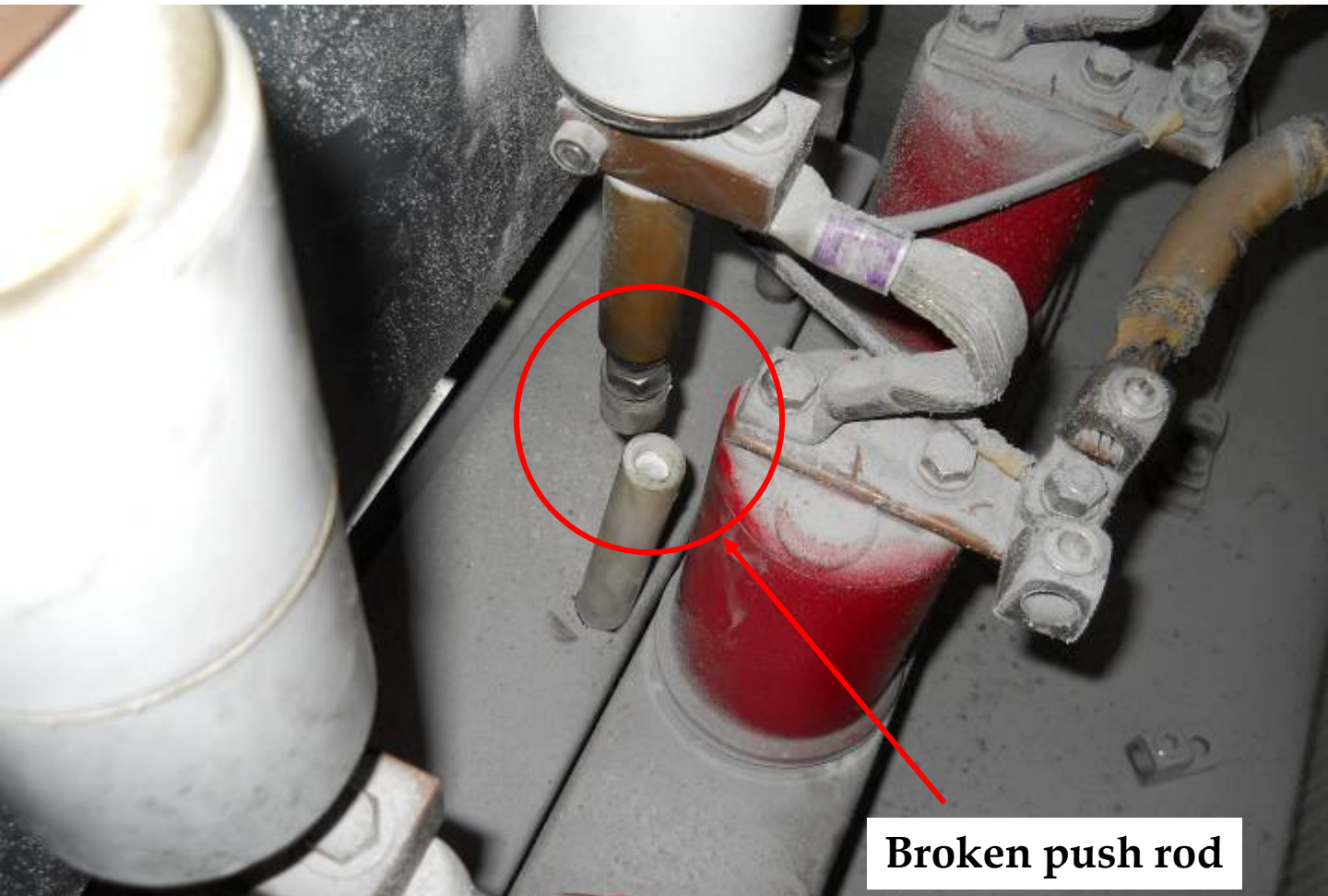


# Vacuum Disconnect Switch Hazard Alert



A recent electrical accident occurred when the control push rod for a vacuum bottle broke and allowed the contacts inside the bottle to close. In addition to the control push rod failure, a self-grounding mechanism in the disconnect switch had not been completely engaged. **The result of both failures was a miner receiving a severe electrical shock.**

It is believed that high voltage corona weakened the push rod causing it break. Corona is caused when the electric field next to an object exceeds the breakdown value for air (or whatever the object is immersed in).

## Damage on the control push rod due to corona



### Best Practices

- Frequently inspect the control push rods for damage, especially from corona, burn marks, and stress cracks near the attachments.
- **Immediately remove from service any disconnect switch that is found to be in a potentially dangerous condition.**
- Schedule immediate replacement for any control push rods that exhibit any deterioration or damage.
- Ensure that each phase of the disconnect switch opens when actuated, and the self-grounding mechanism (if equipped) is completely engaged.
- Install a lock and tag on the visual disconnect switch operator handle prior to performing electrical work. For high voltage circuits, the circuit must also be grounded prior to performing electrical work.