Underground eLearning
Course Catalog
Continuous Miner

**Continuous Miner Automation Training**
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Lesson 3 – CMA Operator Screens and Loading Sequence Tables

**Continuous Miner Lightweight Remote Training**
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**Continuous Miner JNA FACEBOSS Screen Navigation**
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**Continuous Miner SMARTZONE Training (1st Generation)**
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**Continuous Miner Pre-Shift Machine Inspection**
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Continuous Miner Lubrication Training

Lesson 1.1 – Continuous Miner Lubrication Training

Continuous Miner Two-Way Remote Training

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Lesson 1.3 - 12CM27 Set-Up for Two-Way Remote Operation
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Continuous Miner Dust Collector System Training

Lesson 1.1 – Continuous Miner Dust Collector System
Shuttle Car

Global 10SC32 Electrical Components Training

Global 10SC32 Electrical Components – Pre-Assessment

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Lesson 1.2 – Protection Devices

Lesson 1.3 – Supply

Lesson 1.4 – Control

Lesson 1.5 – Display Unit and Screen Navigation

Lesson 1.6 – Diagnostics Lesson 1

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Global 10SC32 Electrical Components – Post-Assessment

Global 10SC32 Operator Training

Global 10SC32 Operator – Pre-Assessment

Lesson 2.1 – General Overview

Lesson 2.2 – Safety Devices

Lesson 2.3 – Instruments and Control

Lesson 2.4 – Start-Up Procedures

Lesson 2.5 – Machine Tramming

Lesson 2.6 – Routine Maintenance

Global 10SC32 Operator – Post-Assessment
Shuttle Car (Cont.)

**Global 10SC32 Mechanical/Hydraulic Training**

Global 10SC32 Mechanical/Hydraulic Pre-Assessment

Lesson 3.1 – Safety Devices

Lesson 3.2 – Mechanical Systems

Lesson 3.3 – Pump Circuit and Components

Lesson 3.4 – Brake Circuit and Components

Lesson 3.5 – Cable Reel Circuit and Components

Lesson 3.6 – Conveyor Circuit and Components

Lesson 3.7 – Enclosure Cooling and Steering Circuits and Components

Lesson 3.8 – Floorjack and Powerfill Circuits and Components

Lesson 3.9 – Return Circuit and Components

Lesson 3.10 – Towing Circuit and Components

Lesson 3.11 – Mechanical Maintenance

Lesson 3.12 – Hydraulic System Maintenance

Lesson 3.13 – Machine Lubrication

Global 10SC32 Mechanical/Hydraulic Post-Assessment
Shuttle Car (Cont.)

**USA 10SC32 Electrical Components Training**

USA 10SC32 Electrical Components Pre-Assessment

Lesson 1.1 – Introduction

Lesson 1.2 – Protection Devices

Lesson 1.3 – Supply

Lesson 1.4 – Control 1

Lesson 1.5 – Control 2

USA 10SC32 Electrical Components Post-Assessment
Longwall

Longwall Product Overview

Lesson 1.1 – PRS Orientation
Lesson 1.2 – PRS Operational Overview
Lesson 1.3 – PRS Electrical Overview
Lesson 1.4 – PRS Mechanical Overview
Lesson 1.5 – Shearer Orientation
Lesson 1.6 – Shearer Operational Overview
Lesson 1.7 – Shearer Electrical Overview
Lesson 1.8 – Shearer Mechanical Overview
Lesson 1.9 – Coal Clearance Orientation
Lesson 1.10 – Coal Clearance Operational Overview
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Lesson 1.12 – Coal Clearance Mechanical Overview
Longwall (Cont.)

**Powered Roof Supports Operator Training**

Lesson 3.2 – Equipment Safety and Isolation
Lesson 3.3 – Modes of Control
Lesson 3.4 – Mimic Identification
Lesson 3.5 – Mimic LCD Display
Lesson 3.6.1 – Manual Hydraulic Control (Levers)
Lesson 3.6.2 – Manual Hydraulic Control (Buttons)
Lesson 3.6.3 – Manual Hydraulic Control (Grosvenor)
Lesson 3.7 – Adjacent Override Control
Lesson 3.8 – Remote Adjacent Control
Lesson 3.9 – Bank Control
Lesson 3.10 – Free Running Control
Lesson 3.11 – Shearer Initiation Control
Lesson 3.12 – Deleting, Canceling, and Pausing Primes
Lesson 3.13 – Wedge Points
Lesson 3.14 – Marking Shields
Lesson 3.15 – Face End Automation
Lesson 3.16 – Advance Faults / Reset System
Lesson 3.17 – Longwall Information System
Lesson 3.18 – Auto Drag
Lesson 3.19 – Push Restoration
Longwall (Cont.)

**Powered Roof Supports Electrical Training**

Lesson 4.1 – System Layout
Lesson 4.2 – Major Components
Lesson 4.3 – Sync, Buffer, Barriers, and ACK
Lesson 4.4 – Dump Valve
Lesson 4.5 – Transducers
Lesson 4.6 – Inclinometers
Lesson 4.7 – Cameras
Lesson 4.8 – Lighting
Lesson 4.9.1 – Solenoids (Generic)
Lesson 4.9.2 – Solenoids (Grosvenor)
Lesson 4.10 – Power Up
Lesson 4.11 – RS20s Fault Finding
Longwall (Cont.)

**Powered Roof Supports Hydraulic/ Mechanical Training (Generic)**

- Lesson 14.1 – PRS Layout
- Lesson 14.2 – PRS Major Hydraulic Components
- Lesson 14.3 – Hydraulic Legs
- Lesson 14.4 – Dump Valve
- Lesson 14.5 – PRS Isolation and Dissipation
- Lesson 14.6 – PRS Safety Devices
- Lesson 14.7 – Ringmain Circuit
- Lesson 14.8 – Standing Feed Circuit
- Lesson 14.9 – Leg Set Circuit
- Lesson 14.10 – Power Lower Circuit
- Lesson 14.11 – Base Lift Circuit
- Lesson 14.12 – Advance Circuit
- Lesson 14.13 – Push Circuit
- Lesson 14.14 – Stabilizer Circuit
- Lesson 14.15 – Side Shield Circuit
- Lesson 14.16 – Inner Sprag Circuit
- Lesson 14.17 – Outer Sprag Circuit
- Lesson 14.18 – Water Circuits
- Lesson 14.20 – Stabilizer Ram Testing
Longwall (Cont.)

**Shearer Operator Training**

Lesson 6.1 – Shearer Equipment Familiarization (Grosvenor)

Lesson 6.1 – Shearer Equipment Familiarization (Generic)

Lesson 6.2 – Longwall Equipment Safety

Lesson 6.3 – Shearer Emergency Shutdown

Lesson 6.4 – Shearer Isolation

Lesson 6.5 – Instruments and Controls

Lesson 6.6 – Two Way Remote Control

Lesson 6.7 – Shearer Remote Motion

Lesson 6.8 – Battery Charger and Remote Test Station

Lesson 6.9 – Pre-Start, Start-Up, and Shutdown Procedures

Lesson 6.10 – FaceBoss Screens

Lesson 6.11 – Routine Shearer Maintenance
Longwall (Cont.)

**Shearer Electrical Training**

Lesson 7.1 – Equipment Familiarization (Grosvenor)
Lesson 7.1 – Equipment Familiarization (Generic)
Lesson 7.2 – Longwall Equipment Safety
Lesson 7.3 – Machine Safety
Lesson 7.4 – Emergency Shutdown
Lesson 7.5 – Machine Isolation
Lesson 7.6 – Motor Location and Overview (Grosvenor)
Lesson 7.6 – Motor Location and Overview (Generic)
Lesson 7.7 – Shearer Electrical Enclosures
Lesson 7.8 – Shearer Field Devices
Lesson 7.9 – Shearer Electrical Panel Layout (Grosvenor)
Lesson 7.9 – Shearer Electrical Panel Layout (Generic)
Lesson 7.10 – Schematics
Lesson 7.11 – FaceBoss Control System and Devices
Lesson 7.12 – FaceBoss Display
Lesson 7.13 – Comms Layout
Shearer Hydraulic/ Mechanical Training

Lesson 8.1 – Shearer Equipment Familiarization (Grosvenor)

Lesson 8.1 – Shearer Equipment Familiarization (Generic)

Lesson 8.2 – Longwall Equipment Safety

Lesson 8.3 – Shearer Emergency Shutdown

Lesson 8.4 – Isolation

Lesson 8.5 – Hose and Staple Identification

Lesson 8.6 – Shearer Haulage System

Lesson 8.8 – Hydraulic System Overview (Grosvenor)

Lesson 8.8 – Hydraulic System Overview (Generic)

Lesson 8.9 – Pump Circuit and Components (Grosvenor)

Shearer Hydraulic/ Mechanical Training (Cont.)

Lesson 8.9 – Pump Circuit and Components (Generic)

Lesson 8.11 – Function Circuits and Components

Lesson 8.12 – Dust and Fire Suppression

Lesson 8.13 – Control System Event Messages

Lesson 8.15 – Mechanical Maintenance

Lesson 8.16 – Hydraulic System Maintenance
Longwall (Cont.)

Coal Clearance Operator Training

Lesson 10.1 – System Layout
Lesson 10.2 – Major Components
Lesson 10.3 – Equipment Safety and Isolation
Lesson 10.4 – Instruments and Controls
Lesson 10.5 – Boot End Operation
Lesson 10.6 – Pre-Start, Startup, and Shutdown
Lesson 10.7 – Reverse Conveyor Operation
Lesson 10.8 – Pivot Arm Tensioners
Lesson 10.9 – JOS Display Screens
Lesson 10.10 – Routine Maintenance

Coal Clearance Electrical Training

Lesson 11.1 – Equipment Safety and Isolation
Lesson 11.2 – Motor Details (Grosvenor)
Lesson 11.2 – Motor Details (Generic)
Lesson 11.3 – BSL and Crusher Electrical Components (Grosvenor)
Lesson 11.3 – BSL and Crusher Electrical Components (Generic)

Coal Clearance Electrical Training (Cont.)

Lesson 11.4 – AFC Electrical Components (Grosvenor)
Lesson 11.4 – AFC Electrical Components (Generic)
Lesson 11.5 – Turbo Transmission Technologies (TTT)
Lesson 11.6 – Vibration Sensors (Grosvenor)
Lesson 11.6 – Vibration Sensors (Generic)
Lesson 11.7 – Cables
Lesson 11.8 – AFC and BSL DCM Components
Lesson 11.9 – Trip Amplifier and DCM Setup
Lesson 11.10 – DCM Manual Control
Lesson 11.11 – Sag Switch
Lesson 11.12 – Display Screens
Lesson 11.13 – Joy Global Line Diagrams (Grosvenor)

**Coal Clearance Hydraulic/ Mechanical Training**

Lesson 12.1 – Equipment Safety and Isolation
Lesson 12.2 – Major Components
Lesson 12.3 – Hose and Staple Identification
Lesson 12.4 – Turbo Transmission Technology (TTT)
Lesson 12.5 – DCM System
Lesson 12.6 – Boot End
Lesson 12.7 – Ancillary Equipment
Lesson 12.8 – Routine Maintenance: Chain Maintenance
Lesson 12.9 – Routine Maintenance: General Maintenance
Lesson 12.10 – Lubrication (Grosvenor)
Lesson 12.10 – Lubrication (Generic)
Lesson 12.11 – Component Removal and Replacement

**Longwall Hydraulics Training**

Lesson 13.1 – Overview and Familiarization
Lesson 13.2 – Tramming and Oil Hydraulic
Lesson 13.3 – Emulsion System and Isolation
Lesson 13.5 – Hydraulic Circuits and SCADA
Lesson 13.6 – The Kamat Pump System
Lesson 13.9 – Electrical Field Devices and Basic Overview

Lesson 13.10 – Shearer Water Pump, Filter Pod, and Dump Pod

**Advanced Shearer Automation Training**

- Lesson 9.1 – Advanced Shearer Automation Introduction
- Lesson 9.2 – ASA Field Devices and Components
- Lesson 9.3 – Machine Dimensions and Shearer Profile
- Lesson 9.4 – ASA Operator Interfaces
- Lesson 9.5 - Graphical Offline Planner: Part 1
- Lesson 9.6 – Graphical Offline Planner: Part 2

**Conveyor Operator Training**

- Lesson 1 – Pre-Operational Checks
- Lesson 2 – HMI Display
- Lesson 3 – Conveyor Operation
- Lesson 4 – BMS Operation
- Lesson 5 – Alignment and Tracking

**Conveyor Overview Training**

- Lesson 1 – Conveyor Orientation
- Lesson 2 – Safety and Isolation
- Lesson 3 – Common Conveyor Terminology
- Lesson 4 – Operator Overview
- Lesson 5 – Electrical Overview
Lesson 6 – Mechanical Overview
Lesson 7 – Maintenance Overview
Lesson 8 – Joy Global Technical Information

**Longwall Monorail Orientation**

Lesson 1 - Longwall Monorail Orientation