

Greens Creek Cleaner Flotation Plant

Plant Upgrade Pays Off Quickly

BCI finished work recently on improvements to the processing plant at the Greens Creek Mine on Admiralty Island.

Control additions were part of a \$5 million expansion of the silver, gold, zinc and lead mine's mill with a new cleaner flotation plant. The plant refines the mine's ore concentrate, reducing waste.

"We're able to get more zinc out of the concentrate and produce a cleaner concentrate that reduces our shipping and smelter treatment charges," said Buddy Crill, electrical superintendent for Greens Creek Mining Co.

One highlight of the controls, said BCI's Greg Smith, is a hot backup PLC system providing the plant with a redundant PLC that can take control at the same place as the primary control, allowing processing to continue smoothly even in the event of a primary PLC failure.

"It's actually paid for itself, maybe even more than once," Crill said. "It was a smooth startup. A lot of that was due to Greg's hard work."



Zinc and lead flotation cells in Greens Creeks new cleaner flotation plant. Greens Creek Mine, Admiralty Island, Alaska.



Hot Back-up Allen-Bradley PLC 5 control panel.

The new plant consists of several banks of flotation cells for both zinc and lead. Each bank includes up to four agitators and analog PID loops for airflow and slurry level control. There are approximately 25 reagent injection points.

BCI provided all of the PLC programming, which included controlling approximately 50 motors and 25 analog PID loops and 25 reagent control loops. The company also manufactured three PLC and I/O control panels and several local start-stop stations.

The control system consists of a hot backup Allen-Bradley PLC 5/60 and the I/O is A-B Flex I/O. The operator interfaces include three A-B Panelview 1400s and a 19" touchscreen and PC on the plant floor which Utilizes RSVIEW.

Control panels were delivered by barge to the mine at Hawk Inlet, and BCI staff commuted with miners via ferry and bus to the project's remote site. One perk of the job was wildlife viewing during the commute, with humpback whales, deer and brown bear spotted frequently.