

## Incident Summary – POSSE Reference File #5616797

SUPPORTING INFORMATION	Incident Date		February 28, 2017	
	Location		Trail, BC	
	Regulated industry sector		Electrical – low voltage electrical system (30 to 750 volt)	
	Impact	Injury	Qty injuries	0
			Injury description	N/A
			Injury rating	None
	Damage		Damage description	A three conductor motor feeder cable sustained damages resulting from a failure within the cable. Damage to cable was significant enough to warrant replacement of the entire section of motor feeder from the equipment disconnecting means to the motor termination box.
			Damage rating	Moderate
Incident rating		Minor		
Incident overview		<p>Facility maintenance staff stated that all aspects of the equipment and process were operating normally. During the morning of the incident, operations staff noted a loss of regulated air pressure throughout the process, commenced a survey to determine the cause and discovered one of three operational air compressors had tripped open/off-line. Staff opened the access doors to the compressor cabinet and discovered that the motor feeder cable had failed/ruptured and created a localized fire within the compressor cabinet. The process was scaled back to accommodate the lack of pressure, electrical maintenance personnel were retained to replace the section of damaged cable, the internal area of the cabinet cleaned, the compressor recommissioned and operations were returned to full scale the same day.</p>		
INVESTIGATION CONCLUSIONS	Site, system and components		The Electrolytic and Metallurgic (E&M) Section of the ore smelting operation is energized with a 600 volt, 3 phase power distribution system. A section of the E&M process incorporates a line up of three air compressors. Each compressor houses a 600 volt, 3 phase, 200 horsepower drive motor, integrated controls and is supplied with a three conductor motor feeder cable. Each feeder cable and compressor is protected by 200 amp type fuses.	
	Failure scenario(s)		It is unclear and undetermined as to why the cable sustained an internal failure.	
	Facts and evidence		The cable failure occurred in an area along a radius of a bend in the cable between the compressor cabinet/frame and the motor termination box. The radius of the bend in the cable is greater than the minimum radius prescribed in the BC Electrical Code. As such, the cable displays no sign that the cable had been damaged by a short radius bend; the cable is well supported and is not subject to excessive vibration or external mechanical damage. The section where the failure occurred is part of the original manufacturer equipment construction; a length of approximately two meters between the compressor disconnecting means and the motor drive unit.	
	Causes and contributing factors		No evident causes or concepts contributing to the incident.	

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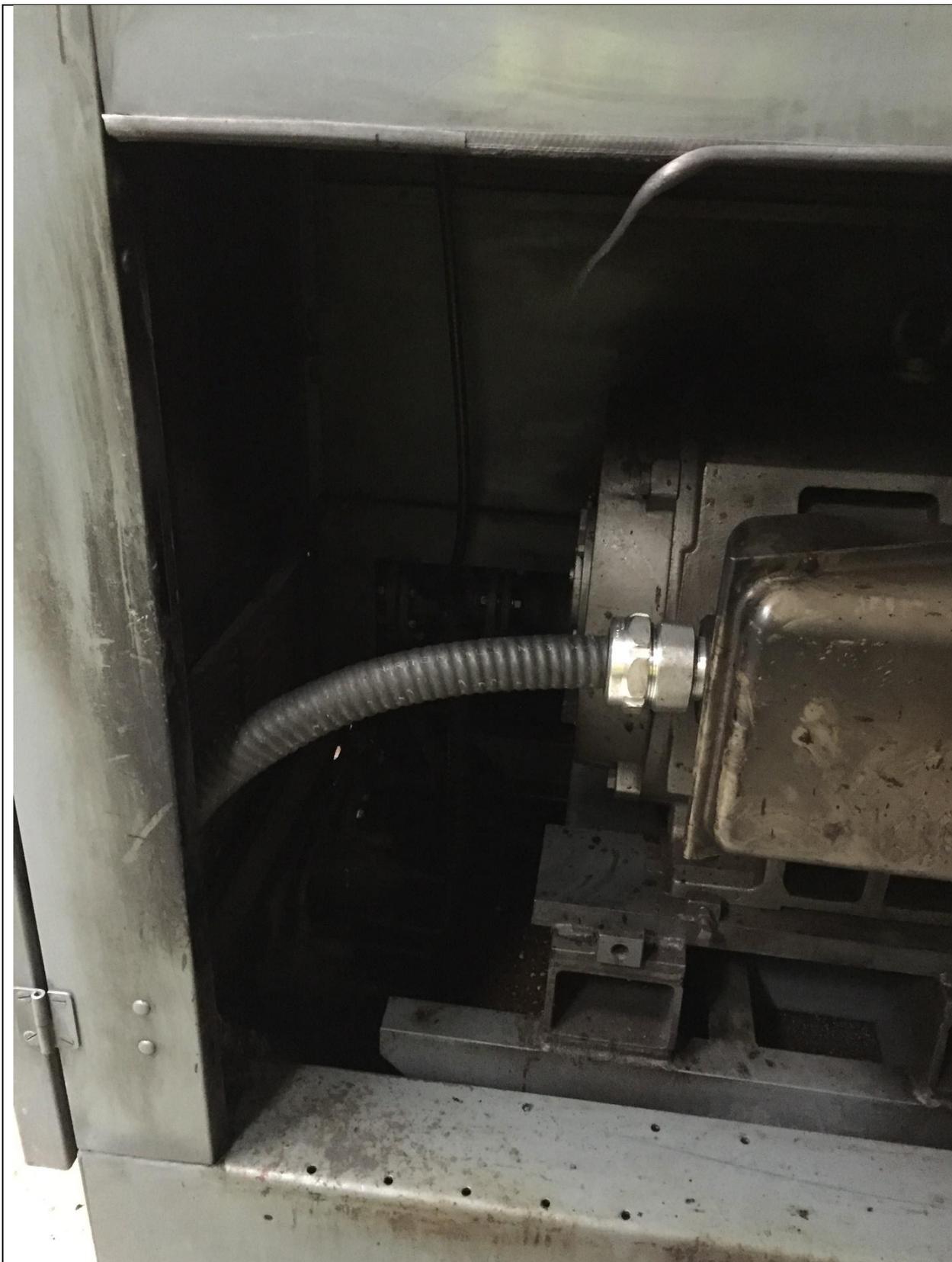
#3 AIR COMPRESSOR, E&M PLANT. ELECTRICAL SUPPLY: 600 VOLT, 3 PHASE VIA 3 CONDUCTOR, SIZE #350KCM TECK90 TYPE CABLE.

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CABLE FAILURE OCCURRED TO A SECTION OF A MOTOR FEEDER CABLE THAT IS SUPPLIED AND INSTALLED BY THE MANUFACTURER. THE FAILURE OCCURRED BETWEEN PHASE CONDUCTORS; THE EQUIPMENT HAS GROUND FAULT MONITORING AND INDICATION AND DID NOT DISPLAY ANY EVIDENCE OF A GROUND FAULT PRIOR TO THE FAILURE.

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REPAIRS COMPLETED BY FACILITY MAINTENANCE PERSONEL. CABLE CHARACTERISTICS AND ROUTING MATCHED THE ORIGINAL AS SUPPLIED BY THE MANUFACTURER.