

IN PIT SLURRY RECOVERY AND DISCHARGE PROJECT

PT. PRIMA SARANA GEMILANG



PROJECT LOCATION: Coal Mine owner PT. Muara Alam Sejahtera by Bara Multi group, Lahat – South Sumatra

PROBLEM: PT. PSG needed to remove 138,000m³ of slurried material from a sump in the PT. MAS main pit to a preselected disposal location approximately 1,500 m from its current in-pit location. Coal fines and scats (to 150mm) material had been mixed with the locally surrounding mudstone had become both a management issue and challenge for the company, as it required removal to allow access to minable and required material.

SOLUTION: PT. REI were engaged to provide a solution to recover and dispose of the mud. Designing a system, PT. REI would use one of the clients existing 40T class excavator using hydraulic power with a minimum pressure of 300bar to drive one of our custom hydraulically powered recovery pumps, which would afford the client the ability to continuously reposition the pump to maintain access to the material and manage product density. As a result of the location of the disposal point PT. REI also included a booster system to assist with the head pressures and maintain product velocity to the disposal point.

SERVICE PROVIDED BY REI: Site inspection, product analysis and assessment, system design, installation route selection equipment selection, packaging, uplift and mobilisation, installation, commissioning, equipment operation and servicing.

PROJECT SCOPE:

Minimum product discharge: 300 m³/hour
Static head up to: 67 m
Pipe length: 1,500 m
Specific Gravity: 1.3
pH: 4

DURATION OF PROJECT: 2 months extended

EQUIPMENT PROVIDED: Complete slurry recovery and product disposal system including REI's Custom Design REL-Dragflow HY 85/160B High Volume Hydraulic Powered Submersible Solids Recovery Pump, all supplementary required custom hydraulic components, custom pump to boom attachment to suit PT PSG's excavator, custom rock screen and jetting ring pump, custom designed and constructed HD slurry booster tank, REL RF50 Custom Slurry Booster Pump, 1500 m of flanged and bolted 315mm PN12.5 HDPE pipeline, all required high pressure custom hoses, valves, fasteners and high pressure lay flat hoses complete with electronic flow measurement, density metering and management equipment.

RESULT: Although there were considerable challenges to overcome with the management of the floating scats, our client was more than happy with the outcome which was completed in full and on budget with our equipment availability operating to expectation in line with the management of the lump material.