



# CLEARFLOW

Enviro Systems Group Inc.

**WE ARE  
CHANGING THE  
WAY THE WORLD  
USES WATER.**

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**Our Mission is to provide the most environmentally safe, innovative, cost effective water treatment products and processes for Industry throughout the world**

# CLEARFLOW INDUSTRY LEADING SOLUTIONS

## **Water Management**

- Consulting and Site Design
- Preventative Solutions
- Proprietary Products
- Surface Runoff Mitigation
- Storm Water Mgmt
- Sediment Control
- **Soil Stabilization**
- **Erosion and Dust Control**

## **Water Treatment**

- Consulting to Implementation
- Proprietary Products Applied
- Patented Processes Utilized
- Permanent Systems Designed
- Mobile Systems
- Dewatering
- Desalinization



**Industrial Water  
Treatment**

**Mining and  
Oilfield**

**Municipal  
Solutions**

# Mountain mine site 2014



# Situation

- This mine was required to maintain a specific level of water for fire suppression and other uses onsite.
- They were running low on water supply at peak operational times due to total site consumption/use
- Clearflow was contacted to assess if wastewater from the equipment wash-bays could be treated and reused as operational water
- After Clearflow conducted various lab tests it was determined that the use of Clearflow's Water Lynx Blocks would give the required results
- Clearflow's Patented PR5 Water Treatment System was chosen to be the optimum delivery system for the Water Lynx technology
- The following study was conducted by the Engineers and Environmental Scientists from the mine
- Clearflow was given permission to release the report to promote knowledge sharing and environmental stewardship

# Results: TSS and Turbidity



- Concentrations of TSS and turbidity were found to decrease as the treated water progressed through the treatment system.
- TSS reduced from an average 822.3 mg/L at the sump to 19.0 mg/L at the PR5 Finish (97% reduction, compared to 64.0 mg/L baseline in the process tank).
- Turbidity declined from 1372.4 NTU to 9.4 NTU (99%, compared to 7.6 NTU baseline in the process tank).

# Results: Water and Energy Savings

## Water Savings :

- The PR5 is capable of sustaining the water level in the Process tank with little influence from the hill booster pump.
- On average 117,024 gallons of water was recycled each day the trial was operational.

\*

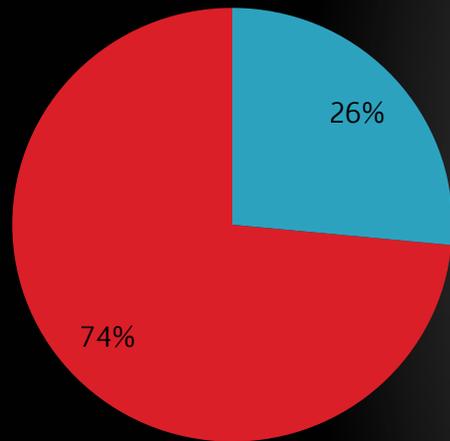
**Approximately 42,713,760 gallons of water is expected to be recycled annually.**

# Results: Water and Energy Savings

## Energy Savings:

- The hill booster pump was operational for a total of 3 hours and 11 minutes, compared to a runtime of 8 hours and 50 minutes post trial over a three day period.
- Reduced runtime during the trial dropped the energy usage to 224 kW compared to a 675 kW post trial.
  - \* **That's a reduction in energy consumption at the hill booster pump of 64,670 kW a year (49%).**

# Results: Pump Runtimes



▶ Figure 3: Percent time the hill booster pump ran during the three trial days.

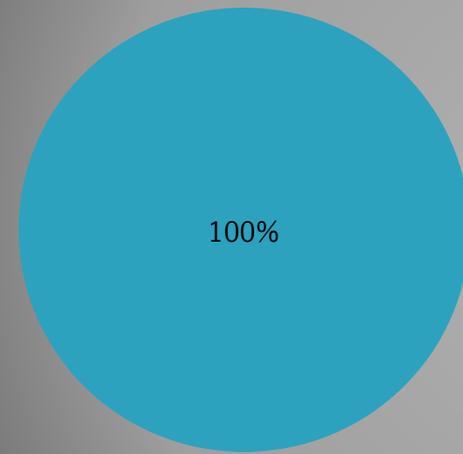


Figure 4: Percent time the hill booster pump ran during the three reference days during the same timeframes as the trial.