Company Name:	Equipment/Job Identification: DBT
	Type of Equipment: REMOTE CONTROL
Mine Name:	CONTINUOUS MINER OPERATOR
	Make: DBT America
	Model: 25M – 2 950 volt ac
Date of Analysis:	Year:
•	Use:

Pre-Assessment

New Miner or Newly Hired Experienced Miner Training

Duty 1: Start of Shift Activities

Learner will demonstrate and explain how to make preparations for a safe and healthful work shift through proper equipment selection and readiness. Start of shift activities will include the following steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking 1=Important 2=Very Important 3=Critical	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
Be on time	Another person not experience with running the equipment may have to fill in for you			Company policy
Change into work clothes				
Obtain safety equipment	Personal safety			
 Hard toe shoes 				
Hard hat	Personal safety-Protection of falling objects			
 Gloves 				
 Get Kevlar gloves 				Company safety policy (PPE)
 Get rubber gloves 				Company safety policy (PPE)
 Hearing protection 				Company safety policy (PPE)
 Safety glasses 	Protect your eyes			
Miner's belt				
 Check tags 				

SR100 SCSR	Protection from noxious gases	
Worn on belt		
Check SCSR		
Check indicator		
Check for damage		
Check heat		
sensor if equipped		
Check reflective material		Better visibility of personnel underground
Harness		
 Hard hat 		
 Clothes 		
• Light		
Inspect for conditions		
that compromise permissibility		
 Check lens cap lock in place 		
 Cable insulation conditions 		
 Check water level in battery 		
 Check function of both bulbs 		
Tag in		
Check for hand tools		
 Hammer 		
 Spray wrench 		
 Utility knife 		
 Channel locks 		
 Screwdriver 		
 Extra water sprays 		
Get methane spotter	Essential to check for methane	Liberates over 1 million cubic feet in 24 hours (Review properties of methane)
 Check battery 		

Chapleing polibration			
Checking calibration			
 Check for physical damage 			
to case			
Check previous shift maintenance report			
 Look for down time 			
 Check for potential problems 			
Report to section foreman			
Get communication radios			
 Conduct radio check 			
Conduct visual exam			
Take spare battery			
Obtain anemometer/velometer	Knowing your air flow helps to keep methane and dust under control		
Check supply of bits			
Check for proper pull ropes or straps			
Get on slope car/elevator			
Wear safety glasses			
Get on man trip when arriving at bottom			
Keep safety glasses on			
Keep arms and legs inside the mantrip			

Learner will demonstrate how to conduct a safe and thorough workplace examination upon arrival at the work site. Learner will also explain the items to be checked and to ensure that proper controls are in place. A workplace examination should include the following:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking 1=Important 2=Very Important 3=Critical	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
Examine roof	Extremely fragile roof conditions Even small pieces of roof can cause serious injury			
Examine ribs Examine for slipping and tripping hazards	Sloughing causes serious injury Third biggest lost time injury in the industry			
Check power supply breakers from cat head • Check proper breaker				
Setting Check for insulation mat Check for proper labeling	Prevention of serious injury or death.			
Check for cable insulation damage	Turning wrong power on could be lethal. Stray current could cause electrical shock involving death or serious injury			Scrapes, bruises, improper slices, worn splices
Check for restraining clamp Check with previous shift when arriving on section for location of equipment				
Observe for moving equipment	Loss of life or disabling injury			Everyone needs to communicate and be visible
Check roof and rib conditions	Extremely fragile roof conditions Even small pieces of roof can cause serious injury			
Check bottom conditions	Third biggest lost time injury in the industry	2		
 Check for slipping and tripping conditions 	Third biggest lost time injury in the industry			
Check ventilation controls	Ventilation failures could cause mine explosion and long term health problems			
Fix any problems with ventilation controls	Ventilation failures could cause mine explosions and long term health problems			
Check for accumulation of spillage	Could cause dust explosions and health hazard. "You can't sell it if it is on the bottom". Results in citations and			

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking 1=Important 2=Very Important 3=Critical	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
	closures.			
Check for advancement slack in cable	Take a chance of pulling it out of the junction box. You don't want to have to go back and get additional cable (efficiency issue)			
Check for other cables in the general	Your machine could damage other			Bolter cables
area	cables, create shock hazards and an efficiency issue			Shuttle car cables
Check for water supply leaks				
Check restraining clamp at the miner	Create shock hazard, create permissibility issue, explosion hazard, and loss of production			
Check the conduit is in restraining clamp around the cable	Permissibility issue, provides added protection to cable and operator against electrical shock			
Check slate bar on miner				Proper use of slate bar
Check sledge hammer				
Check cleanliness of miner	Ensure access to fire suppression and prevents fire hazards. Reduces maintenance repair time.			
Check for methane probe or magnet in holder	'			
 Check for damage to probe cradle 				

Duty 3: Conduct dust parameter exam

Learner will demonstrate how to conduct a thorough dust parameter examination. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A thorough dust parameter examination includes the following job steps:

NOTE: Some dust parameter exams may be completed in conjunction with the continuous miner pre-op.

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking 1=Important 2=Very Important 3=Critical	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
Energize machine				
Knock tram breaker	Prevent accidental start ups, prevent personal injury			
Knock cutter breaker	Prevent accidental start ups, prevent personal injury			
Check water pressure on the gauges for sprays				Review methane, ventilation and dust control plan
Turn scrubber on				
Check flow with pitot tube				Take three readings to get an average reading
Turn sprays on				
Turn sprays off				Must maintain at least 50 psi in order to meet regulations (Refer to plan)
Observe spray discharge				
Check for excessive leaks on miner and water hose				
Check cut ventilation				
Report completion of exam to foreman				Foreman is required to record

Duty 4: Conduct walk around (power off)

Learner will demonstrate how to conduct a safe and thorough walk around the continuous miner with the power off. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A thorough walk around inspection includes the following job steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking 1=Important 2=Very Important 3=Critical	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
Place miner at intersection	Allows escape way, gives you room to work and examine, easier access, no ribs to fall on you			Complete the mining cycle cut, then move miner to intersection for pre-op checks
Conduct workplace safety exam	Workplace examinations are necessary to identify possible hazards.			
De-energize the miner at the machine				
Check for leaks (oil or water)				
Check cutter drums for foreign objects (line curtain, cable bolts and electrical cable fragments)	Major downtime and possibility of cutter head throwing material at the operator.			
Check the cat seals on cutter head	Major downtime			Observe openings in drum area for oil leaks. Refer to the manual
Check all lights				
Check light covers	Affects permissibility and explosion source			
Check lens	Affects permissibility and explosion source			
Check packing glands				
Check conduit				
 Check for loose or missing bolts 	Create explosion potential source			
Check that methane monitor is securely				

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking 1=Important 2=Very Important 3=Critical	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
mounted and cap is clean				
Check for all guards, rub rail, and panel covers in place	Prevent damage to the internal components and major down time			
Ensure all pins and rub rails are in place	Prevent damage to the internal components and major down time			Reference to the diagram provided by manufacturer
Visually check water pressure gage				Minimum 50 psi head spray
Check and set bits	Affects production, provides better penetration, no damage to the bit lugs, reduces maintenance cost			Cat head has to be locked and tagged out before bits can be set
Check conveyor chain	Wears foot shaft, chain can become a missile, creates flying debris, cutter head can pick up conveyor chain.			Damage, slack, missing flights, flex board bolts, loose or missing shims and broken take up springs

Duty 5: Conduct walk around power on

Learner will demonstrate how to conduct a safe and thorough walk around of the continuous miner with the power on. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A thorough walk around inspection includes the following job steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking 1=Important 2=Very Important 3=Critical	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
Check methane monitor	Liberates over a million cubic feet of methane in a day. Failure to check methane monitor could be an explosion source			Ensure correct calibration to handheld detector
Depress self-test button	Ensures that the equipment is operating properly			Observe for flash at 1% and shutdown at 1.5%
Check function of on-board E-stops	Ensures the safe shutdown of the machine in an emergency			
Check remote circuit breaker reset	Keeps people out of unsafe conditions			Check each shift
Check emergency stop function on remote box	Ensures the safety shutdown of the machine in an emergency			Must kick breaker on power center

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking 1=Important 2=Very Important 3=Critical	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
Check cats for slack and spray operation	Controls heat and reduces component wear			Also look at pins and cracked pads
Visually check head sprays	Malfunctioning of sprays affects the ventilation/dust control plan; also controls the heat on the motors.			Check for pressure, function and for missing sprays Minimum working sprays, refer to approved ventilation plan

Check energtion of corubbar aveters	Protects the miner's health and if not	
Check operation of scrubber system		
	functioning properly there could be dust	
	accumulation. Production issue and	
	improves visibility	
Check filter cleanliness		
 Ensure ductwork is clean 		
Ensure sump is clean		Clean by back flush
 Check plug in sump bottom and in good condition 		
Ensure demister is clean		Clean by back flush
Check scrubber system sprays		
Check scrubber door seal		
 Ensure minimum quantity of air in 		Refer to approved ventilation plan
system		
Try all remote box functions for proper	Essential for this box to operate the way	Be sure all personnel are clear of the
operation	it is designed. Erratic movement of	RED ZONE
·	machine could kill	
Operate Tram enable	Essential for this box to operate the way	Give LOUD verbal warning before
	it is designed. Erratic movement of	starting pump motor.
	machine could kill	311
Operate Panic switch	Essential for this box to operate the way	
·	it is designed. Erratic movement of	
	machine could kill	
Activate Fire suppression	Essential for this box to operate the way	
	it is designed.	
Operate all other control	Essential for this box to operate the way	
functions	it is designed. Erratic movement of	
	machine could kill	

Duty 6: Machine Startup

Learner will demonstrate how to perform machine startup procedures in a safe manner. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough machine start up sequence includes the following steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking 1=Important 2=Very Important	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
	· ·	3=Critical		
Make methane test	Methane will accumulate unexpectedly			Review the properties of methane
Check ventilation	Affects the control of methane and dust if not kept up.			
Conduct workplace exam	Workplace examinations are necessary to identify possible hazards.			At each cut
Attach slack ropes	Prevents damage to the cable, saves down time			Depends on mining cycle
Start the machine	Can not mine coal if machine is not running			
Clear RED ZONE	Continuous miner could malfunction, prevents crushing injuries.			
Signal start	Continuous miner could malfunction, prevents crushing injuries.			
Start pump motor	Continuous miner could malfunction, prevents crushing injuries.			Hold shift button and hold pump start button simultaneously Forced potato start functions may vary, refer to remote type
Tram inby				
Activate tram enable	Enables tram operation			Twice for high tram speed If cats are split, tram speed is automatically reduced to low speed
 Position yourself clear of RED ZONE 	Prevents crushing injuries			Refer to RED ZONE diagram
Activate forward tram switch	Engages forward motion of the machine			CAUTION: When moving from the rear of the machine to the front of the machine to tram, operator may become disorientated with control functions.

Duty 7: Cutting Coal

Learner will demonstrate how to safely operate the continuous miner in coal cutting operations. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. Proper coal cutting operations include the following job steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking 1=Important 2=Very Important 3=Critical	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
Do not cut any face until				
Bolted, cleaned up and rock dusted	Crushing blow from fallen rock could be fatal. Going inby roof support could cause serious injury or death. Cleaning and rock dusting prevents explosion potentials			Within 4 feet of the face. Warning device installed second to last row of bolts
Setup on curtain side	Must comply with the approved ventilation and dust control plan.			Curtain side with the blowing ventilation on the right side and exhausting is on the left side.
Check center lines	Essential for maintaining block size which affects the roof control. Straight entries make it better for the shuttle car haulage and cleanup.			Explain reference points on machine
Check air at the start and periodically through the cut	Ventilation, keeps methane and dust controlled.			Use velometer to measure the air movement.
Start the ripper head	Essential to start mining process			CAUTION: Cutter head starting in a LOUD voice. Make sure cutter heads are off the bottom, slightly away from face and below the roof.
Hold shift and pull cutter toggle down				
Release toggle after start				Water turns on automatically, if motor cooling and head sprays do not turn on, shut miner down.
Engage tram enable switch				
Tram forward				Dath and will appeal to be asset.
Both cats				Both cats will remain in low speed forward as long as you are cutting. Refer to manufacturer's specifications for additional information on shearing speed control

Job Steps	Importance Narrative	Importance Ranking	Satisfactory	Procedures/Risk Resolution/
	(Consider Safety, Production, Maintenance)	1=Important 2=Very Important 3=Critical	or Needs Work	Notes/Comments
Sump into coal				
 Bottom first, then cut up 				
 Back the miner up one drum width 				This also dresses the bottom
Raise the head, cut into the top				
Sump down				
Repeat cycle until number 1 lift is complete				
Advance the line curtain	Maintaining the ventilation for dust and methane control			Explain how to roll up curtain According to plan
Do workplace exam	Ensure a healthy and safe work environment. Conditions may change very quickly.			
Check air				
 Examine for methane 				Every 20 minute maximum
Reposition the miner				If curtain side is cut first while staying out of the RED ZONE , reposition the miner on the opposite side paying attention to your cut width. Refer to roof control plan.
 Remove number 2 lift 				
 Repeat the cut cycle for lifts 3 and 4 				
Cleanup				
Clean right side				
Clean left side				
Back miner at least 4 bolt rows	Eliminates exposure to unsupported roof.			After cleanup is completed
Shut miner down				
Adjust line curtain	Approved ventilation methane dust control plan			
 Hang warning device 	Warns others of unsupported top			Reflectors, ribbons, and/or signs
Make final gas examination	Allows bolter to come in without having to make special trip for gas examination and eliminates the need to probe that face by the bolter.			

Duty 8: Loading Shuttle Cars

Learner will demonstrate how to safely load the shuttle cars. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. The shuttle car loading procedures include the following job steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking 1=Important 2=Very Important 3=Critical	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
Precut coal	Speeds up production			
Place miner boom in center of shuttle car	Prevents spillage, saves clean up time, increases production, keeps you from getting citations			Not against the top, not laying in bed of shuttle car Transmitter hydraulic functions do not require shifting
Start conveyor				
 Hold shift toggle up 				
 Hold up on conveyor on toggle 				Release after conveyor starts
Load shuttle car	Have to transport coal to feeder			
 Communicate with shuttle car operator 	Prevents spillage, helps maintenance on the shuttle car			
Do not overload the back of the car	Prevents spillage, helps maintenance			
Position yourself out of the miner RED ZONE	Prevents crushing injuries			
Be visible	Keeps you from getting run over			Clothing, cap light towards car man
Position yourself away from shuttle car	Keeps you from getting run over			Think about you body position

Duty 9: Place Change

Learner will demonstrate how to conduct a safe and thorough place change during mining operations. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A proper place change procedure will include the following job steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking 1=Important 2=Very Important 3=Critical	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
Attach slack rope to the miner	Prevents damage to cable, prevents production downtime, saves you a lot of work			Any time you attach additional slack ropes, follow this procedure
Shut miner down	Prevents crushing injuries Zero potential for unexpected movement			Shift key down Push up on pump toggle
Restart miner out of the RED ZONE	Prevents crushing injuries			Yell LOUDLY "starting the miner"
Tram to next cut	Efficient moves will increase productivity			Tram enable has to be re-energized if not used within 3 seconds from time it is released
Ensure that all personnel are out of RED ZONE	Prevents crushing injuries			

Duty 10: Cable Handling and Slack Ropes

Learner will demonstrate how to safely handle cables and slack ropes during the mining cycle. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. Proper procedures include the following job steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking 1=Important 2=Very Important 3=Critical	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
Back miner until you can attach the pull rope to the miner				Usually one length of the miner
Shut off miner	Zero potential for unexpected movement			Be aware of RED ZONE
Wear rubber gloves	Prevent shock hazard			
Attach pull rope to pan hooks on the miner				
Position yourself outside of the RED ZONE	Prevents crushing injuries			
Restart the miner				
Repeat the cycle until desired location is reached				
Pulling forward, ropes attached	Prevents damage to cable			Be sure to drop proper ropes off to prevents knots
Shut off miner	Zero potential for unexpected movement			
Drop one loop of cable at a time	Prevents tangled cable Increase production time			Be sure to drop proper ropes off to prevents knots
Position yourself outside of RED ZONE	Prevents crushing injuries			
Restart miner				
Tram forward				
Repeat cycle until you are at the next place				Remember, must have enough slack to take next cut
Get help to hang cable at necessary locations	Prevents back strains, other handling materials injuries			

Duty 11: Turn Crosscut to the Right

Learner will demonstrate how to safely turn crosscut to the right. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A thorough pre-operational inspection includes the following job steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking 1=Important 2=Very Important 3=Critical	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
Conduct workplace exam	Workplace examinations are necessary to identify possible hazards			
Ensure crosscut is marked off	Can't turn crosscut if it is not marked off			Mark off the outby rib line
Install warning devices 2 full rows back from outby rib line	Warns people about unsupported roof			
Position yourself out of the RED ZONE	Prevents crushing injuries or fatality			
Turn miner on				Yell LOUDLY "starting the miner"
Position right hand side of cutter head at	Keeps breaks on centers			
the mark on the outby rib line	Makes it easier for haulage equipment Section looks better Maintains pillar size for roof support			
Start the cutter head				Yell LOUDLY "starting the cutter head"
Keep repeating short angle cuts until the miner is turned 90 degrees	Helps in turning break (Keeping it on centers)			If permanent roof support has been damaged in any way move back 2 rows
Advance line curtain	Prevents methane accumulations, Controls dust			
Cleanup	Essential for pinners to do their jobs, helps efficiency			
Make methane check	Methane will accumulate unexpectedly			Checks not to exceed 20 minutes
Remove miner to next cut				
Repeat process of place change				

Duty 12: Job Duties between Cuts

Learner will demonstrate how to conduct job duties that are needed between cuts. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. The duties required between cuts are as follows:

Job Steps	Importance Narrative	Importance Ranking	Satisfactory	Procedures/Risk Resolution/
	(Consider Safety, Production, Maintenance)	1=Important 2=Very Important 3=Critical	or Needs Work	Notes/Comments
Position the miner in the crosscut	Allows escape way, gives you room to work and examine, easier access, no ribs to fall on you			
Leave cutter head off the bottom at least 2 inches				
Shut down miner	Prevents unexpected movement			
Lockout and tag out at cat head power center	Prevents unexpected movement/startup of ripper head or cutter			
Perform scrubber maintenance	Complying with dust control plan. Makes scrubber works more efficiently, creates a more healthy atmosphere, better visibility when cutting			
Clean duct work	Complying with dust control plan. Makes scrubber works more efficiently, creates a more healthy atmosphere, better visibility when cutting			
Pull screen out, tap it, and spray it	Complying with dust control plan. Makes scrubber works more efficiently, creates a more healthy atmosphere, better visibility when cutting			
Spray the demister	Complying with dust control plan. Makes scrubber works more efficiently, creates a more healthy atmosphere, better visibility when cutting			
Spray out the sump	Complying with dust control plan. Makes scrubber works more efficiently, creates a more healthy atmosphere, better visibility when cutting			

Change bits	Can't cut without bits	
Wear safety glass	Prevent eye injuries	
Rotate head manually		
o Use tools		
 Use rock bar or pipe 	This head is hard to turn, prevents injury	
	from over-straining	
 Ask for help to turn head 	This head is hard to turn, prevents injury	
	from over-straining	
 Remove old bits 	Old bits could foul up the other	Place in bucket, give to scoop man for
	equipment (conveyor chains, etc.)	disposal
	Could cause downtime	Try to get a car man to change bits
 Remove personnel from RED 	Prevents crushing injuries or fatalities	
ZONE		
 Re-energize miner 		
Clean miner	Major downtime and possibility of cutter	
	head throwing material at the operator	
 Wear gloves 		
Break pieces with sledge if		
possible		
Remove large pieces with chain		Do not use existing roof support for
5 ,		an anchor
 Hose coal dust off miner 	Explosion/Fire Prevention	
Hose crossover tubes at	Prevents equipment damage due to	At front of conveyor
conveyor	buildup of compacted material – under	Use high pressure water
•	conveyor side	Be careful not to get under boom
		Also spray out conveyor pivot
		between conveyor swing jack bracket
I		and flex boards

Duty 13: End of Shift Activities

Learner will demonstrate how to safely conduct end of shift activities. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. The required end of shift duties includes the following:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking 1=Important 2=Very Important 3=Critical	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
Park machine between blocks outby last open crosscut last shift of the week	Due to adverse roof conditions Good practice			Company Policy
Conduct final ventilation check on last shift before weekends	Ensure against accumulations in places that might not be ventilated			Company Policy
Conduct a red button transmitter check on the remote box at the end of every second shift	To ensure proper functions of transmitter button			Company Policy
Check radio control battery backup on the fire suppression system every Tuesday at the end of second shift	Only way to activate fire suppression when power is off the miner (ensures battery is working)			Company Policy
Communicate with oncoming shift	Affects safety, production and maintenance			
Get on slope car/elevator				
 Wear safety glasses 				
 Get on man trip when arriving at bottom 				
Turn in equipment	Must be recharged for each shift			
Including light	Must be recharged for each shift			
Tag out				
Turn in methane spotter	Must be recharged for each shift, to ensure proper calibration			
Turn in radio				