

Company Name:	Equipment/Job Identification: Driller Type of Equipment: Ingersoll-Rand Model ECM 350 air-track drill Make: Model: Year: Use:
Mine Name:	
Date of Analysis:	

Pre-Assessment

- **List pre-requisites here**

- Part 46 Training (i.e. site specific)
- Proper Lifting Techniques
- Haz Com Training (Hazardous Chemicals)
- Part 62 Training (Noise)
- Health
 - Silica
 - Heat Stress
- Personal Protective Equipment
 - Proper attire
- Traffic patterns and haulage
- Fall Protection (donning harness, etc.)

Duty 1: Start of Shift

Learner will explain the importance of start of shift activities. The learner will explain each job step, why it is conducted, any associated risk, and how to implement appropriate controls. Start-of-shift activities include the following job steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/Notes/Comments
		1=Important 2=Very Important 3=Critical		
Assess fitness for duty (self-assessment)				

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/Notes/Comments
		1=Important 2=Very Important 3=Critical		
Clock in at scale house				
Talk to supervisor				Supervisor/trainer needs to assess "fitness for work" for each member of crew
<ul style="list-style-type: none"> Get instructions 				Hole depth, Pattern, Drill location Amount of drilled holes
<ul style="list-style-type: none"> Discuss ground hazard analysis 				
<ul style="list-style-type: none"> Attend tool box meeting 	This may vary from day to day			
<ol style="list-style-type: none"> Discuss safety issues 				
<ol style="list-style-type: none"> Discuss productivity issues 				
Conduct site inspection/Workplace exam	Crucial for a safe workplace			
<ul style="list-style-type: none"> Look for Boulders/Obstacles 				
<ul style="list-style-type: none"> Check area for cracks and loose materials 				Check for cracks on bench floor often, especially after a shot is detonated
<ul style="list-style-type: none"> Document completion of inspection/exam 				
<ul style="list-style-type: none"> Look for Imminent danger issues 				Report to supervisor Do not enter the area
<ul style="list-style-type: none"> Check for fall hazards 				
<ol style="list-style-type: none"> Obtain necessary fall protection 				
Obtain necessary supplies				Fuel Lubricants Drill rock oil Hydraulic and motor oil Rags Brake fluid Brake cleaner Penetrating oil
Obtain Personal Protective Equipment	Critical to ensure health of employee			
<ul style="list-style-type: none"> Ear plugs 				
<ul style="list-style-type: none"> Dust mask (in bulk) 				
<ul style="list-style-type: none"> Safety glasses 				
<ul style="list-style-type: none"> Water 	Dehydration factor/heat stress			

Duty 2: Equipment Pre-op

Learner will demonstrate how to conduct a safe and thorough pre-operational inspection of the Ingersoll-Rand Model ECM 350 air-track drill. Learner will also explain the job steps, why they are conducted, any associated risk, and how to implement appropriate controls. A thorough pre-operational inspection of the Ingersoll-Rand Model ECM 350 air-track drill includes the following job steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/Notes/Comments
		1=Important 2=Very Important 3=Critical		
Examine Compressor				
<ul style="list-style-type: none"> Check motor oil level 	Low oil will cause engine damage			
<ul style="list-style-type: none"> Check transmission fluid (Dextron 3) 				
<ul style="list-style-type: none"> Check anti-freeze 				
<ul style="list-style-type: none"> Check guards 				
<ul style="list-style-type: none"> Check straps and hoses 				
<ul style="list-style-type: none"> Check tires 				
<ul style="list-style-type: none"> Check for fluid leaks 				
<ul style="list-style-type: none"> Check battery 				
<ul style="list-style-type: none"> Check chocking/blocking 				
<ul style="list-style-type: none"> Check hose couplings for safety ties/retainers 	Whipping hose could possibly cause serious personal injury			
<ul style="list-style-type: none"> Check Belts 				Compressor and alternator
Examine Drill				
<ul style="list-style-type: none"> Check hydraulic fluid level 				
<ul style="list-style-type: none"> Check rock drill oil level 	Low oil will damage drill			
<ul style="list-style-type: none"> Check water level 				
<ul style="list-style-type: none"> Check hydraulic and air hoses 				
<ul style="list-style-type: none"> Check tracks 				Loose bolts Cleats Rust Wear and tear on sprockets, idlers Rollers Track tension (Report to supervisor/maintenance if adjustment is needed)

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/Notes/Comments
		1=Important 2=Very Important 3=Critical		
<ul style="list-style-type: none"> Check drill mast 	There can be no defects on the chain - the hammer could fall resulting in an injury			<ul style="list-style-type: none"> Links <ol style="list-style-type: none"> Wear Cracks Welds Centralizer assembly Rod retainer Air hoses Hydraulic oil hoses Rod couplings for cracks Controls <ul style="list-style-type: none"> Check tightness Leaks
<ul style="list-style-type: none"> Check rods 				<ul style="list-style-type: none"> Threads Straightness Drill bits for wear and tear (look for missing diamond cutters) Couplers for Cracks, Threads, Breakage
<ul style="list-style-type: none"> Check striking bar/hammer 				Wear and tear (loose, wobbly, oil leaks, noise) Bushing (loose, noise) Leaks (air, water) Threads (loose, noise, wobbly)
<ul style="list-style-type: none"> Check drifter 	Could cause personal injury or death Entire unit could fall			Shims Wear and tear on guide (loose, noise, wobbly) Leaks (oil)
<ul style="list-style-type: none"> Check steering 				
<ul style="list-style-type: none"> Check for cracks in frame, etc. 				A thorough examination will be made on a weekly basis when greasing is done or when machine is washed

Duty 3: Start up

Learner will demonstrate how to safely start up the Ingersoll-Rand Model ECM 350 air-track drill. Learner will explain the job steps, why they are conducted, any associated risk, and how to implement appropriate controls. A safe start-up of the Ingersoll-Rand Model ECM 350 air-track drill includes the following job steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
		1=Important 2=Very Important 3=Critical		
Start compressor engine				
<ul style="list-style-type: none"> Turn toggle switch to on position 				
<ul style="list-style-type: none"> Press down on by-pass and hold for 20 seconds 				
<ul style="list-style-type: none"> Press starter button 				Engine should start
<ul style="list-style-type: none"> Allow engine to idle 				At least 10 minutes in cold weather At least 5 minutes in warm weather
Check compressor gauges				
<ul style="list-style-type: none"> Check Air pressure 				Aprx. 40 psi at start up 120 psi working
<ul style="list-style-type: none"> Check Oil pressure 				40 psi idle 50-55 psi working
<ul style="list-style-type: none"> Check Air temperature 	Hot compressed air can burn or otherwise injure			250 maximum air temp Shut down if over 250
<ul style="list-style-type: none"> Check Water temperature 				180 -200 degrees after warm up
<ul style="list-style-type: none"> Check Voltage 				24-volt
Turn air solenoid switch on to drill				Pressure will not increase to 120 psi until switch is turned on
Look/listen for air leaks		1		

Duty 4: Pattern Set-up

Learner will demonstrate how to conduct a safe and thorough pattern set-up. Learner will also explain the job steps, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough pattern set-up includes the following job steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
		1=Important 2=Very Important 3=Critical		
Check drill area	Rough drill areas could result in injury, slow down production, possibly damage machine, machine roll-over			Call for assistance to make drill area reasonably level and unobstructed. Contact loader operator to level area if needed
<ul style="list-style-type: none"> Conduct Ground Hazard Analysis 	Could loose footing, highwall could fail, personal injury			
<ul style="list-style-type: none"> Contact loader operator to remove or replace berms/boulders if necessary 				
<ul style="list-style-type: none"> Place necessary signage 				Restricted area/blasting area Not only for our employees, but to alert the general public as well
Check with supervisor				Number of holes, depth, spacing, burden - recheck with supervisor for each new drill area
Determine drill pattern	Improper drill pattern could affect the production process Could result in islands, unexploded areas, hard toes, bad shots, fly rock			Think ahead for future drill patterns Refer to drill pattern sketch
<ul style="list-style-type: none"> Consider wall angle and toe for first line 	Improper drill holes will cause the pit floor to be uneven			Try to keep pit bottom level for haulage operations
<ul style="list-style-type: none"> Square pattern off 				
<ul style="list-style-type: none"> Consult with supervisor for final approval 				
Measure off drill hole pattern	Improper drill pattern could affect the production process Could result in islands, unexploded areas, hard toes, bad shots, fly rock			
<ul style="list-style-type: none"> Use stemming pole or tape measure 				10 foot centers on holes

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/Notes/Comments
		1=Important 2=Very Important 3=Critical		
<ul style="list-style-type: none"> Measure first and second rows 				
<ol style="list-style-type: none"> Begin drilling with second row 	Vibration of drilling will expose defects/cracks from row to face Drill holes with mast and boom facing the face at all times (perpendicular)			Second row of holes will be used for your fall protection anchor Fall protection must be used when working within 15' of the face Anchor fall protection separately from machine when fall protection is in use
<ol style="list-style-type: none"> Drill the first row from face next 	Vibration of drilling will expose defects/cracks from row to face			Fall protection must be used when drilling the first row (closest to face) Fall protection must be used when working within 15' of the face Anchor fall protection separately from machine when fall protection is in use
Drill subsequent rows				
<ul style="list-style-type: none"> Measure off as needed to keep rows as straight as possible 				The closer the holes are, the finer the shot rock will be The farther apart the holes are, the larger the shot rock will be
Recheck holes for depth and stability				

Duty 5: Drilling

Learner will demonstrate how to safely operate the Ingersoll-Rand Model ECM 350 air-track drill. Learner will also explain the job steps, why they are conducted, any associated risk, and how to implement appropriate controls. Safe operation of the Ingersoll-Rand Model ECM 350 air-track drill includes the following job steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
		1=Important 2=Very Important 3=Critical		
Use fall protection	Prevent serious injury/fatality			Ensure lanyard is shorter than potential fall height Fall protection must be used when drilling the first row (closest to face) Fall protection must be used when working within 15' of the face Anchor fall protection separately from machine when fall protection is in use
Level/plumb mast	Will affect process, could result in slanted holes, bent rods, lift up mast, lost time/production			May need to use a level initially Use the spare rod rack as a guide/ indicator to determine plumb - rod standing straight up will indicate plumb
<ul style="list-style-type: none"> Extend boom 2-3' to hole marking 	This space is used to plumb boom and prevent erasure of drill hole mark			Do not over-extend boom (over-extending boom will prevent leveling of mast)
<ul style="list-style-type: none"> Lift front of tracks to apply downward pressure to mast 	To prevent machine from moving around, lifting, etc.			
Drill second row of holes from face first	Vibration of drilling will expose defects/cracks from row to face Drill holes with mast and boom facing the face at all times (perpendicular)			Use these drill holes for tie off
Lower drill bit and rod to ground				
Ensure centralizer is always clamped and locked down when first rod is lowered	Drill rod will whip around if this is not clamped Serious injury/fatality could occur Could result in damage to the hammer			Do not touch the centralizer once rod rotation has started
Turn on rotation	Won't drill if you don't turn on rotation			
Start hammer	Won't drill if you don't turn on hammer			

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/Notes/Comments
		1=Important 2=Very Important 3=Critical		
Slightly open water valve	Necessary to keep top of hole from caving in			Top part of hole is very important
Start lowering hammer	Won't drill if hammer isn't lowered			
Turn on the air (Once you begin drilling)	Failure to turn on will cause drill head to plug up If you wait until you have drilled 4-5' before turning on air, the rod will get stuck in hole permanently			
Apply necessary pressure for hammer to go down	Will affect production - will take longer to drill hole			Overpressure - will lift the mast (rotation very slow, may lockup) Under pressure - will cause rods and hammer to separate Striking bar should go 2-3" inside hammer at all times
Leave water on for first 10' when ground is loose				Plasters the loose material to sides of hole
Drill until rod coupling is about 2" from contacting the centralizer	Lowering all the way down to the centralizer could damage the rod coupling or the centralizer			Centralizer is only used as a guide for the first rod - after that, centralizer is not used
Turn off water				
Turn off hammer				
Turn off air				
Retract the rod almost to the ground with rotation on				
Turn hammer back on				
Lower rod once again into the hole				
Turn air on to blow hole out (aprx. 6')				If problems with holes voiding or caving are encountered, may need to reline holes, etc.
Re-line hole with cuttings				Up to 30' depth only
Add rod				
<ul style="list-style-type: none"> Turn off rotation 				Allow drill bit to set on bottom of hole
<ul style="list-style-type: none"> Turn on hammer and air to break (separate) the striking bar from the coupling and to loosen the rods from each other 				

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/Notes/Comments
		1=Important 2=Very Important 3=Critical		
<ul style="list-style-type: none"> Put in reverse to take striking bar from coupling and raise slowly to separate 				
<ul style="list-style-type: none"> Raise hammer all the way up and grease coupling 				Place grease on coupling end
<ul style="list-style-type: none"> Remove a new rod from rack 				
<ul style="list-style-type: none"> Place new rod on top of coupling of existing rod 				
<ul style="list-style-type: none"> Align rod with striking bar 				
<ul style="list-style-type: none"> Slowly lower hammer 				Rotation should always be counter-clockwise
<ul style="list-style-type: none"> Once striking bar grabs coupling of new rod, remove hand from rod 	Could become entangled in rotating rod			
<ul style="list-style-type: none"> Rotate slowly to couple 				
<ul style="list-style-type: none"> Ensure the two rods are connected 				Observe both top and bottom couplings at same time If you have to physically touch the rods, make sure rotation is in neutral
<ul style="list-style-type: none"> Raise both rods up all the way to make sure hole is done right, clear of obstruction, etc. 				
<ul style="list-style-type: none"> Turn on rotation, hammer and air 				
<ul style="list-style-type: none"> Slowly lower the hammer 				
<ul style="list-style-type: none"> Reset rod pressure once drilling begins 				
<ul style="list-style-type: none"> Drill until you can grab the other rod, slide it over and place it on existing rod 	Prevent personal injury (back injury, etc.)			Leave the rod at least 2' above the top of the hole, so that you don't have to lift or lower the rod
<ul style="list-style-type: none"> Repeat process with additional rods until desired depth is reached 				Remember to ensure hole is clear for each additional rod Drill an additional 5' from the face height
Remove rods from drill holes				
<ul style="list-style-type: none"> Put rods all the way down 				
<ul style="list-style-type: none"> Give it some pressure 				

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/Notes/Comments
		1=Important 2=Very Important 3=Critical		
<ul style="list-style-type: none"> Turn on hammer and air to break rods 				
<ul style="list-style-type: none"> Listen for clicking sound 				Indicates rods are loose
<ul style="list-style-type: none"> Begin picking up rods and lower centralizer 				After first coupling is out of hole
<ul style="list-style-type: none"> Lower coupling onto centralizer 				Bottom of coupling must sit on top of centralizer
<ul style="list-style-type: none"> Put rotation on reverse and slowly raise hammer to begin unscrewing 				
<ul style="list-style-type: none"> Once unscrewed, lift the hammer all the way up the mast 				
<ul style="list-style-type: none"> Manually unscrew rods and place on rack 	Could result in personal injury			
<ul style="list-style-type: none"> Lower hammer and rotate counter-clockwise to pick up next rod 				Screw in half-way to striking bar - not all the way in Do not touch rotating rod
<ul style="list-style-type: none"> Repeat process until you reach last rod 				
<ul style="list-style-type: none"> On last rod, place lock on centralizer 	Keeps rod stable while moving machine, could result in damage to machine			
<ul style="list-style-type: none"> Tension the drill bit to centralizer 	Keeps rod stable while moving machine, could result in damage to machine			
<ul style="list-style-type: none"> Measure hole depth 				
<ul style="list-style-type: none"> Retract the boom about a foot which will drag back the mast and prevent material from falling back into the hole 				
<ul style="list-style-type: none"> Raise the boom and continue to back machine away from hole drilled 				Don't fight the machine

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/Notes/Comments
		1=Important 2=Very Important 3=Critical		
Cover/plug all holes with empty Anfo bags	Keeps rain and other materials from falling into holes Failure to do this could result in re-drilling, cancelled holes, etc. When laying out explosives, plugs keep explosives from accidentally falling into holes			Cone-shaped plugs

Duty 6: Transporting drill

Learner will demonstrate how to safely and efficiently transport the Ingersoll-Rand Model ECM 350 air-track drill. Learner will also explain the job steps, why they are conducted, any associated risk, and how to implement appropriate controls. Safe and efficient transporting of the Ingersoll-Rand Model ECM 350 air-track drill includes the following job steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/Notes/Comments
		1=Important 2=Very Important 3=Critical		
Lower and secure mast	Personal injury, damage to mast, overhead power lines			
Stack hose on compressor				Place hose from rear of compressor in a zigzag, side-by-side pattern
Secure the hose with bungee cords				
Connect compressor to the drill				Pentil hitch May need to use swivel adjustment to connect
Raise compressor jack				
Clean work area				
Pick up tools				
Clean machine if necessary to transport by truck	Prevents falling debris from damaging other vehicles on the road, etc.			To keep falling debris from damaging other vehicles on the road, etc.
Move drill				

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/Notes/Comments
		1=Important 2=Very Important 3=Critical		
• Check/clear/level area prior to moving	Prevent roll-over			
• Plan your move	Prevent roll-over			
• Start compressor up				
• Drive machine by operating controls while walking along side of drill				Controls are self-centering, releasing controls will stop machine Operator needs to stay clear of tracks (especially feet)
• Use mast as counter-weight	Prevent roll-over			
• Use boom to assist with drill balance	Prevent roll-over			
• Keep tracks at same speed	Prevents sliding while going down slopes			
• Avoid pinch-points between drill and compressor	Serious injury/fatality could result			Never position yourself between the drill and the compressor while moving

Duty 7: End-of-shift

Learner will demonstrate how to conclude a shift. Learner will explain the job steps, why they are conducted, any associated risk, and how to implement appropriate controls. Proper end-of-shift procedures will include the following job steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/Notes/Comments
		1=Important 2=Very Important 3=Critical		
Grease the following machine components daily <ul style="list-style-type: none"> • Hammer • Sprockets on mast • Centralizer 	Prevent damage to machine, preventive maintenance			
Grease entire machine weekly	Prevent damage to machine, preventive maintenance			Examine machine for cracks, loose parts, leaks, and other defects while greasing

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/Notes/Comments
		1=Important 2=Very Important 3=Critical		
Drain water tank during freezing weather	Damage to machine, lost production			
Park drill, lower mast and secure	Prevent unexpected movement, personal injury, damage to mast, contact with overhead power lines			May be left at last hole Depending on distance from wall/face (20' rule)
Shut compressor down				
<ul style="list-style-type: none"> Relieve pressure by closing solenoid 	Could damage compressor			Pressure should drop to 40 psi - if pressure does not drop to 40 psi, call maintenance
<ul style="list-style-type: none"> Turn compressor motor off 				
Inventory supplies for next shift				
Complete end-of-shift report				Review end-of-shift report with trainee

Duty 8: Unusual Conditions

Learner will discuss and explain how to deal with unusual or emergency situations associated with the Ingersoll-Rand Model ECM 350 air-track drill. The proper procedures will include the following job steps:

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/Notes/Comments
		1=Important 2=Very Important 3=Critical		
Water in holes	Water affects the explosives Could cause extensive property damage or cause injuries			
<ul style="list-style-type: none"> Check holes for water 	Water affects the explosives Could cause extensive property damage or cause injuries			Could result in overloading and/or bad shot
<ul style="list-style-type: none"> Finding over six inches of water 	Water affects the explosives Could cause extensive property damage or cause injuries			

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
		1=Important 2=Very Important 3=Critical		
1. Pack with shavings to absorb the water	Water affects the explosives Could cause extensive property damage or cause injuries			
2. Blow hole out with drill air	Water affects the explosives Could cause extensive property damage or cause injuries			
Drilling on steep slopes	Potential for personal injury, machine runaway, being struck by cable and/or machine			Experienced drill operators only should be assigned this task - inexperienced drill operators may be assigned as helpers
<ul style="list-style-type: none"> Use winch for stability 	Potential for personal injury, machine runaway, being struck by cable and/or machine			
<ul style="list-style-type: none"> Get assistance 	Potential for personal injury, machine runaway, being struck by cable and/or machine			Not a one-person task
<ul style="list-style-type: none"> Drill operator must communicate and coordinate activities with winch operator 	Potential for personal injury, machine runaway, being struck by cable and/or machine			
<ul style="list-style-type: none"> Establish anchor point for the winch 	Potential for personal injury, machine runaway, being struck by cable and/or machine			Anchor for machine must be a much heavier rod than one used for personal fall protection
(a) Examine cable and hook for defects	Potential for personal injury, machine runaway, being struck by cable and/or machine			See wire rope examination criteria (ANSI M-11 standard) Show trainee correct way to use Crosby clamps (Never saddle a dead horse)
<ul style="list-style-type: none"> Install a sheave wheel at the anchor point for the winch only 	Potential for personal injury, machine runaway, being struck by cable and/or machine			
<ul style="list-style-type: none"> Use a double rope hook-up from the anchor point to the drill 	Potential for personal injury, machine runaway, being struck by cable and/or machine			Cable comes from drill through sheave back to drill
<ul style="list-style-type: none"> Use a separate anchor point for the drill 	Prevent personal injury due to a fall hazard			
Positioning the drill				

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
		1=Important 2=Very Important 3=Critical		
<ul style="list-style-type: none"> Use mast and boom to balance machine 	Allows for safe maneuvering of machine into position			Need to maintain good communications with winch operator Need assistance - two-man task
Electrical storms	Struck by lightening			
<ul style="list-style-type: none"> Lower mast and shut down machine 	Prevent personal injury			If you see lightening approaching, evacuate drill area immediately and report to supervisor
<ul style="list-style-type: none"> Report to supervisor 	Informing supervisor of the location of employees			
Caved-in holes	Could cause extensive property damage or cause injuries due to a bad shot			
<ul style="list-style-type: none"> Drill adjacent hole (1-2" distance) 				
<ul style="list-style-type: none"> Fill unused hole with dirt 	Blast energy could escape through open hole			
Stuck steels	Could impede production			
<ul style="list-style-type: none"> Attempt to remove 				
<ul style="list-style-type: none"> Check with supervisor 				
<ul style="list-style-type: none"> Drill adjacent hole (1-2") 				
<ul style="list-style-type: none"> Fill unused hole with dirt 	Blast energy could escape through open hole			
Compressor fire	Could cause serious injury or fatality, equipment damage			
<ul style="list-style-type: none"> Use fire extinguisher 	To prevent personal injury and property damage			Do not open doors if hot to touch Extinguisher stored on compressor and in truck Use extinguisher stored in truck if possible
<ul style="list-style-type: none"> Notify supervisor/co-workers in area 	Imminent danger situation			
Medical emergencies				
<ul style="list-style-type: none"> Provide first aid 	Care provided to a victim during the first five minutes could save a life			Request assistance Refer to/discuss employee emergency procedures
Emergency communications	Provide two-way radio			Show trainee how to use two-way radio

Job Steps	Importance Narrative (Consider Safety, Production, Maintenance)	Importance Ranking	Satisfactory or Needs Work	Procedures/Risk Resolution/ Notes/Comments
		1=Important 2=Very Important 3=Critical		
Spills	Environmental Responsibilities are taken seriously			Refer to Material Safety Data Sheets for Hazardous Chemicals
• Clean up Diesel				
• Clean up Hydraulic				
• Clean up Motor oil				
• Clean up Fuel				
• Use 55-gallon drum to store cleaned up materials and properly dispose of				Used as a by-product (asphalt plant)