# Pit Dewatering

The Kings Mountain mine is an open pit site. When the mining activity stopped nearly 40 years ago, the mine pit began accumulating rainwater. As Albemarle explores re-mining the site, we must first conduct prefeasibility studies and this requires dewatering the pit for drilling and other exploratory work. Once the studies are completed, evaluated, and permitting is secured for the proposed mine, dry conditions are needed for the implementation of safe and environmentally friendly mining methods.

#### THE DEWATERING PROCESS

The dewatering process will comply with the water management requirements of the North Carolina Department of Environmental Quality (DEQ). At this time, Albemarle's permit request is under review. Once the permit is issued, Albemarle will use electric pumps to convey existing water from the pit to a temporary water treatment plant constructed on the Kings Mountain site. At the water treatment plant, the water will be cleaned and filtered of sediment. Once treated, the water will be conveyed to the South Creek Reservoir for gradual release into Kings Creek at a rate compliant with DEQ permit to ensure the integrity of the creek and river basin. In order to dewater the pit in a safe and sustainable manner we expect the process to take up to 18 months to complete.

The treated water will be discharged at a higher quality than the North Carolina DEQ Class C water body standard. Water quality will be continuously monitored with in-process sensors for pH, clarity, dissolved oxygen, and temperature. Regular water quality sampling for analysis will be done from our groundwater and surface water monitoring network.

#### **MANAGING ODORS**

There may be an occasional odor as the water level drops in the pit during dewatering and decomposed materials at the bottom of the pit are exposed. The water treatment process was specifically selected for pit dewatering to mitigate odor during the process due to low dissolved oxygen at depth in the pit lake. We anticipate there will be little to no discernible smell beyond the pit during the process.

## **Topography of the Existing Mine Pit**





To safely dewater the 1.3 billion gallons of accumulated water in

**the pit,** the dewatering process is expected to last up to 18 months.

## **Pit Dewatering Layout**





Water Treatment Plant: Water will be pumped from the water treatment plant at a rate of 2,500 gallons/minute into the South Creek Reservoir which empties into Kings Creek.



# **Wildlife biologists have completed studies of the aquatic species** to ensure that no threatened or endangered species live in or around the pit.



Wildlife Biologists Monitoring Aquatic Species

## **PROTECTING THE WILDLIFE**

The only aquatic species found in the pit is a common fish species (bluegill) which is not listed as threatened or endangered.

We expect the water drawdown in the pit will occur slowly enough that other species that utilize the water body (birds and mammals) can adjust and access other water bodies on and off-site.

Albemarle leads the world in transforming essential resources into critical ingredients for mobility, energy, connectivity and health. We partner to pioneer new ways to move, power, connect and protect with people and planet in mind, enabling a more resilient world. Our global headquarters is approximately 35 miles from Kings Mountain in Charlotte, NC.

For more information visit albemarlekingsmountain.com

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