

# IAS Performs Fluid Purification on Three Large Oil Reservoirs During February 2014 Planned Shutdown

## The Situation

Based upon recent laboratory results three oil systems were in need of immediate on site fluid purification. Especially C oil system due to high water content (16,000 ppm) and rebuilding the gear boxes in the two strand high speed rod mill.

## The Solution

Allow IAS to perform on site fluid purification using our Advanced Filtration technology to quickly reduce the high particulate counts and high water content. Due to a tight timeline and limited time available, IAS delivered two fluid purification skids to simultaneously execute the service.

## Project Objectives

- To provide 100% turnkey service
- Complete a 100% environmentally safe and accident free service
- Remove as much water and solid contamination from oil in A, B, and C oil tanks during time allowed.

## Benefits

- 100% safe project execution and on time completion
- Expect longer oil life due to clean and dry oil
- Expect longer service life on pumps, bearings, gears and valves due to clean and dry oil
- Minimize future maintenance and repair costs due to clean and dry oil

## Safety

IAS worked 265 man-hours without any safety incidents, near misses or accidents.



IAS 2135 Advanced Fluid Purification Skid staged at the Twist Mill oil reservoir. Used to decontaminate and purify Shell Morlina 100.



Solids removed from IAS multi stage bag filter was completely saturated with solids during C oil purification.

## Project Scope

- Safety Training, Permits and Project Set up
- Set up both IAS process equipment within secondary containment and perform side stream filtration
- Run C oil and A oil purification simultaneously
- Run C oil and B oil purification simultaneously
- Perform real time results for ISO Cleanliness and Water Content
- Execute service 24/7

## Final Results

### **A Oil tank Shell Omala 460 – Purification time 26 hours using Fluid Purification Unit**

Initial Water content was 570ppm, ISO Cleanliness Code was 18/17/13

Final water content was 90 ppm, ISO Cleanliness Code was 16/15/11

### **B Oil tank Shell Omala 150 – Purification time 48 hours using Fluid Purification Unit**

Initial water content was 1,420 ppm, ISO Cleanliness Code was 18/17/13

Final water content was 100 ppm, ISO Cleanliness Code was 16/15/11

### **C Oil tank Shell Morlina 100 – Purification time 72 hours using Unit 2135**

Initial water content was 16,360 ppm, ISO Cleanliness Code was 17/16/12

Final water content was 1080 ppm and ISO Cleanliness Code was 17/15/11

## Recommendations

1. Consider a High Velocity Oil Flush on the supply and return lines in C oil system
2. Prevent water from entering the reservoirs
3. Consider IAS to remove sludge and solids from tank bottoms during next outage