

## Coles Hill = flood zone!

As shown on the map (over), the uranium mine being proposed for construction by Virginia Uranium, Inc. at Coles Hill, in Pittsylvania County, VA, encompasses FEMA flood zones contiguous with Mill and Whitehorn Creeks and the Banister River. Four historic flood events (two on record with the National Weather Service) occurred within the bounds of the Coles Hill South Exploration Area, in 1999, 2009, and 2010. Local streams overflowed onto S. Meadow and Coles Roads, preventing motorists from using them. Coles Hill was on National Weather Service flood watch in March and severe thunderstorm and tornado watches in April, 2011.

## What's wrong with a little flooding now and then?

Plenty, if you want to mine and mill uranium where the floods occur. The most significant risk from uranium mining, such as that being proposed at Coles Hill, is that of radioactive contamination from the millions of tons of waste created during the uranium milling process. These waste products, called "tailings," remain radioactive for thousands of years and must be kept from getting into the air and water throughout that period. In the U.S., the job of managing these radioactive mill tailings is given to the Nuclear Regulatory Commission, under regulation and enforcement by the U.S. Environmental Protection Agency and often through an agreement with the state in which the mill is located. And of course — paid for by you, the taxpayer. You, the taxpayer, will be an investor in this project, whether you like it or not.

## Flooding creates risk!

The International Atomic Energy Agency (IAEA) gives many clear warnings of the risk of radioactive contamination brought by flooding in areas where uranium mill tailings are being stored. (source: IAEA, *The long term stabilization of uranium mill tailings: Final report of a coordinated research project*, 2004)

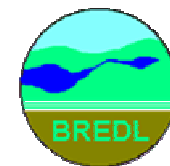
- “Clearly, water management is a critical issue for risk reduction. Dams [containing uranium mill tailings] can fail after closure, mainly as a result of earthquakes, geotechnical factors, and overland flooding.”
- “The placement of tailings below or under ground is likely to provide the best long term management solution from the point of view of both reducing potential liability and providing the greatest long term environmental safety. However, the possibility of leaching and suffusion by permeating ground waters has to be considered.”
- “In relation to the general performance of uranium mill tailings containments, the main concerns relate to longevity of containment and seepage to groundwater . . . Surface water flow may represent significantly higher risk of failure during the life of the containment.”
- Inadequate design and poor implementation can result in the failure of tailings covers. Possible causes of cover failure include . . . extreme weather events . . . With recent extreme events of flooding in Europe and elsewhere, long-established design parameters, such as maximum rain intensities and rainfall-function for catchment areas have come under scrutiny.”

# TOO MUCH RISK

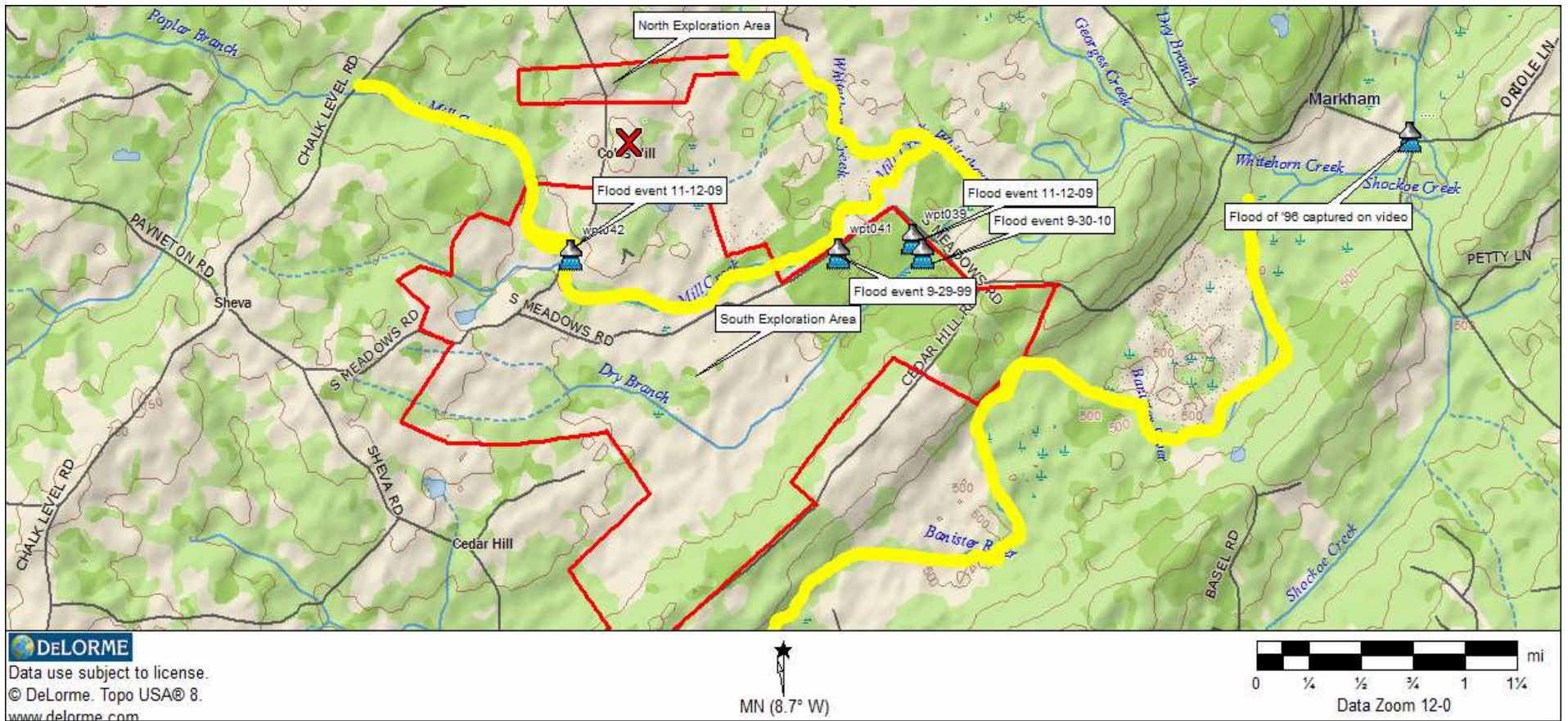
So they want to  
mine and mill  
uranium in a  
FEMA flood zone






What's wrong with  
this picture?



Blue Ridge Environmental Defense League  
www.bredl.org



X	Coles Hill residence, located between the North and South Exploration Areas of the proposed Coles Hill uranium mine and mill site
	<b>Historic Floods</b> <b>(1)</b> 9-29-99 Mill Creek flooded S. Meadows Rd., within perimeter of South Exploration Area (source: National Weather Service, Blacksburg, VA) <b>(2)</b> 9-30-10 Dry Branch and Mill Creek both flooded S. Meadows Rd., within perimeter of South Exploration Area (source: National Weather Service, Blacksburg, VA) <b>(3)</b> Hurricane Fran flood of 1996 captured on video 1.75 miles from boundary of South Exploration Area (source: Southside Concerned Citizens) <b>(4)</b> 11-12-09 Mill Creek flooded Coles Road; Dry Branch flooded S. Meadows Rd. (source: photographs by George Stanhope, PRIDE)
	FEMA flood zones along Mill and Whitehorn Creeks and Banister River within perimeters of North & South Exploration Areas (source: www.fema.gov)
	Perimeters of North & South Exploration Areas of proposed Coles Hill uranium mine and mill site (source: www.virginiauranium.com)

**Historic flooding events and FEMA flood zones encompassed by proposed Coles Hill uranium mine and mill in Pittsylvania County, VA, USA**