



Dense Media Separation Services

The Saskatchewan Research Council's (SRC) Dense Media Separation (DMS) Bulk Sample Plant is one of the only continuous testing DMS facilities in Canada and is capable of processing a wide variety of commodities. The facility offers a comprehensive physical separation and upgrading DMS pilot plant that can include an X-ray transmission (XRT) sensor-based sorter (ore sorting) and dry magnetic separation. SRC offers testing, design and optimization services for processing plants of any commodity that include DMS and physical separation.

Our DMS plant is a one-ton-per-hour facility capable of continuous operation with a top size of 30 mm and a bottom size of 0.6 mm. Density cut points between 2.00 and 3.25 S.G. are achievable with the standard cyclone setup using tracers. All operational parameters can be tested, such as grade, complete water treatment analysis, particle size distribution, percent solids, recoveries and equipment performance required for flow sheet design and optimization.

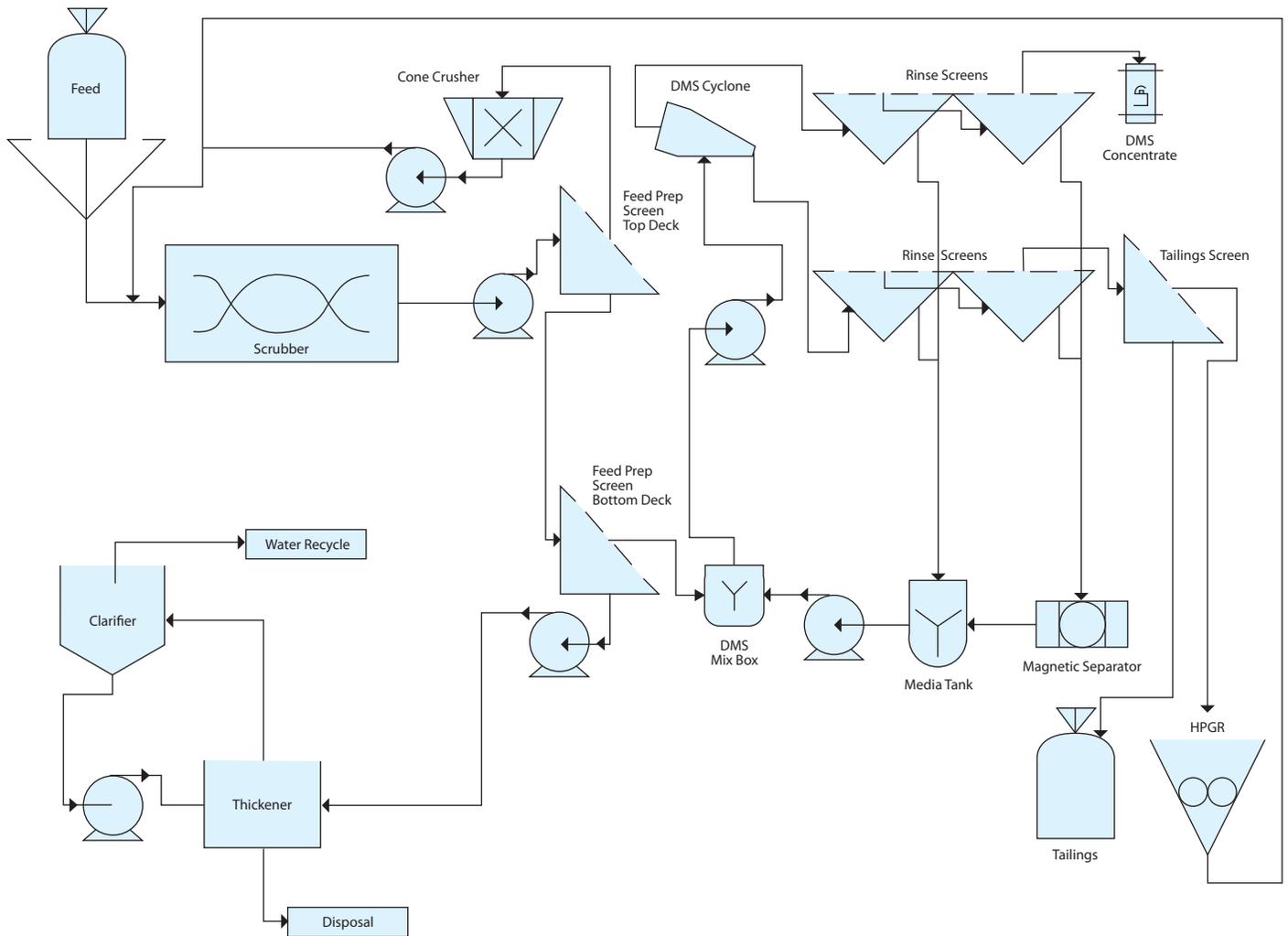
The plant includes primary crushing, secondary crushing with recycle, tertiary crushing with recycle, desliming and water recovery circuits that use specially designed slurry transport and pumping systems. A pilot-scale high-pressure grinding rolls (HPGR) circuit can also be added. All equipment is adjustable for the capacities and various size distributions by changing crusher gap settings, screen sizes, pump sizes and the DMS cyclone based on project needs. Services offered include performance evaluation, validation studies and plant design.

Additional upgrading processes include XRT sensor-based sorting or magnetic separation down to 1 mm particles and can handle throughputs up to 3 tons per hour. This includes equipment for washing, drying and classifying material.

SRC offers a host of analytical services for identifying and characterizing minerals, elements and other materials within a deposit through our Geoanalytical Laboratories, as well as downstream beneficiation and hydrometallurgy through our Mineral Processing team. This provides a complete mineralogical characterization of all process streams and their bulk physical characteristics from one location.

SRC Bulk Sample Plant

DMS CIRCUIT – PROCESS FLOW DIAGRAM



SRC DMS High-Level Process Flow Diagram