

<b>Company Name:</b>	<b>Equipment/Job Identification: Curb Stone Extraction</b> <b>Type of Equipment:</b> <b>Make:</b> <b>Model:</b> <b>Year:</b> <b>Use:</b>
<b>Mine Name:</b>	
<b>Date of Analysis: January 31- February 2, 2006</b>	

## Pre-Assessment

- **List pre-requisites here**

- Company Policy
- Part 46 Training
- Proper Lifting Techniques
- HazCom 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.)
- Hand Signals
- Emergency Medical Procedures
- Firefighting, evacuation and rescue procedures
- Lock-out/Tag-out
- Accident Reporting
- Weather
- Ladder Safety
- Housekeeping
- Electrical Safety
- Drug and Alcohol Policy

## Duty 1: Start-of-Shift Activities

Learner will demonstrate how to conduct safe and thorough start-of-shift activities. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. Thorough 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		
Approach quarry entrance from main road with turn signal on		1		
Enter mine property with caution	Prevent personal injury, property damage	2		
<ul style="list-style-type: none"> <li>Observe posted speed limits</li> </ul>		1		10 or 15 mph Adjust based on weather conditions
<ul style="list-style-type: none"> <li>Observe for mobile equipment</li> </ul>	Prevent personal injury, property damage	2		
<ul style="list-style-type: none"> <li>Observe for foot traffic in area</li> </ul>	Prevent personal injury	2		
Turn am/fm radio down		1		
Arrive at quarry		1		
Park in designated parking area		1		
Clock in at office		1		
Obtain personal protective equipment	Prevent personal injury; could result in downtime due to work-related injuries	2		Hard hat, safety glasses w/side shields, steel-toed safety shoes/boots, harness, hearing protection, gloves, respirator (if needed)
Travel to work shack		1		Company work truck, Personal vehicle w/prior permission Walk
Obtain job assignments from foreman		1		
Check/start forklift		1		Follow checklist for conducting pre-op on forklift
Walk to saw block		1		

## Duty 2: Workplace Examination

Learner will demonstrate how to conduct a safe and thorough workplace examination. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A thorough workplace examination 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		
Crane level				
<ul style="list-style-type: none"> <li>Check walkways for tripping hazards</li> </ul>	Prevent personal injury	2		Rocks, tools, other debris
<ul style="list-style-type: none"> <li>Check walkways for snow/ice accumulations</li> </ul>	Prevent personal injury	2		Shovel or plow area Use sand/cal mixture from drum to remove accumulations
<ul style="list-style-type: none"> <li>Check that kick boards are in place</li> </ul>	Prevents debris from falling onto lower work level	2		Replace if necessary
<ul style="list-style-type: none"> <li>Check that railings/guard rails are in place</li> </ul>	Prevent serious accidents due to fall of persons	2		Replace if necessary
<ul style="list-style-type: none"> <li>Check ladder</li> </ul>	Prevent serious accidents due to fall of persons	2		Needs to be at least 3 feet above the ledge and maintain safe access
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Ensure ladder is tied off at the top and pinned in at the bottom</li> </ul> </li> </ul>	Prevent serious accidents due to fall of persons	2		
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Check for broken or missing rungs</li> </ul> </li> </ul>	Prevent serious accidents due to fall of persons	2		
<ul style="list-style-type: none"> <li>Check air manifolds</li> </ul>	Prevent personal injury; Loss of air could affect production	2		Yellow lines
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Check for whip checks and broken lines</li> </ul> </li> </ul>	Prevent personal injury; Loss of air could affect production	2		
<ul style="list-style-type: none"> <li>Conduct visual inspection of electrical cords</li> </ul>	Electricity can kill; prevent serious and possibly fatal injuries due to electrical shock	3		
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Check for broken, frayed, exposed conductors in cords</li> </ul> </li> </ul>	Electricity can kill; prevent serious and possibly fatal injuries due to electrical shock	3		

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"> <li>○ Ensure ground pin is in place</li> </ul>	Electricity can kill; prevent serious and possibly fatal injuries due to electrical shock	3		
<ul style="list-style-type: none"> <li>○ Ensure cords are properly sized</li> </ul>		1		
<ul style="list-style-type: none"> <li>○ Ensure cords are protected from mechanical damage</li> </ul>	Prevents broken, frayed, exposed conductors in cords	2		
<ul style="list-style-type: none"> <li>• Check water lines</li> </ul>		1		Red lines Broken lines, leakage
<ul style="list-style-type: none"> <li>• Check oxygen lines</li> </ul>		1		Green lines
<ul style="list-style-type: none"> <li>• Conduct visual inspection of lifting devices</li> </ul>	Conducting numerous lifts throughout the day; personnel safety	3		Chains, hooks, pins with locking device
<ul style="list-style-type: none"> <li>• Conduct visual inspection of the work box</li> </ul>	Used to lift personnel	3		Welds, chains, shackles, pins/locking devices, gate cable, floor condition
<ul style="list-style-type: none"> <li>• Check tools</li> </ul>		1		Hammer
Saw Block level				
<ul style="list-style-type: none"> <li>• Wear and use fall protection</li> </ul>	Prevent personnel injury	3		Reinforce maintenance and care of fall protection devices (lanyards, trauma kits, length of lanyards)
<ul style="list-style-type: none"> <li>• Check walkways for tripping hazards</li> </ul>	Prevent personal injury	2		
<ul style="list-style-type: none"> <li>• Check walkways for snow/ice accumulations</li> </ul>	Prevent personal injury	2		
<ul style="list-style-type: none"> <li>• Check that railings/guard rails are in place</li> </ul>	Prevent serious accidents due to fall of persons	2		
<ul style="list-style-type: none"> <li>• Check ladder</li> </ul>	Prevent serious accidents due to fall of persons	2		Needs to be at least 3 feet above the ledge and maintain safe access
<ul style="list-style-type: none"> <li>○ Ensure ladder is tied off at the top and pinned in at the bottom</li> </ul>	Prevent serious accidents due to fall of persons	2		
<ul style="list-style-type: none"> <li>○ Check for broken or missing rungs</li> </ul>	Prevent serious accidents due to fall of persons	2		
<ul style="list-style-type: none"> <li>• Check air manifolds</li> </ul>	Prevent personal injury; Loss of air could affect production	2		Yellow lines

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"> <li>○ Check for whip checks and broken lines</li> </ul>	Prevent personal injury; Loss of air could affect production	2		
<ul style="list-style-type: none"> <li>● Conduct visual inspection of electrical cords</li> </ul>	Electricity can kill; prevent serious and possibly fatal injuries due to electrical shock	3		
<ul style="list-style-type: none"> <li>○ Check for broken, frayed, exposed conductors in cords</li> </ul>	Electricity can kill; prevent serious and possibly fatal injuries due to electrical shock	3		
<ul style="list-style-type: none"> <li>○ Ensure ground pin is in place</li> </ul>	Electricity can kill; prevent serious and possibly fatal injuries due to electrical shock	3		
<ul style="list-style-type: none"> <li>○ Ensure cords are properly sized</li> </ul>		1		
<ul style="list-style-type: none"> <li>○ Ensure cords are protected from mechanical damage</li> </ul>	Prevents broken, frayed, exposed conductors in cords	2		
<ul style="list-style-type: none"> <li>● Check water lines</li> </ul>		1		Red lines Broken lines, leakage
<ul style="list-style-type: none"> <li>● Check tools</li> </ul>				
<ul style="list-style-type: none"> <li>○ Check hammer heads and handles</li> </ul>		1		Check for mushroomed heads, cracks, handle cracks, resurfaced heads
<ul style="list-style-type: none"> <li>○ Check driver</li> </ul>		1		Add oil before/during use
<ul style="list-style-type: none"> <li>○ Check plug drill bit</li> </ul>		1		Sharp edges, mushroomed heads, air fittings for wear
<ul style="list-style-type: none"> <li>○ Check cross bit</li> </ul>		1		Sharp edges, mushroomed heads
<ul style="list-style-type: none"> <li>○ Check jack hammer</li> </ul>		1		Add oil before/during use Air fittings for wear
<ul style="list-style-type: none"> <li>○ Check wedges and half rounds</li> </ul>		1		18"and 5" Check for mushroom heads, cracks,
<ul style="list-style-type: none"> <li>○ Check pipe wrenches</li> </ul>		1		Check wear on the jaws
<ul style="list-style-type: none"> <li>○ Check lifting pins</li> </ul>	Failure of the lift pin could result in personal injury; loss of production	2		20-ton and 30-ton Check for cracks, shim and cable wear
<ul style="list-style-type: none"> <li>● Conduct visual exam (walk-around)</li> </ul>	Prevent personal injury, property and equipment damage, loss of production	3		

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		
o Check for movement in stone	Prevent personal injury, property and equipment damage, loss of production	3		
o Check for slides	Prevent personal injury, property and equipment damage, loss of production	3		
o Check for pressure cracks	Prevent personal injury, property and equipment damage, loss of production	3		

### Duty 3: Extraction

Learner will demonstrate how to safely and efficiently perform curb extraction duties. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. Safe and efficient curb extraction duties 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		
Obtain tools/supplies				
• Obtain crayons		1		
• Obtain tape measure		1		
• Obtain chalk line		1		
• Obtain shovel		1		
• Obtain pry bar		1		
• Obtain sledge hammer		1		Replace handles and resurface as needed
• Obtain jack hammer		1		Minimum of two
• Obtain driver		1		
• Obtain plug drill		1		
• Obtain wedges and shims		1		18" and 5"
• Obtain grease		1		Review and discuss MSDS
• Obtain plug and cross bits		1		1 ½" and 2 ¼" cross bits
• Obtain gluts		1		

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		
• Obtain methanol		1		
• Obtain yo-yo's		1		
• Obtain pin rod		1		18"
• Obtain drill rod		1		24" length
• Obtain dust bags		1		
• Obtain vacuums		1		two
• Obtain sand/salt (if needed)		1		
• Obtain tool bucket		1		
• Obtain air lines/manifolds		1		
• Obtain whip checks		1		
• Obtain 4"x6"x4' lumber for cribbing/blocking		1		
Climb down ladder, up ladder or ride in work box		1		Based on whether you're working off the bottom or top of saw block Maintain 3-point contact
Re-evaluate bed formation	Prevent personal injury, property and equipment damage, loss of production	3		On-going evaluation throughout shift Tightness
Lay out line for drill		1		Measure according to need
• Drill from the top				
o Check whip checks	Use of whip checks could prevent accident or reduce seriousness of personal injury	2		Discuss what could happen
o Turn the air on slowly		1		
o Begin drilling		1		
o Slowly start the drill (spot the hole)	Could result in personal injury; loss of production	2		Explain reason for starting slowly
o Turn vacuum on and place boot over the rod	Health hazard (silica dust)	2		
o Drill 18 inches in depth		1		Observe spacing as marked
• Constantly maintain and monitor down pressure		1		Ensure proper bit rotation Maintain proper balance
o Load the holes with wedges and half-rounds (18")		1		

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"> <li>• Grease each wedge and place it in the hole</li> </ul>		1		Average 1-2 wedges per hole on the curb Average 4-5 wedges per block (5' block) Send back wedges that need grinding (mushroomed heads, chips)
<ul style="list-style-type: none"> <li>• Install half-rounds</li> </ul>		1		Place ears facing out
<ul style="list-style-type: none"> <li>○ Move the hose and jack hammer</li> </ul>		1		
<ul style="list-style-type: none"> <li>○ Pound wedges in place</li> </ul>		1		
<ul style="list-style-type: none"> <li>• Using sledge hammer</li> </ul>				
<ul style="list-style-type: none"> <li>○ Pound wedges/half-rounds until snug</li> </ul>		1		
<ul style="list-style-type: none"> <li>○ Ensure swing area is clear of persons</li> </ul>	Prevent personal injury; discuss company injuries	2		
<ul style="list-style-type: none"> <li>○ Once snug, begin splitting stone</li> </ul>		1		
<ul style="list-style-type: none"> <li>• Using air driver</li> </ul>				
<ul style="list-style-type: none"> <li>○ Place collar over the head of the wedge and push lever holding firmly</li> </ul>		1		Discuss back injuries, proper lifting procedure, slip/trip/fall hazards
<ul style="list-style-type: none"> <li>○ Repeat for each wedge</li> </ul>		1		
<ul style="list-style-type: none"> <li>○ Keep split going in one direction</li> </ul>		1		
<ul style="list-style-type: none"> <li>• Facing the stone</li> </ul>				



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		
o Check whip check	Use of whip checks could prevent accident or reduce seriousness of personal injury	2		Discuss what could happen
o Turn the air on slowly		1		
o Begin drilling		1		
o Slowly start the drill (spot the hole)	Could result in personal injury; loss of production	2		
o Turn vacuum on and place boot over the rod	Health hazard (silica dust)	2		
o Drill at least 5" in depth using 3/4" plug drill bit		1		Observe spacings as marked
o • Constantly maintain and monitor down pressure		1		Ensure proper bit rotation Maintain proper balance
o Move the hose and plug drill		1		
o Load the holes with wedges and half-rounds (5" )		1		
o • Grease each wedge and place it in the hole		1		Average 2 wedges per lineal foot for 16-18" curb (3-6' foot block – holes would be closer together) Average 3-5 wedges per block (5' block) Send back wedges that need grinding (mushroomed heads, chips)
o • Install half-rounds		1		Place ears facing out
o Pound wedges in place using sledge hammer		1		Ensure swing area is clear of persons
o • Pound wedges/half-rounds until snug		1		
o • Once snug, begin splitting stone		1		
o • Rift stone				

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		
○ Ensure whip checks are in place	Use of whip checks could prevent accidents or reduce seriousness of personal injury	2		
○ Turn the air on slowly		1		
○ Begin drilling		1		Refer to "Working from workbox" procedures
○ Slowly start the drill (spot the hole)	Could result in personal injury; loss of production	2		
○ Turn vacuum on and place boot over the plug drill bit	Health hazard (silica dust)	2		
○ Drill at least 5" in depth using ¾" plug drill bit		1		Observe spacings as marked
• Constantly maintain and monitor down pressure		1		Ensure proper bit rotation Maintain proper balance
○ Move the hose and plug drill		1		If working from man box, may need to move hose and plug drill in and out of the box
○ Load the holes with wedges and half-rounds (5" )		1		
• Install half-rounds		1		Place ears facing out
• Grease each wedge and place it between the half rounds		1		Average 2 wedges per lineal foot for 16-18" curb (3-6' foot block – holes would be closer together – average 3 wedges)) Send back wedges that need grinding (mushroomed heads, chips)
○ Ensure swing area is clear of persons	Prevent personal injury	2		
○ Pound wedges in place using sledge hammer		1		Ensure swing area is clear of persons
• Pound wedges/half-rounds until snug		1		

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"> <li>Once snug, start splitting stone</li> </ul>		1		
Remove all loose wedges and half-rounds		1		Store properly (bucket, etc.)
Extract stone		1		
<ul style="list-style-type: none"> <li>Remove tools/supplies from work box</li> </ul>		1		
<ul style="list-style-type: none"> <li>Unhook work box from crane and store work box</li> </ul>		1		Signal man will unhook work box and install lift pin if on top
<ul style="list-style-type: none"> <li>Hook up the lift pin</li> </ul>	Could result in personal injury if done incorrectly	2		Signal man will unhook work box and install lift pin if on top
<ul style="list-style-type: none"> <li>Spot pin hole location</li> </ul>	Incorrect spot could result in personal injury, loss of production	2		Location is determined by size, weight, shape, and formation
<ul style="list-style-type: none"> <li>Obtain tools</li> </ul>		1		
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Obtain jack hammer</li> </ul> </li> </ul>		1		
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Obtain drill with proper bits</li> </ul> </li> </ul>		1		2 ¾ for 30-ton pin 2 ¼" bit for 20-ton pin
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Obtain vacuum hose</li> </ul> </li> </ul>		1		
<ul style="list-style-type: none"> <li>Ensure whip checks are properly hooked up</li> </ul>	Use of whip checks could prevent accidents or reduce seriousness of personal injury	2		
<ul style="list-style-type: none"> <li>Ensure jack hammer is lubricated properly</li> </ul>		1		Needs oil if it bounces too much or when lever gets hard/stiff to turn on Too much oil will result in slow rotation
<ul style="list-style-type: none"> <li>Spot the bit with soles of boots and hold firmly in place</li> </ul>		1		
<ul style="list-style-type: none"> <li>Hold jack hammer firmly while applying adequate down pressure</li> </ul>	Prevent personal injury	2		Discuss potential for broken rod – could put you off-balance; muscle strains
<ul style="list-style-type: none"> <li>Start jack hammer with minimal amount of air (low pressure)</li> </ul>	Could result in personal injury	2		
<ul style="list-style-type: none"> <li>Drill to about ½"</li> </ul>		1		

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"> <li>Remove jack hammer and check hole to make sure it is round</li> </ul>		1		If not started round, hole will end up being star shaped
<ul style="list-style-type: none"> <li>Place suction boot in place</li> </ul>	Health hazard (silica dust)	2		
<ul style="list-style-type: none"> <li>Turn vacuum on</li> </ul>	Health hazard (silica dust)	2		
<ul style="list-style-type: none"> <li>Drill to a depth of approximately 10" applying same down pressure throughout and maintain proper alignment</li> </ul>	If not drilled deep enough, could result in an unsafe lifting situation	2		Explain proper drilling techniques: Hold jack hammer straight (up/down) – 90 degree angle to the stone Don't allow drill to wobble Maintain steady down pressure
<ul style="list-style-type: none"> <li>Drill one hole and test before pre-drilling additional holes</li> </ul>		1		
<ul style="list-style-type: none"> <li>Remove hammer and vacuum from extraction area</li> </ul>		1		
<ul style="list-style-type: none"> <li>Pour water (summer) or methanol (winter) in pin hole</li> </ul>	Pin doesn't fetch up as well in a dry hole; could result in lifting hazard	2		Allows shims to fetch up inside the hole
<ul style="list-style-type: none"> <li>Notify signalman to lower the endless chain</li> </ul>		1		Head room determines length of chain 20-ton chain is 3/4" 30-ton chain is 1"
<ul style="list-style-type: none"> <li>Place pin in the hole</li> </ul>		1		May need to pull up on the cable and guide pin into the hole if there is too much slack
<ul style="list-style-type: none"> <li>After placing pin in the hole, grab hold of the shackle and give it a quick upward jerk to set pin</li> </ul>		1		
<ul style="list-style-type: none"> <li>Determine weight of stone and inform crane operator</li> </ul>	Crane operator needs to know the weight to determine proper lift procedures based on load charts (12 cubic feet per ton)	3		Cube it up Crane operator will need weight to match with load chart
<ul style="list-style-type: none"> <li>Remove all slack from chain to ensure pin is set correctly</li> </ul>	Could result in lifting hazard	2		
<ul style="list-style-type: none"> <li>Visually inspect lifting, swinging and landing areas</li> </ul>	All areas need to be kept clear of persons, equipment, debris, etc. Never work/travel under suspended loads	2		

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"> <li>Notify signalman to begin lift</li> </ul>		1		Review and discuss signals One person on stone signals to signalman above – anyone can signal for STOP
<ul style="list-style-type: none"> <li>Notify signalman to stop lift once stone is free</li> </ul>		1		
<ul style="list-style-type: none"> <li>Remove remaining wedges and half-rounds safely and place out of the way</li> </ul>		1		
<ul style="list-style-type: none"> <li>Relocate to safe location</li> </ul>	Prevent personal injury	3		Never stand under suspended load Stay clear of lift and swing area
<ul style="list-style-type: none"> <li>Notify signalman to continue lift</li> </ul>		1		
<ul style="list-style-type: none"> <li>Keep your eyes on suspended load at all times until lift is complete (stone placed on blocking/cribbing)</li> </ul>	Prevent personal injury	3		Signalman will place cribbing/blocking Ensure no body parts are under stone at no time Avoid swing area Discuss pinch-points and associated hazards
<ul style="list-style-type: none"> <li>Signalman will remove pin once stone is secured properly</li> </ul>		1		
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Obtain sledge hammer</li> </ul> </li> </ul>		1		Visually inspect sledge hammer before use (mushroomed head, cracked handle, etc.) Replace if needed
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Hit the pin until wedge releases</li> </ul> </li> </ul>		1		Listen for release Obtain ladder to remove pin if you lifted a block
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Pull cable until pin comes out of hole</li> </ul> </li> </ul>		1		Avoid pinch points
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Signal crane operator once pin is free</li> </ul> </li> </ul>		1		
Process inventory/quality control paperwork		1		
<ul style="list-style-type: none"> <li>Signalman duties (curb)</li> </ul>		1		
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Measures length, width and rise of stone</li> </ul> </li> </ul>		1		

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		
o Record the data		1		
o Submits recorded data to foreman at end of shift/beginning of next shift		1		
o Foreman will submit to main office		1		
• Foreman duties (block)		1		
o Measures length, width and rise of stone		1		
o Record the data		1		
o Submits recorded data to foreman at end of shift/beginning of next shift		1		
Working out of a Work Box				Discuss company policy on safety concerns of working from box (safety, weather conditions, etc.)
• Ensure work box is properly rigged before lifting	Prevent personal injury – Your life depends on proper rigging integrity	3		
o Check chains, d-rings, shackles for elongation and cracks	Prevent personal injury	3		
o Ensure safety latch is working and pinned on crane hook	Prevent personal injury	3		
o Ensure signal man is in place and understands signals to be used	Prevent personal injury	3		Review and discuss signals One person on stone signals to signalman above – anyone can signal for STOP
• Conduct visual inspection of the work box	Prevent personal injury	2		Welds, chains, shackles, pins/locking devices, gate cable, floor condition
• Enter work box and hook up lanyard	Prevent personal injury	2		Discuss proper use of fall protection
• Latch gate cable across front of box		1		

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"> <li>Stand at back of box and hold onto the rails</li> </ul>		1		Avoid pinch points
<ul style="list-style-type: none"> <li>Position the box tight against the face to prevent swing-out</li> </ul>		1		

#### Duty 4: Shipping

Learner will demonstrate how to safely and efficiently transport the stone for finishing. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. Safe and efficient transportation of the stone 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		
Ensure pre-op has been conducted on forklift prior to use	Prevent personal injury, damage to equipment, loss of production	2		
Tram forklift to stone to be transported		1		
Determine need for additional help		1		Good idea to have someone on rail cars to help position and set stone on cribbing Discuss pinch-point hazards
Position forks for lift		1		
Begin lift		1		
Tram forklift to the railcar		1		
Maintain visual contact with spotter	Prevent personal injury to spotter	2		
Align stone with timbers		1		
Place stone on cribbing for transport		1		Follow spotter's signals (if a spotter is available) Limit load to 50 ton per railcar

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		
Back forklift up	Equipment operators should always look back prior to backing equipment up – prevent personal injury	2		
Clean up the landing		1		
<ul style="list-style-type: none"> <li>Continue to prepare blocking</li> </ul>		1		
<ul style="list-style-type: none"> <li>Lift and load stone until railcars are full or all stone is loaded</li> </ul>		1		
Park forklift		1		
<ul style="list-style-type: none"> <li>Lower forks</li> </ul>	Prevent personal injury	2		
<ul style="list-style-type: none"> <li>Engage park brake</li> </ul>	Prevent unplanned movement of equipment	2		
Notify locomotive operator when cars are fully loaded		1		

## Duty 5: End-of-shift activities

Learner will demonstrate how to conduct safe and thorough end-of-shift activities. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. Safe and thorough end-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		
Pick up and store all of the tools		1		Wedges/half-rounds, hammers, drills, hoses, shovels, drivers, bits
Cover tools with tarp during adverse weather conditions		1		
Turn off air manifolds	Prevent malicious damage from trespassers	2		
Leave water lines on (if available)	Could result in loss of production and increased costs	2		
Exit work area		1		



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		
Plug in mobile equipment (seasonal)		1		Primarily the equipment operator's responsibility
Properly store PPE (fall protection, etc.) in work shack		1		Walk, ladder, workbox
Shut off the compressor		1		
Travel back to quarry office		1		
Clock out		1		

### Duty 6: Unusual Conditions/Emergency Situations

Learner will discuss and explain how to deal with unusual or emergency situations associated with the curb extraction process. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. Procedures for dealing with non-routine tasks, unusual or emergency situations 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		
Lightning				
<ul style="list-style-type: none"> <li>If lightning is observed, shut down operations</li> </ul>	Prevent personal injury, damage to equipment	3		Foreman will make determination Refer to company policy
High wind				Refer to company policy Could result in shutdown of operations
<ul style="list-style-type: none"> <li>Restrict lifting</li> </ul>	Prevent personal injury, damage to equipment	3		
<ul style="list-style-type: none"> <li>Restrict working near the edge</li> </ul>	Prevent personal injury	3		
Snow/ice				Refer to company policy Ramp could be shut down Could result in shut down of operations
<ul style="list-style-type: none"> <li>Caution on slip/trip/fall hazards</li> </ul>	Prevent personal injury	2		

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		
Heavy Rain				Refer to company policy Ramp could be shut down
<ul style="list-style-type: none"> <li>• Caution on slip/trip/fall hazards</li> </ul>	Prevent personal injury	2		
Heat				Refer to company policy
<ul style="list-style-type: none"> <li>• Caution employees on health hazard due to excessive heat exposure (heat stroke)</li> </ul>	Prevent personal health hazard due to excessive heat	2		
Mechanical				
<ul style="list-style-type: none"> <li>• Crane <ul style="list-style-type: none"> <li>○ Rope failure</li> <li>○ Brake failure</li> <li>○ Hydraulic system failure</li> </ul> </li> </ul>	Prevent personal injury	3		Maintain a safe distance from load
	Prevent personal injury	3		Reinforce safe distance rule
	Prevent personal injury	3		Maintain a safe distance from equipment
Medical emergencies				First responders Refer to Emergency Medical Procedures
<ul style="list-style-type: none"> <li>• Provide first aid</li> </ul>	Could prevent death	3		
Fire				
<ul style="list-style-type: none"> <li>• Use fire extinguisher</li> </ul>	Prevent personal injury to equipment operator – used to escape equipment safely in case of equipment fire	2		Refer to Fire-fighting, evacuation and Rescue Procedures