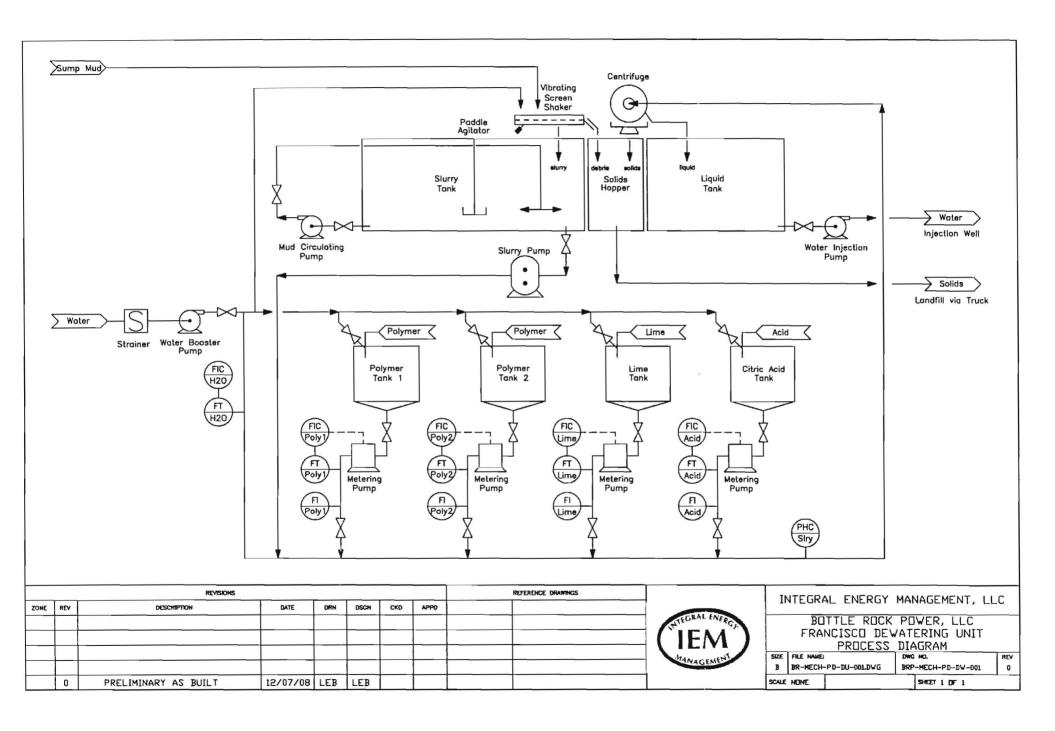
Cómpliance Manager

CC: Ron Yoder

Ken Williams Guy Childs

Attachments: Process Diagram

Theory of Operation



## **Dewatering Unit Theory of Operation**

Sump Mud (consisting of water and drilling sump materials) currently stored in the Bottle Rock Project sumps is removed by excavator and transported via truck to the Francisco pad. These materials are then pumped to the Vibrating Screen Shaker by means of a pump located on the sump bank. Alternatively, these materials can be pump directly to the Vibrating Shaker Screen. If required, the viscosity of the mud can be reduced by adding water at either the pond pump suction or the Vibrating Screen Shaker. Debris and solids larger than the shaker screen mesh are deposited into the Solids Hopper, smaller particles and water drops through the screen into the Slurry Tank.

Materials in the Slurry Tank are continuously stirred with the Paddle Agitator to minimize settling of particulates. The Mud Circulating Pump circulates fluids through the Mud Tank to prevent the suction of the Slurry Pump from becoming plugged.

The Slurry Pump (a positive displacement pump specifically designed for moving viscous fluids) transports the drilling material slurry from the Slurry Tank into a chemical treatment skid. Lime and citric acid are added to neutralize the pH of the slurry, polymers are added to prevent particulates from adhering to one another, and water is added to maintain the desired viscosity. Filling of the bulk chemical tanks is completed by periodically preparing chemical batches by mixing water and the appropriate chemicals in each tank.

Upon exiting the chemical treatment skid, the treated slurry enters the Centrifuge. Water is spun out of the slurry by centripetal force, thereby creating a relatively dry solids cake. The solids cake drops out of the Centrifuge and into the Solids Hopper. Next, the solids are tested to determine the appropriate disposal method. Solids are then removed from the Solids Hopper with a front end loader and placed into trucks for disposal at the appropriate site.

Water removed by the Centrifuge drains to the Liquid Tank and is pumped to the injection well by the Water Injection Pump for injection back into the production reservoir.