



CiDRA Minerals Processing - phosphate process solutions

- The only guaranteed volumetric flow and gas volume fraction solution
- Corrects air/gas induced density measurement errors based on our air/gas content measurements
- Improves material balance accuracy and reliability
- Specifically designed for abrasive slurries and corrosive fluids
- No maintenance required, therefore, no downtime for flow measurements
- Eliminates human intervention in potentially dangerous acid and slurry applications
- A simple design and easy installation, even in remote areas

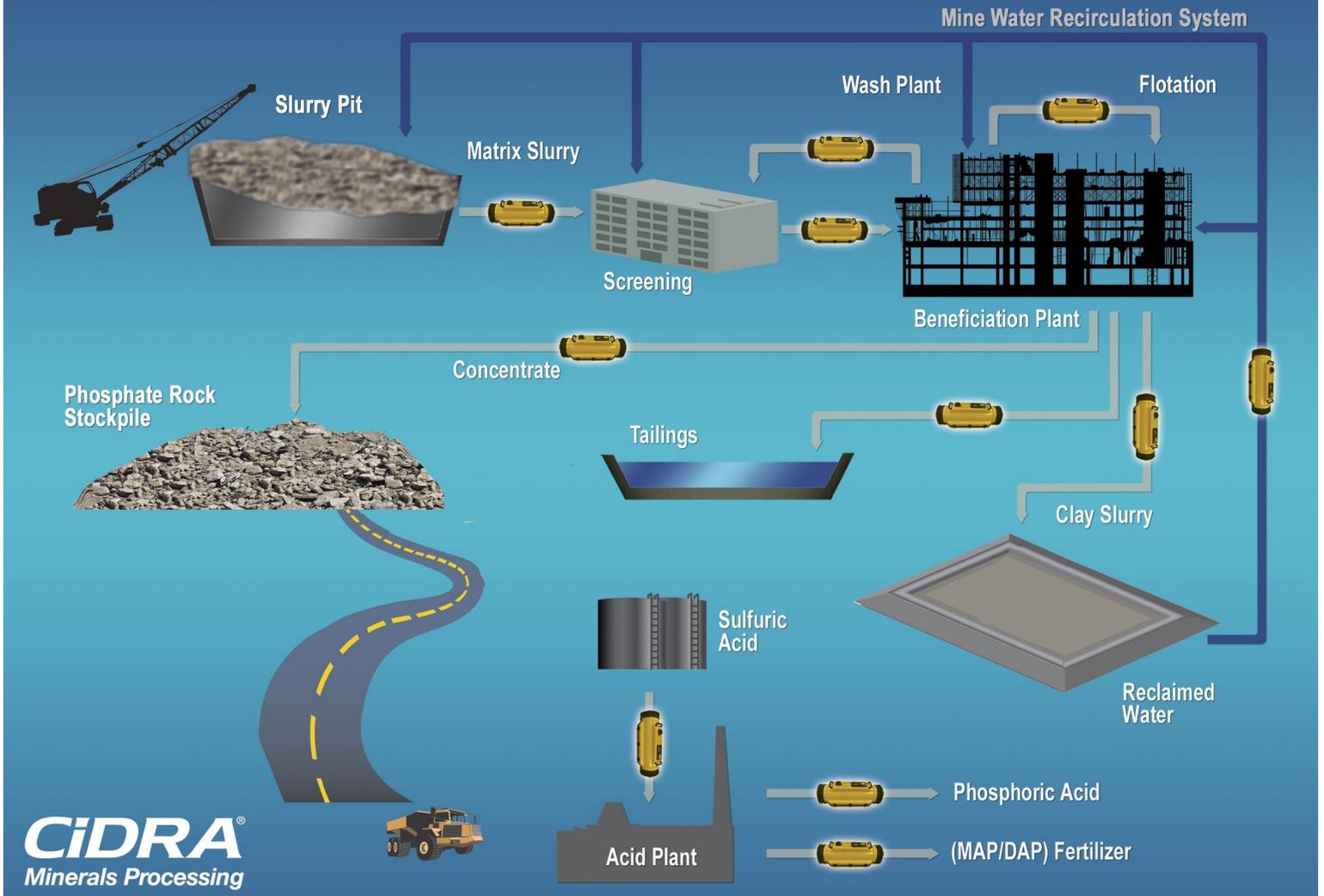
CiDRA[®]
Minerals Processing

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CiDRA Minerals Processing

- phosphate process solutions

OPTIMIZE YOUR PHOSPHATE MINING PROCESS



Applications for SONARtrac® Technology – Phosphate Process

Mines:

- Matrix Slurry Lines
- Tailings Lines
- Flotation Feed Lines
- Water Lines
- Grinding Slurry Lines
- Cyclone Feed Lines

Processing Plants:

- Sulfuric Acid Lines
- Phosphoric Acid Lines
- Reactor Feed Lines
- Slurry Lines

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The *SONARtrac*® clamp-on system provides a non-intrusive, on-line, real-time measurement of the volumetric flow and amount of entrained air/gas present in any liquid-continuous-phase process fluid. The system also provides a measurement of only the liquid portion of the flow by compensating for the amount of entrained gas/air in the process line.

SONARtrac Process Monitoring Systems have been installed in mining facilities around the world.

These companies continue to take advantage of the many value propositions this device provides:

- Accurate/repeatable low-life-cycle-cost volumetric flow
- Enables accurate mass balance in the presence of air
- Immune to scale build-up
- Requires no maintenance, therefore no downtime for flow measurements
- Eliminates human intervention in potentially dangerous liquor and slurry applications
- Improves tailings/pipeline pump efficiency
- Pipeline leak detection and monitoring
- Pipeline product identification



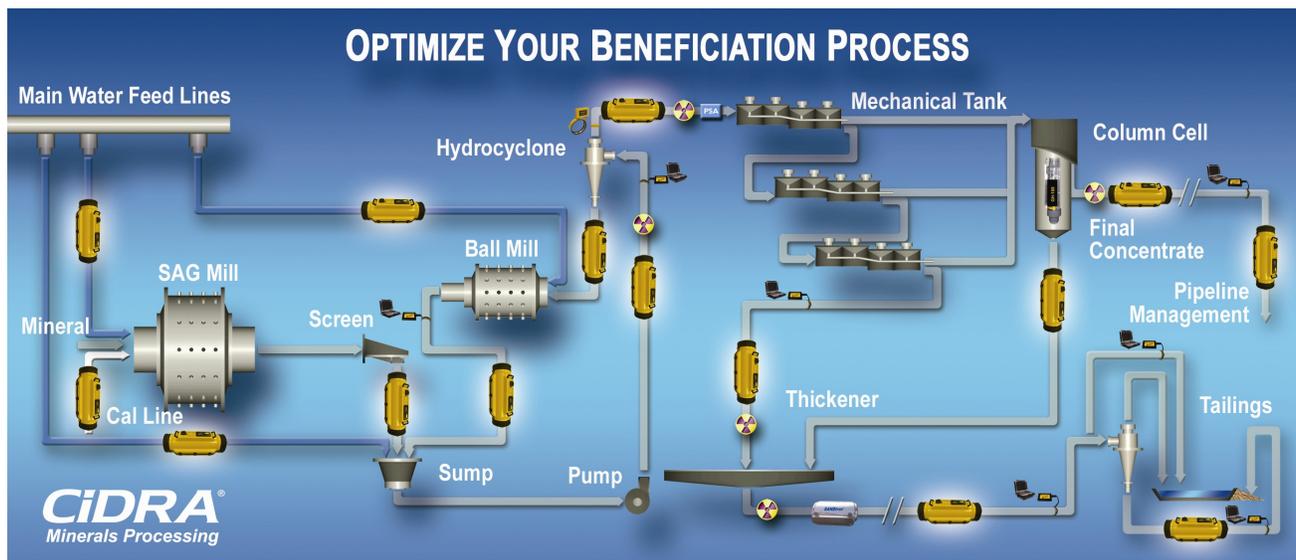
General Applications for SONARtrac Technology Beneficiation Process

SONARtrac® Volumetric Flow & Gas Volume Fraction Monitoring Systems

Achieving a high level of process control without significant human labor requires instrumentation that is precise, reliable, and robust. Non-intrusive, volumetric flow technology, that is immune to scaling effects, eliminates human interaction in potentially dangerous liquor and slurry applications.

SONARtrac clamp-on system allows on-line real-time measurement of the volumetric flow and amount of entrained air/gas present in any liquid-continuous-phase process fluid.

Non-Intrusive, SONARtrac systems have no maintenance requirements and no flow measurement downtime.



- Pregnant Leach Solution Lines
- Raffinate Lines
- Hydrocyclone Feed Lines
- Hydrocyclone Overflow Lines
- Hydrocyclone Underflow Lines
- Water Feed Lines
- SAG Mill Discharge Lines
- Thickener Feed - Underflow / Overflow
- Ball Mill Discharge Lines
- Water Recovery Lines
- Tailings Lines
- Flotation Feed Lines
- Tanks/Column Cells (Gas Holdup)
- External Sparger Lines
- Reagent Lines
- Pipeline Monitoring

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