

# Vale's Base Metals Video Series

## Video 7: Surface Mining

Video	Audio/Narration
VOG Announcer intro over graphic title:	Vale's Base Metals Business Series — Focusing on Surface Mining
Montage mixing Vale's most modern-looking technology, science etc, intermixed with changing world images; green uses, young consumers, community development etc.	Vale is transforming mining. We're changing what we do below the ground to meet the changing needs of the world above.
See geologist at work... Field exploration and in-depth computer/sat exploration	Every ore body is different, and every type of ore needs a different type of mine.
See schematic of the two types of mine: Contrast underground to open-pit mines	Vale's base metals business operates two types of mine, surface, also known as open-pit, mines and underground. This video is about our surface mining methods.
See overview of open-pit	Open-pit mines are the largest sources of minerals for our modern world.
See raw lateritic deposits  Various images of surface mining	This red earth is full of essential mineral resources.  Laterite ore deposits are produced by weathering and groundwater that leaves diffuse concentrations of valuable metals, which we typically access through surface or open-pit mines.
See PTI and Goro overview	Our mines in Onca Puma Brazil, Indonesia and New Caledonia have lateritic ores containing nickel mixed with iron oxides.
See VB pit overview  See VB ovoid schematics	We operate a number of open-pit mines including the nickel mines at Voisey's Bay in Canada, as well as our copper mines in Sossego and Solobo, Brazil and Tres Valles in Chile.  These open-pit mines access rich nickel-copper-cobalt sulphide orebodies. Ongoing exploration may reveal the potential for increased mining opportunities.

## Video 7: Surface Mining (cont'd)

Video	Audio/Narration
New installations, at various stages of construction	In open-pit mines any material located above the ore, the over-burden, must be removed to expose the ore deposit.
See blast  See scoops  See transport	The ore is exposed by drilling, blasting and cleared with giant earth-moving machinery.  The ore is scooped up by large power shovels and loaded into giant dump trucks to transport out of the pit to processing.
See concentrators	Compared to the rich ore from higher-yielding underground mines, ore from open-pit mines usually needs more concentrating before processing.
See Mine development, engineers, screens and software	Open-pit mines offer lower costs and simpler operation than underground mines. But moving and processing massive quantities of earth changes the landscape.  To offset effects such as higher dust, noise and possible impact on water supplies, Vale looks to its sustainable mining principles and processes.
See safety and dust control measures in operation	The development of any open pit mine is a complex exercise, working within the constraints of geology, economics, and engineering to maximize sustainability.
See overview of mine, contrast to area	The mine plan must address the environmental challenges from the time of exploration to the mine's closure and the restoration of the operating area.
See Vale branded sustainability	In our role as a sustainable operator, Vale develops its surface mines to set the standard for the industry.
See associated safety, community and environmental beauty shots	We commit ourselves to the protection of our workers, the protection and restoration of the environment and to the communities in which we operate.
See montage, diverse mix of Vale workers in high-tech cab at open-pits etc.  mix to beauty shot of earth, see positive "new" energy, windmills, hybrid cars, etc.	We're transforming mining to ensure that our open-pit mines continue to lead the way to a more economically, environmentally, and socially sustainable future.
Title rundown	VOG: To learn more about how we are transforming mining please watch the other videos in this series.
	Music out