

Company Name:	Equipment/Job Identification: LONGWALL MOVE Type of Equipment: (SET-UP) Make: Model: Year: Use:
Mine Name:	
Date of Analysis:	

Pre-Assessment

• **List pre-requisites here**

- Longwall Move Plan
 - Roof Control Plan
 - Lock Out/Tag Out Procedures
 - Proper Lifting Procedures
 - Company Policies
 - MSHA and State Regulations
 - Tenets Operation
- All Longwall Component Placement will be done with 620 Duck Bill Scoop of Lo-Trac

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. Safe and thorough start-of-shift activities should 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		
Change clothes		1		
Get W-65	This protects you from CO in case you are in smoke in a fire and allows you time to get to your self rescuer	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"> Conduct visual examination 	This protects you from CO in case you are in smoke in a fire and allows you time to get to your self rescuer	2		Seal and dents
Obtain PPE	PPE is for your protection, failure to wear could result bodily injury or death	2		Safety glasses, hearing protection, steel toe shoes, respirator, hard hat, cap lamp, gloves
Obtain gas detector	Failure to take your properly maintained detector could result in a mine disaster, burns, death	3		
<ul style="list-style-type: none"> Check charge 	Failure to take your properly maintained detector could result in a mine disaster, burns, death	3		
<ul style="list-style-type: none"> Conduct visual examination 	Failure to take your properly maintained detector could result in a mine disaster, burns, death	3		
<ul style="list-style-type: none"> Check calibration 	Failure to take your properly maintained detector could result in a mine disaster, burns, death	3		
Check in/Tag in		1		
Put on safety glasses		1		Company policy
Conduct exam	Planned work, observe hazards, could save lives	3		
Enter the mine by elevator		1		
<ul style="list-style-type: none"> Get on mantrip 		1		Ensure mantrip has been pre-op'd (follow JSA)

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		
• Travel to main track		1		
○ Check signal lights		1		Follow mine plan

Duty 2: Enter Mine

Learner will demonstrate how to enter the mine safely and responsibly. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A thorough and safe entering the mine process 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 travelway examination Self-Performed Safety Assessment	Planned work, observe hazards, could save lives	3		
<ul style="list-style-type: none"> • Observe for mobile equipment 		1		Maintain 300' clearance between trips
<ul style="list-style-type: none"> • Check roof conditions 	Small pieces of rock could cut you, break bones, serious injury or death	2		Check for cracks, loose rock, taking on weight, water
<ul style="list-style-type: none"> • Check for loose ribs 	Small pieces of rock could cut you, break bones, serious injury or death	2		Check for overhang, check for ledges, check for sloughing
<ul style="list-style-type: none"> • Look for uneven bottom 		1		Rough spots and bumps in the road, soft spots/low spots
<ul style="list-style-type: none"> • Look for track damage 		1		Bent or broken rails, switch damage, loose fish plates
<ul style="list-style-type: none"> • Observe the high voltage cable 		1		
<ul style="list-style-type: none"> ○ Look for damage 		1		
<ul style="list-style-type: none"> ○ Look for downed high voltage cable 		1		
<ul style="list-style-type: none"> ○ Look for guarding and shielding 		1		

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
○ Look for proper clearance		1		Minimum of 12”
● Look for roadway debris		1		Look for crib blocks, rock, banding material, cable, bolts and knocked out timbers
● Check for damaged bolts		1		
● Correct and/or report any unsafe conditions	Don't set a trap for someone else	2		
● Exit mantrip		1		
○ Maintain a 3-point contact	One of leading cause of injury at our mine and third largest cause of injury in the industry	2		
● Observe walkway	One of leading cause of injury at our mine and third largest cause of injury in the industry	2		
○ Look for slip hazards	One of leading cause of injury at our mine and third largest cause of injury in the industry	2		
○ Look for trip hazards	One of leading cause of injury at our mine and third largest cause of injury in the industry	2		
○ Look for fall hazards	One of leading cause of injury at our mine and third largest cause of injury in the industry	2		
Meet with foreman	Communication is a key safety issue in a longwall move. The foreman should be able to make you aware of hazards and activities on the section	3		

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
<ul style="list-style-type: none"> • Discuss longwall setup activities 	<p>Communication is a key safety issue in a longwall move. The foreman should be able to make you aware of hazards and activities on the section</p>	3		<p>Supplies, condition of longwall, condition of scoops, condition of mule, maintenance needed on scoops/mule</p>
<ul style="list-style-type: none"> • Attend safety talk 	<p>Important to know what is going on and what has happened during that work period. It will help to put you in the right frame of mind</p>	2		<p>Required company policy</p>
<ul style="list-style-type: none"> ○ Discuss close calls 	<p>Important to know what is going on and what has happened during that work period. It will help to put you in the right frame of mind</p>	2		
<ul style="list-style-type: none"> ○ Discuss information passed on from previous shift 		1		
<ul style="list-style-type: none"> ○ Discuss any stop work authority 	<p>Point out hazard someone else has encountered during shift</p>	2		
<ul style="list-style-type: none"> • Discuss roof control plan/condition 	<p>Small pieces of rock could cut you, break bones, serious injury or death.</p>	3		<p>Required company policy</p>
<ul style="list-style-type: none"> • Discuss longwall setup plan and activities for the day 	<p>Awareness of what is going on. Conditions on the section could damage equipment and cause bodily injury.</p>	2		<p>Multiple tasks may be conducted at the same time. Find out what your task assignment is. Find out what other tasks are being performed and their status.</p>

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
Obtain and examine tools	The use of defective tools or the wrong tools is a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Hammer, channel locks, lady slipper bar, solenoid wrench, flat tip screw driver, chisel, 6 or 8 inch adjustable wrench, other hand tools as needed
<ul style="list-style-type: none"> Conduct Self-Performed Safety Assessment 	Planned work, observe hazards, could save lives	3		

Duty 3: Section Setup

Learner will demonstrate how to conduct a safe and thorough section setup. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough section setup 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Establish dinner hole				
<ul style="list-style-type: none"> Look for suitable place in the headgate area 	Time is important in an emergency; this is where emergency equipment is stored. Everyone should be aware of this location.	2		Normally #2 entry, crosscut 2 to 3 Area should be dry, area should have good top, good ribs and rock dusted
<ul style="list-style-type: none"> Place emergency equipment in dinner hole 		1		Refer to JSA for dinner hole setup
Establish material storage area map				
<ul style="list-style-type: none"> Note on storage map locations for: 		1		Hoses, monorail, dollies, cables, head drive, pan line, welder, air compressor, pump, shearer, chain boxes, drive motors, 8 Bay, tail drive, Minnie master, stageloader, tailpiece, small parts and fittings, and pod duster
<ul style="list-style-type: none"> Make copies of map and distribute to workers 		1		Motor crew, foreman, setup crew, and outby boss

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"> Place a supply of maps with the emergency supplies 		1		
<ul style="list-style-type: none"> Post a copy of the storage area map in dinner hole 		1		
<ul style="list-style-type: none"> Note updates 		1		
Establish unloading points		1		Keep free from obstructions Place signs, "Unloading point only"
Slag track crossing as needed		1		
Establish scoop haulway		1		This could require ventilation changes that could change the importance
Bring setup tool box into working area		1		
Check to see if spads are installed to set head drive		1		
Run mine compressed air to headgate area		1		At least 1" line
Remove all debris and materials	Slips trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 4: Face Preparation

Learner will demonstrate how to conduct a safe and thorough face preparation. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough face preparation 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		
Pre-op scoop				
Examine roof and rib for support according to roof control plan and SPSA exam	Planned work, observe hazards, could save lives Roof falls are the leading killer of miners. Small pieces of rock could cut you, break bones, serious injury or death	3		Check for cracks, loose rock, taking on weight, water Check for overhang, check for ledges, check for sloughing
Remove trash or debris from face	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		
Scoop the face				
Dispose scoop materials appropriately		1		
Rock dust the face		1		
• Use bantam duster		1		
• Hook to PTO on scoop		1		
• Position scoop bucket toward tailgate		1		Dust should travel away from the scoop
• Park scoop and lower bucket to bottom		1		
• Fill scoop bucket with rock dust		1		
• Dust face		1		
Number face brattice from the headgate to the tailgate		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		
Pump water as needed		1		
Establish communication	Communication is a key safety issue, anyone could make you aware of any activity of adverse condition of the mine	3		
<ul style="list-style-type: none"> Install temporary phone line 		1		
<ul style="list-style-type: none"> Install three phones 		1		Headgate, tailgate and mid-face

Duty 5: Monorail Setup

Learner will demonstrate how to conduct a safe and thorough monorail setup. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough monorail setup 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Examine belt line travelway, roof, rib, and floor	Planned work, observe hazards, could save lives Roof falls are the leading killer of miners. Small pieces of rock could cut you, break bones, serious injury or death	3		Check for cracks, loose rock, taking on weight, water Check for overhang, check for ledges, check for sloughing
Move debris	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		
Pre-op lo-trac		1		See JSA
Check hangers		1		
Take monorail carrier and place outby on belt line where monorail is to be hung		1		
Place monorail winch on the belt line		1		
Place high voltage distribution box on the belt line		1		
Place water pressure board on the belt line		1		
Load lo-trac trailer with monorail and chain		1		One chain for each joint of monorail 20 to 25 joints of monorail

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		
Begin installing monorail from mule train to the face		1		
Visually check the roof and rib prior to setting each monorail	Planned work, observe hazards, could save lives Roof falls are the leading killer of miners. Small pieces of rock could cut you, break bones, serious injury or death	3		Check for cracks, loose rock, taking on weight, water Check for overhang, check for ledges, check for sloughing
Install first section of monorail		1		
<ul style="list-style-type: none"> Place chain in one side of hanger bracket 		1		
<ul style="list-style-type: none"> Lock chains into the slots of the outby and inby hanger brackets 		1		
<ul style="list-style-type: none"> Lift inby end of the monorail to the hanger 	Improper lifting could cause back injuries or broken bones from falling monorail.	2		CAUTION: This is a minimum of a three person job Use good lifting techniques
<ul style="list-style-type: none"> Place chain thru the monorail clevis 		1		
<ul style="list-style-type: none"> Place loose end of chain into the chain hanger and lock in the slot 		1		
<ul style="list-style-type: none"> Lift outby end of monorail, wrap chain around monorail, and lock into hanger bracket 		1		Dead end
Install second monorail		1		
<ul style="list-style-type: none"> Slide monorail from trailer 		1		
<ul style="list-style-type: none"> Lift the outby end to meet 		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		
the previous installed rail				
<ul style="list-style-type: none"> Place male end of monorail into the receiver 		1		
<ul style="list-style-type: none"> Lift the inby end and install pin on the outby end 	Not using enough people for this job could cause serious bodily injury and violates mine policy	2		<p>May be a drive pin or slide pin over top the male coupling.</p> <p>CAUTION: This is a minimum of a three person job</p> <p>Use good lifting techniques</p>
<ul style="list-style-type: none"> Place chain in one side of hanger bracket 		1		
<ul style="list-style-type: none"> Lock chains into the slots of the outby and inby hanger brackets 		1		
<ul style="list-style-type: none"> Place chain thru the monorail clevis 		1		
<ul style="list-style-type: none"> Place loose end of chain into the chain hanger and lock in the slot 		1		
Repeat for remaining monorails		1		
At end of shift, hang reflective flag on the end of the last monorail installed	Persons could walk into loose end of monorail causing head injuries	2		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 6: Install Trolleys

Learner will demonstrate how to conduct a safe and thorough installation of trolleys. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A thorough and safe procedure of installing trolleys 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		1/2" ratchet, 3/4" deep well socket, 1/2" bolts, 3/4" nuts, 3/4" open or box wrench, hammer
Begin at the headgate		1		
Slide seven special trolleys into the monorail	Improper lifting could cause bodily injuries, pinch points, or improper hand positioning could cause loss of limb.	3		These trolleys for hanging miscellaneous items like water board, distribution box, winch, etc. CAUTION: These trolleys are very awkward to handle, there are numerous pinch points, and use good lifting techniques, minimum of two persons. See photo
Slide four regular trolleys onto the monorail		1		
Bolt 5' chain from trolley to trolley		1		
Slide a master trolley into the		1		Master trolley has super

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		
monorail				stecko fitting welded to the trolley. Every fifth trolley is a master
Install 5' chain		1		
Repeat this cycle until loading the trolleys become difficult to push		1		
Pull connected trolleys outby using the lo-trac		1		
Tie trolleys off at the outby end of the monorail		1		
Stretch the trolley towards the headgate and immobilize at headgate		1		Utilize the lo-trac
At end of shift, hang reflective flag on the end of the last monorail installed	Persons could walk into loose end of monorail causing head injuries	2		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 7: Install Outby Equipment on Monorail

Learner will demonstrate how to conduct a safe and thorough installation of outby equipment on the monorail. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough procedure of installing outby equipment on the monorail 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Chisel, hammer, anti-seize, wire brush, rags, punch, screw drive
Ensure there are two people to install outby equipment on monorail	Improper body positioning could create pinch points with equipment in the area, miscommunication could cause injuries.	2		CAUTION: This requires clear communication between lo-trac operator and spotter. Beware of pinch points and unexpected equipment movement. Brakes must be locked on the lo-trac before spotter secures chains
Install winch				
• Obtain lo-trac		1		
• Place winch on fork		1		
○ Cable spool facing inby		1		
○ Travel to outby		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		
end of monorail				
• Drop outby end of monorail		1		
• Align winch with end of monorail		1		
• Tram lo-trac to align the winch up with monorail		1		
• Slide trolley on winch on monorail track		1		
• Tram about 5' onto the monorail		1		
• Lift winch and monorail back to roof with lo-trac		1		
• Reattach monorail to chain hanger		1		
• Secure winch by chaining off		1		
Install AB distribution box				
• Pick box up with lo-trac with box access cover facing the belt	This box should be secured to prevent damage.	2		
• Install on monorail by pinning the box to the two special trolleys		1		
Install water board				
• Pick up with lo-trac				
• Hang to monorail by pinning the two special trolleys		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		
Install two 5' spreader bars		1		One between distribution box and water board One between water board and first trolley
Remove all debris and materials	Slips trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 8: Install Pressure Line

Learner will demonstrate how to conduct a safe and thorough procedure of installing pressure line. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. Thorough and safe procedures to install a pressure line 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
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Chisel, hammer, anti-seize, wire brush, rags, ladies slipper, punch, screw driver, 2" super staples,
Obtain lo-trac with super stecko hoses				
<ul style="list-style-type: none"> • Loop over forks 		1		
Start at the water board				
<ul style="list-style-type: none"> • Remove two hoses from the lo-trac 		1		
<ul style="list-style-type: none"> • Tram in 50' and take two more hoses off 		1		
<ul style="list-style-type: none"> • Continue until all super stecko hoses are spotted 		1		
Connect super stecko hoses		1		
<ul style="list-style-type: none"> • Unroll hose 		1		
<ul style="list-style-type: none"> <ul style="list-style-type: none"> ○ Place into trolley carrier in inside trays 		1		See diagram
<ul style="list-style-type: none"> • Clean coupler and 		1		

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
lubricate				
<ul style="list-style-type: none"> • Push male end of hose into female coupler starting at water board and working inby 		1		
<ul style="list-style-type: none"> • Install super staples 	Improper or damaged staples on a pressurized hose could cause the hose to blow apart causing bodily injury or death	3		CAUTION: This line will carry up to 5000 psi
<ul style="list-style-type: none"> • Continue this process until you reach the last trolley 		1		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 9: Install 2” JIC Hoses

Learner will demonstrate how to conduct a safe and thorough procedure for installing 2” JIC hoses. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough procedure of installing 2” JIC hoses 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Hammer, anti-seize, wire brush, rags, 2 – 18” pipe wrenches,
Obtain 2” JIC hoses and place at headgate in the belt entry		1		
Place the lo-trac outby the hoses		1		
Unroll two hoses and hook the male end to lo-trac with a nylon sling rope/pull		1		
Pull the lo-trac forward 50’		1		
Clean connectors as needed and lubricate		1		
Connect the next two sections of JIC hoses with pipe wrenches		1		These fittings must be tight to prevent leaks
Pull the lo-trac forward 50’		1		
Repeat this process until you reach the water board		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		
Connect hose to the water board		1		
Place into trolley tray, one JIC hose over each super stecko hose		1		See diagram for placement of hoses
Repeat this process for the fresh water line. The fresh water line is also 2" JIC. Hook female end of hose to lo-trac		1		
Place fresh water line in the trolley tray opposite the belt		1		See diagram
Identify the hose that will be used for fresh water/fire outlets by marking couplings		1		
Install fire outlets every 300 feet from the water board on the fresh water line		1		See diagram
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 10: Install High Voltage Cables

Learner will demonstrate how to conduct a safe and thorough installation of high voltage cables. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A thorough and safe procedure of installing high voltage cable 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Pull rope, lo-trac, Electra-clean, wire brush, rags, spanner wrench, Allen wrenches, snap ring tool
Remove cable car from track utilizing the duck bill scoop		1		Be sure the duck bill has had a pre-op exam. See JSA on the scoop
Tram duck bill scoop with car to the headgate area		1		
Lower car to the bottom		1		
Place lo-trac outby cable car in belt entry		1		
Pull enough cable off the car by hand to hook to the lo-trac with tie down strap or pull rope		1		Cable will have cat head with cover
Position someone to stay at the car		1		
Pull high voltage cable with the lo-trac to the AB distribution box		1		
Ensure high voltage cables are		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		
shielded for the entire length				
Place cable in the belt side of the trolley tray	Improper lifting procedures, and body positioning could cause bodily injuries	2		See diagram. Lifting the cable requires multiple people. Leave enough cable slack to enter into the AB distribution box. Use good lifting techniques
Connect cable plug to AB distribution box		1		
<ul style="list-style-type: none"> Remove both cover 		1		
<ul style="list-style-type: none"> Clean the plug with Electra-clean 		1		
<ul style="list-style-type: none"> Wipe down with clean rag 		1		
<ul style="list-style-type: none"> Line the ground and the ground monitor prongs on the cat head with the receptacle on the AB distributions box 		1		
<ul style="list-style-type: none"> Screw the plug onto the AB distribution box 		1		
<ul style="list-style-type: none"> Install retraining clamps 		1		
<ul style="list-style-type: none"> Install lead seal wire 		1		
Repeat this process for the next high voltage cable				
Store excess slack of cables on the belt line until 8 Bay box is in place		1		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss			

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		
	of limbs or death.			

Duty 11: Install No. 6 Cable

Learner will demonstrate how to conduct a safe and thorough installation of the No. 6 cable. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough process of installing the No. 6 cable 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Rags, screw driver, come-a-long, crimper tool, wire cutters, utility knife, splice kit, pull strap/rope
Utilizing the lo-trac, pick up spool of cable from the track entry		1		
Take spool of cable into the headgate area		1		
Install come-a-long from monorail hanger		1		
Move to the lo-trac into the belt entry		1		
Utilizing the come-a-long, pick the spool of cable off the bottom		1		
Unreel enough slack by hand to hook No. 6 cable to lo-trac with sling/rope		1		
Pull cable toward AB		1		Use "ENERGY CONTROL

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		
distribution box leaving enough slack to reach the power center, approximately 100'				PLAN" Install 575 cat head at the power center Ensure cable is in conduit entering cat head Label the cat head Install frame ground straps
Follow the same procedure to pull the second spool of cable to meet the first		1		
Splice cable as needed		1		
Place cable in tray along with high voltage cable		1		
Excess slack store on the belt line		1		
Use same procedure to pull the data cable		1		
Install the data cable under the tray with double insulated tie straps		1		This cable must not touch the monorail frame This cable must extend to the Minnie master
Lay the excess on the belt		1		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 12: Install Push Pull on Monorail (Crab)

Learner will demonstrate how to conduct a safe and thorough installation of push pull on monorail. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough process of installing push pull on monorail 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Hammer, rags, ladies slipper, punch, and screw driver
Obtain the crab from track entry with the lo-trac on the pallet		1		If not on the pallet, put on pallet and set it up with the stinger facing outby
Add one section of monorail		1		See Monorail Setup (Duty No. 5)
Position the crab at the inby end of the monorail		1		
Raise the crab with the lo-trac		1		
Align the arms of the crab to fit the monorail		1		
Tram forward with the lo-trac until the arms of the crab are engaged in the monorail		1		
Install push bar on outby end of crab to last trolley using push pins		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		
Add a section of monorail inby the crab		1		See Monorail Setup (Duty No. 5)
Slide two trolleys onto the just installed monorail		1		
Push the outby trolley toward the crab close enough to install a push bar		1		
Obtain monorail booster pump with lo-trac		1		
Align the booster pump with the monorail with the intake port pointing outby		1		
Move the pump outby until the rear support can be raised and pinned into the trolley with the inby crab push bar		1		
Raise the pump		1		
Align the hole in the center of the trolley with the hole in the pump carrier		1		
Install the pin		1		
Raise the front of pump		1		
Align the trolley previously installed		1		
Install the pin		1		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 13: Install Booster Pump, Welder, Air Compressor, and 8 Bay

Learner will demonstrate how to conduct a safe and thorough installation of booster pump, welder, air compressor and 8 Bay. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A thorough and safe procedure installing the booster pump, welder, air compressor, and 8 Bay 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Hammer, rags, ladies slippers, punch, screw driver and all chains used on the longwall will be Grade 8 strength
Install booster pump				
<ul style="list-style-type: none"> Obtain monorail booster pump with lo-trac 		1		
<ul style="list-style-type: none"> Align the booster pump with the monorail with the intake port pointing outby 		1		
<ul style="list-style-type: none"> Move the pump outby until the rear support can be raised and pinned into the trolley with the inby crab push bar 		1		
<ul style="list-style-type: none"> Raise the pump 		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		
• Align the hole in the center of the trolley with the hole in the pump carrier		1		
• Install the pin		1		
• Raise the front of pump		1		
• Align the trolley previously installed		1		
• Install the pin		1		
Install welder		1		
• Add one section on monorail		1		
• Obtain welder with lo-trac from track entry		1		
• Align welder hanging eye under monorail		1		
• Move trolley to align with hanging eye		1		
• Raise welder		1		
• Install pin through hanging eye and trolley		1		
• Lower mast of lo-trac		1		
• Install one trolley and stiff arm		1		
Install compressor		1		
• Add one section on monorail		1		
• Obtain compressor with lo-trac from track entry		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		
• Align compressor hanging eye under monorail		1		
• Move trolley to align with hanging eye		1		
• Raise compressor		1		
• Install pin through hanging eye and trolley		1		
• Lower mast of lo-trac		1		
• Install one trolley and stiff arm		1		
Install 8 Bay		1		
• Add monorail through crosscut		1		
• Install three special trolleys		1		
• Obtain 8 Bay with duck bill scoop		1		
• Load onto duck bill diagonally with controls facing operator	The operator's view may be obstructed; the ground person should place themselves out of danger, helping the operator to prevent damage to equipment.	2		Must have ground man with duck bill operator.
• Secure the 8 Bay with duck bill winch rope	This should be secured to prevent disruption, or damage to equipment or bodily injury.	2		
• Tram to the headgate area	The ground person should insure that all persons are clear of travelway during transportation.	2		Will have to adjust 8 Bay on the duck bill to align with the trolleys. See diagram
• Turn to left		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"> Set 8 Bay down 		1		
<ul style="list-style-type: none"> Shift the blade under the 8 Bay by turning the scoop to the right to center the load 	Precautions should be taken to insure all personnel, including the ground person is in the clear.	2		
<ul style="list-style-type: none"> Align the 8 Bay with the monorail trolleys 	Pinch points or poor body positioning could cause bodily injury or death.	3		CAUTION: Only one person should direct the scoop operator. Scoop operator must be aware at all times. Scoop operator must set brake and shut scoop down prior to installing the pin.
<ul style="list-style-type: none"> Raise 8 Bay 		1		
<ul style="list-style-type: none"> Insert pin 		1		
<ul style="list-style-type: none"> Align 8 Bay with monorail and trolleys 		1		
<ul style="list-style-type: none"> Raise 8 Bay 		1		
<ul style="list-style-type: none"> Insert a pin in each hanging eye and trolley 		1		
<ul style="list-style-type: none"> Push the 8 Bay with the duck bill scoop to within 5' of the welder 		1		
<ul style="list-style-type: none"> Install the 5' push bar between the 8 bay and the compressor 		1		
Finish the monorail				
<ul style="list-style-type: none"> Install seven wider master trolley 		1		
<ul style="list-style-type: none"> Attach first trolley to the 8 Bay using a 60" push bar 		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"> • Attach a 12 foot 3/8” chain between first and second trolley in by the 8 Bay 		1		
<ul style="list-style-type: none"> • Connect the five remaining trolleys with 60” push bars between them 		1		
<ul style="list-style-type: none"> • Lay the hoses that has been stored on the belt line in the trolley trays 		1		
<ul style="list-style-type: none"> • Strap the cables and hoses in place in their trays on each side of the trolleys 		1		Each trolley takes eight straps
<ul style="list-style-type: none"> • Install straps on cables and hoses between the trolleys, one in the center of the span, and one on each end, about a foot from the trolley 		1		This takes six straps
<ul style="list-style-type: none"> • Remove all debris and materials 	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 14: Install Headgate Drive

Learner will demonstrate how to conduct a safe and thorough installation of the headgate drive. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough installation of the headgate drive 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Chisel, hammer, anti seize, wire brush, rags, ladies slipper, punch, screw driver, crib blocks, 3/4" socket set, 3/4" drive air impact, 3/4" metric Allen sockets, 1" wire rope slings (25 and 35 feet), rock bars
Obtain headgate drive from the track entry with duck bill scoop and tram to headgate entry	This should be secured to prevent disruption, damage to equipment or bodily injury.	2		
<ul style="list-style-type: none"> Load with shield side toward operator 		1		This task requires a ground man
<ul style="list-style-type: none"> Secure the drive with scoop winch rope 	This should be secured to prevent disruption, damage to equipment or bodily injury	2		
<ul style="list-style-type: none"> Obtain four crib blocks 		1		
Align headgate drive with walkway side of stageloader on center line of belt entry and with the face side 2' inby the longwall face		1		See diagram
Place crib blocks under drive at all four corners		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		
Lower the drive onto the crib blocks		1		
Back the duck bill scoop out		1		
Remove sprocket access door from headgate		1		
<ul style="list-style-type: none"> Remove the six Allen socket head bolts with the 19mm wrench 		1		
<ul style="list-style-type: none"> Lift and remove the door with lo-trac 		1		
<ul style="list-style-type: none"> Place door against rib 		1		
Push 35' sling through the access door opening under the sprocket until you see the end of the cable on the opposite side of the headgate drive	Persons should be aware of likely pinch points, equipment should be turned off, communication clear, to prevent injury or death.	3		CAUTION: No standing between pan line joints when scoop is operating
Remove all debris and material	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 15: Install Headgate Specials

Learner will demonstrate how to conduct a safe and thorough procedure to install headgate specials. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough procedure to install headgate specials 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Chisel, hammer, anti seize, wire brush, rags, ladies slipper, punch, screw driver, crib blocks, 3/4" socket set, 3/4" drive air impact, 3/4" metric Allen sockets, 1" wire rope slings (25 and 35 feet), rock bars
Insert grade pan				
<ul style="list-style-type: none"> • Obtain grade pan and tram to face 		1		
<ul style="list-style-type: none"> ○ Place the handrail on the off side of the duck bill scoop operator 		1		This task requires a ground man
<ul style="list-style-type: none"> ○ Position the pan line on the duck bill scoop so that the operator can see the sigma on the face side of the pan 		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"> ○ Secure the pan line on the duck bill scoop with winch rope 	Pan should be secured to prevent damage or injury to persons during transport.	2		
<ul style="list-style-type: none"> ● Align pan line and install four dog bones 		1		See diagram/photo(s)
<ul style="list-style-type: none"> ○ Use sigma as a guide to align the pan line with the sigma on the headgate drive 				
<ul style="list-style-type: none"> ● Pull cable sling until the eye is at the headgate sprocket access door 		1		
<ul style="list-style-type: none"> ▪ Obtain a box of face conveyor chain with the duck bill scoop 		1		
<ul style="list-style-type: none"> ○ Secure the chain box with the winch cable 		1		
<ul style="list-style-type: none"> ○ Place the box of chain directly in front of sprocket access door 		1		E-bolts must be up so when the chain is pulled in bottom of the pan line the flight is upside down. You may have to turn box
<ul style="list-style-type: none"> ○ Attach 35' sling cable to the first links of face conveyor chain using connecting links 		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"> ▪ Tram the duck bill scoop to the last pan installed 		1		
<ul style="list-style-type: none"> ▪ Hook the 35' sling cable to the duck bill scoop 	Grade #8 chains or at least a 1 inch clevis should be used to connect to prevent breaking and becoming a projectile.	2		
<ul style="list-style-type: none"> ▪ Pull until the connecting links are at the end of last installed pan 		1		
<ul style="list-style-type: none"> ▪ Pull the sling cable up into the grade pan for storage while still hooked to the connecting links 		1		See photo(s)
Set headgate specials pan				
<ul style="list-style-type: none"> ▪ Tram to the pan line storage area 		1		
<ul style="list-style-type: none"> ▪ Load two pans on the duck bill scoop 		1		
<ul style="list-style-type: none"> ▪ Position the pan line on the duck bill scoop so that the operator can see the sigma on the spill pan side 		1		
<ul style="list-style-type: none"> ▪ Use sigma as a guide to align the pan line with the sigma on the grade pan 		1		
<ul style="list-style-type: none"> • Tram back to pan line 		1		
<ul style="list-style-type: none"> • Align pan 		1		
<ul style="list-style-type: none"> • Stop 2' away from pan 		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		
• Lower pan to bottom		1		
• Turn duck bill scoop off		1		
• Push 35' cable through pan line and flip back over towards the headgate		1		Have ground man keep tension on the sling pulling slack back as pan are put into place
• Pick up pan		1		
• Push pan into final position				
• Shut duck bill scoop off		1		
• Install the two dumb bells and keeper and one accu-trac pin and keeper		1		
• Repeat this process to the headgate side of the notch in face		1		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 16: Install Shearer

Learner will demonstrate how to conduct a safe and thorough installation of the shearer. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough installation of the shearer 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Chisel, hammer, anti-seize, wire brush, rags, ladies slipper, punch, screw driver, crib blocks, 3/4" socket set, 3/4" drive air impact, 3/4" metric Allen socket, rock bars, 2 Duck bill scoops, torches, spotter, burning permit, rock dust, fire extinguisher, cutting goggles, welding gloves, striker, torque multiplier, hand cleaner/spray silicon, lubricant
Obtain the shearer from the track with the duck bill scoop		1		
<ul style="list-style-type: none"> Position two duck bill scoops, one of each side of track, with the bills facing the track 		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"> Instruct the motorman to position the shearer so that the end of the shearer is even with the outby corner of the crosscut 		1		
<ul style="list-style-type: none"> Set torches up 	The cutting & welding plan should be followed to prevent explosion, injury or deaths	3		See cutting and welding plan
<ul style="list-style-type: none"> Cut shearer free of transport car 		1		
<ul style="list-style-type: none"> Place duck bill under the shearer trapping shoe and sprocket near the outby end 		1		When this shearer is being unloaded, the control panel covers must be on the inby side when taken to the face
<ul style="list-style-type: none"> Instruct the motorman to tram toward the scoop at the same time the scoop will tram into the crosscut 		1		This will swing the shearer to the position for transport
<ul style="list-style-type: none"> Stop the motorman and scoop operator when the shearer is parallel with the crosscut 		1		
<ul style="list-style-type: none"> Place the duck bill of the second scoop under the trapping shoe and sprocket on the opposite end 		1		When this shearer is being unloaded, the control panel covers must be on the inby side when taken to the face
<ul style="list-style-type: none"> Lift shearer off the car with both scoops 		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"> Secure the shearer body with scoop winch rope 	This should be secured to prevent disruption, damage to equipment or bodily injury	2		
<ul style="list-style-type: none"> Instruct the motorman to transport car from under the shearer 		1		
<ul style="list-style-type: none"> Tram scoops with the shearer to pan line, push the shearer and lead scoop with the trailing scoop 	Communication between operators must be clear to prevent dropping shearer causing damage	2		These two operators have to work together. Communication between the two operators is critical The lead scoop is only to assist as needed
<ul style="list-style-type: none"> Stop at notch 		1		
<ul style="list-style-type: none"> Shut scoops down 		1		
<ul style="list-style-type: none"> Crib the headgate end of the shearer with six crib blocks about 18" off the bottom 		1		
<ul style="list-style-type: none"> Lower the shearer onto the cribbing 		1		
<ul style="list-style-type: none"> Unhook the scoop winch line 		1		
<ul style="list-style-type: none"> Install ranging arms, cutter drum and water spider 		1		See Duty No. 17
Install shearer on the pan line		1		
<ul style="list-style-type: none"> Install piece of accu-trac onto the existing pan line leaving one end loose 		1		This is to be used as a guide pin
<ul style="list-style-type: none"> Set duck bill scoops 		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		
○ One scoop on the headgate end		1		
○ One scoop on the tailgate end of the shearer		1		
● Lift the headgate end of the shearer off the bottom		1		
● Tram the scoop forward toward the head drive until the trapping shoe is aligned with accu-trac		1		You may have to lower or raise the scoop to engage the trapping shoe onto the accu-trac
● Use the tailgate scoop to push the entire shearer towards the headgate engaging the trapping shoe on both ends		1		You may have to lower or raise the scoop to engage the trapping shoe onto the accu-trac
Install tailgate ranging arm, cutter drum and water spider		1		See Duty No. 17
Remove all debris and material	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 17: Install Ranging Arms, Headgate Cutter Drum and Water Spider

Learner will demonstrate how to conduct a safe and thorough installation of the ranging arms, headgate cutter drum and water spider. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough process of installing ranging arms, headgate cutter drum and water spider 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		
Conduct exams	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Chisel, hammer, anti-seize, wire brush, rags, ladies slipper, punch, screw driver, crib blocks, 3/4" socket set, 3/4" drive air impact, 3/4" metric Allen socket, rock bars, 2 Duck bill scoops, torches, spotter, burning permit, rock dust, fire extinguisher, cutting goggles, welding gloves, striker, torque multiplier, hand cleaner/spray silicon/lubricant, come-a-long, tacky stuff
Install ranging arm		1		
<ul style="list-style-type: none"> Tram the scoop back to the notch and pick up the headgate ranging arm 		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"> Position the ranging arm so that the cutter drum hub is toward the operator and cutter motor facing the scoop operator's side 		1		
<ul style="list-style-type: none"> Tram the scoop with the ranging arm back to the shearer 		1		
<ul style="list-style-type: none"> Remove the ranging arm pins 		1		
<ul style="list-style-type: none"> Align arm into position <ul style="list-style-type: none"> Raise arm into position with scoop 	Pinch points are very likely during this process, body position and communication are important to prevent injury or death.	3		Ground man will instruct scoop operator as needed. CAUTION: Ground man must stay clear of ranging arm and scoop until arm is in position and scoop is shut down
<ul style="list-style-type: none"> Install pins and keepers 		1		Follow the manufacturer's guidelines. If you do not have the manufacturer's guidelines, do not install the keepers
<ul style="list-style-type: none"> Install pin and shearer jack <ul style="list-style-type: none"> Raise or lower with scoop for adjustment 		1		
<ul style="list-style-type: none"> Insert pin 		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		
○ Bolt keeper plate to ranging arm		1		
Install headgate cutter drum		1		
• Obtain headgate cutter drum from notch with scoop		1		
• Attach winch cable to the hanging eye on the drum	The drum should be secured to prevent disruption during transportation.	2		
• Pull drum with the winch cable so that it is standing with the shallow side towards the face and comes in contact with the front of the duck bill and wedges itself		1		
• Tram headgate cutter drum to ranging arm		1		
• Align drum with shaft		1		
• Use the duck bill to maneuver the drum onto the shaft		1		
• Release the winch cable		1		
• Install starter pull bolts through the drum into the drive until drum is flush		1		
• Remove starter bolts one at a time		1		
• Replace with drum bolts		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"> • Torque drum bolts to 1200 foot pounds 		1		
<ul style="list-style-type: none"> ○ Use torque multiplier 	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	3		
Install water spider		1		
<ul style="list-style-type: none"> • Obtain water spider with duck bill scoop 		1		
<ul style="list-style-type: none"> • Obtain O-rings 		1		two large and four small
<ul style="list-style-type: none"> • Tram scoop with spider to headgate ranging arm 		1		
<ul style="list-style-type: none"> • Install large O-rings on water manifold on ranging arm 		1		
<ul style="list-style-type: none"> ○ Lubricate O-rings with hand cleaner 		1		
<ul style="list-style-type: none"> • Install small O-rings in spider 		1		
<ul style="list-style-type: none"> ○ Hold in place with something tacky 		1		
<ul style="list-style-type: none"> • Install two 19mm all threads about 18" long into the drum 		1		
<ul style="list-style-type: none"> • Lift with come-a-long 		1		
<ul style="list-style-type: none"> ○ Loop come-along chain through bit holder 		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		
○ Loop a chain through the spider		1		
○ Lift into place		1		
○ Slide onto 19mm all thread guide bolts		1		
○ Slide in as far as possible		1		
○ Install nuts onto the guide bolts then remove come-along		1		
○ Draw spider into place using the guide bolt nuts		1		
○ Install spider mounting bolts		1		
○ Remove guide bolts		1		
○ Torque to manufacturer's specification	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	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		
Repeat this process for the tailgate ranging arm, drum and spider after the shearer is on the pan line		1		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 18: Install Pan Line

Learner will demonstrate how to conduct a safe and thorough installation of the pan line. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough process of installing the pan line 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Chisel, hammer, rags, ladies slipper, punch, screw driver, 1" wire rope slings (25 and 35 feet), rock bars, T-boards, crib blocks
Set pans				
<ul style="list-style-type: none"> ▪ Tram to the pan line storage area 		1		
<ul style="list-style-type: none"> ▪ Load two pans on the duck bill scoop 		1		
<ul style="list-style-type: none"> ▪ Position the pan line on the duck bill scoop so that the operator can see the sigma on the face side 		1		
<ul style="list-style-type: none"> ▪ Use sigma as a guide to align the pan line with the sigma on the previous pan 		1		
<ul style="list-style-type: none"> • Tram back to pan line 		1		
<ul style="list-style-type: none"> • Align pan 		1		
<ul style="list-style-type: none"> • Stop 2' away from pan 		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		
• Lower pan to bottom		1		
• Turn duck bill scoop off		1		
• Push 35' cable through pan line and flap back over towards the headgate		1		Have ground man keep tension on the sling pulling slack back as pans are put into place
• Pick up pan		1		
• Push pan into final position		1		
• Shut duck bill scoop off		1		
• Install the two dumb bells and keeper and one accu-trac pin and keeper		1		
• Pull bottom chain every three sets of pans installed	Grade #8 chains or at least a 1 inch clevis should be used to connect to prevent breaking and becoming a projectile.	2		
• Repeat this process for approximately 250' or 25 sets of pan line		1		
• Install top chain		1		
• Repeat this process every 250' until you reach the tailgate drive location		1		The last 12 pans will be specials and need to be put in order. See diagram (Special Pans Are Numbered)
Install top chain		1		
• Obtain box of chain with scoop		1		
• Place 3' from last pan set		1		
• Connect the 25 foot 1" wire sling to the chain		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		
with 1" clevis				
<ul style="list-style-type: none"> Install rock bar in the second hole of the chain box 		1		
<ul style="list-style-type: none"> Connect the 25 foot 1" wire sling to the scoop with a 1" clevis 		1		
<ul style="list-style-type: none"> Tram the scoop toward headgate until box is empty 		1		The rock bar will need to be adjusted as layers of chains are pulled from the box
<ul style="list-style-type: none"> Repeat this process every 250' until you reach the tailgate drive location 		1		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 19: Install Tailgate Drive

Learner will demonstrate how to conduct a safe and thorough installation of the tailgate drive. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough process to install the tailgate drive 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Chisel, hammer, rags, ladies slipper, punch, screw driver, 1" wire rope slings (25 and 35 feet), rock bars, T-boards, crib blocks, 3/4" socket set (SAE and Metric), Allen wrenches (SAE and Metric)
Obtain tailgate drive from storage location with duck bill scoop		1		A ground man is required for this task
<ul style="list-style-type: none"> Remove sprocket covers if not already done and lay in pan of tailgate drive 		1		
<ul style="list-style-type: none"> Load with sprocket towards scoop operator 		1		
<ul style="list-style-type: none"> Secure with scoop winch rope 	This should be secured to prevent disruption, damage to equipment or bodily injury to personnel during transport.	2		
<ul style="list-style-type: none"> Tram the duck bill scoop battery first toward the 		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		
face				
• Back into crosscut across from pan line		1		
• Tram drive toward pan line		1		
• Stop about 2' before the pan line		1		
• Shut scoop off		1		
• Lower the drive to the bottom		1		
• Push 1" cable connected to bottom chain through the drive under the sprocket		1		
• Pick drive up		1		
• Align the drive with the duck bill	Pinch points are very likely during this process, body position and communication are important to prevent injury or death.	3		CAUTION: Stay clear of pinch points while the drive is being installed. Ground man should work from top of pan line. See diagram for dog bone installation
• Install the dog bones		1		
• Raise the pan line slightly		1		
• Lower the drive onto four crib blocks		1		
• Pull chain to couple		1		
• Couple chain	Improper installation could cause equipment damage after start-up.	2		Some chain link couplers may be directional. See diagram or photo(s)

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		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 20: Install AFC Gear Boxes and Motors

Learner will demonstrate how to conduct a safe and thorough installation of AFC gear boxes and motors. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough process of installing AFC gear boxes and motors 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Chisel, hammer, rags, ladies slipper, punch, screw driver, rock bars, T-boards, crib blocks, 3/4" socket set (SAE and Metric), Allen wrenches (SAE and Metric)
Obtain the gear box and motor with the 620 duck bill scoop		1		
<ul style="list-style-type: none"> Load gear box on the operator side of the duck bill scoop with splines facing away from operator 		1		See diagram
<ul style="list-style-type: none"> Tram the duck bill scoop bill first into the drive 		1		
<ul style="list-style-type: none"> Align the gear box splines with the spline on the drive 		1		
<ul style="list-style-type: none"> Remove the four bolts from the coupler on the drive 		1		
<ul style="list-style-type: none"> Slide the coupler back 		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		
• Tram forward until it is in position		1		
Bolt the gear box and motor to tailgate drive		1		
• Install mounting bolts		1		30mm by 150mm
• Tighten bolts		1		
• Slide coupler forward and align with splines		1		
• Install lock bolts		1		
Install bed plate and gob plate		1		
• Obtain bed plate with 620 duck bill scoop		1		
○ Load the bed plate with the shield eyes toward the operator		1		
○ Place bed pan on duck bill bottom down		1		See diagram
○ Secure with winch rope	This should be secured to prevent disruption, damage to equipment or bodily injury to personnel during transportation.	2		
• Tram into position		1		
• Align and install six pins and three dog bones		1		See diagram
• Obtain gob plate with 620 duck bill scoop and take to tailgate		1		
• Tram into position		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"> • Use lo-trac to assist in aligning 		1		
<ul style="list-style-type: none"> • Install 30" keeper pin 		1		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 21: Install Stageloader

Learner will demonstrate how to conduct a safe and thorough installation of the stageloader. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A thorough and safe installation of the stageloader 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 exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Chisel, hammer, rags, ladies slipper, punch, screw driver, rock bars, T-boards, crib blocks, 3/4" socket set (SAE and Metric), Allen wrenches (SAE and Metric), 125 foot 3/4" wire rope sling, 3/4" air impact wrench
Obtain #1 stageloader pan with duck bill scoop		1		
<ul style="list-style-type: none"> Load with the side board on the operator's side of the scoop 		1		
<ul style="list-style-type: none"> Secure with winch cable 	This should be secured to prevent disruption, damage to equipment or bodily injury to personnel during transportation.	2		
<ul style="list-style-type: none"> Tram into headgate 		1		
<ul style="list-style-type: none"> Align pan #1 using the sigmas 		1		
Install dog bones		1		See diagram. #1 motor and gear box must be installed at

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
				this time
Remove covers from NDR (stageloader tail roller)		1		
<ul style="list-style-type: none"> Slide covers from NDR (stageloader tail roller) 		1		
Push ¾" rope to the last joint of pan under the NDR (stageloader tail roller)		1		
Obtain #2 and #3 stageloader pan with duck bill scoop as a unit and install		1		
<ul style="list-style-type: none"> Load with the side board on the operator's side of the scoop 		1		
<ul style="list-style-type: none"> Secure with winch cable 	This should be secured to prevent disruption, damage to equipment or bodily injury to personnel during transportation	2		
<ul style="list-style-type: none"> Tram into headgate 		1		
<ul style="list-style-type: none"> Stop scoop 2' from the connecting point 		1		
<ul style="list-style-type: none"> Lower duck bill to bottom 		1		
<ul style="list-style-type: none"> Shut off scoop 		1		
<ul style="list-style-type: none"> Push cable to the end of pan 		1		
<ul style="list-style-type: none"> Align pan #2 and 3 using the sigmas 		1		
<ul style="list-style-type: none"> Install dog bones 		1		See diagram.
Obtain crusher with duck bill		1		

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
scoop and install				
<ul style="list-style-type: none"> • Load with motor mount facing operator 		1		
<ul style="list-style-type: none"> • Secure with winch cable 	This should be secured to prevent disruption, damage to equipment or bodily injury to personnel during transportation.	2		
<ul style="list-style-type: none"> • Stop scoop 2' from the last stageloader pan 		1		
<ul style="list-style-type: none"> • Set duck bill on bottom 		1		
<ul style="list-style-type: none"> • Shut off scoop 		1		
<ul style="list-style-type: none"> • Push ¾" wire rope sling through crusher on bottom 		1		
<ul style="list-style-type: none"> • Set crusher in place aligning with sigmas 		1		
<ul style="list-style-type: none"> • Install dog bones and bolts 		1		See diagram
<ul style="list-style-type: none"> • Obtain top cover of crusher with lo-trac, load on forks 		1		
<ul style="list-style-type: none"> • Tram to crusher and set it on top 		1		
<ul style="list-style-type: none"> • Install bolts to fasten cover 		1		
<ul style="list-style-type: none"> • Obtain crusher motor with lo-trac 		1		
<ul style="list-style-type: none"> • Load with pulley and shaft away from the operator on the forks 		1		

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
<ul style="list-style-type: none"> Tram the crusher motor to the crusher 		1		
<ul style="list-style-type: none"> Align with mounting brackets 		1		
<ul style="list-style-type: none"> Install pins 		1		
<ul style="list-style-type: none"> Obtain covers with lo-trac 		1		See Diagram - Belt covers, v-pulley cover, and fly wheel cover
Obtain Minnie master skid with lo-trac		1		
<ul style="list-style-type: none"> Load with the pin clevis away from the operator 		1		
<ul style="list-style-type: none"> Align with the mounts 		1		
<ul style="list-style-type: none"> Lower into place 		1		
<ul style="list-style-type: none"> Back lo-trac away 		1		
<ul style="list-style-type: none"> Align with bar and pin 		1		
<ul style="list-style-type: none"> Obtain Minnie master with lo-trac 		1		
<ul style="list-style-type: none"> Set and pin in place 		1		
Obtain and set goose neck with 620 duck bill scoop		1		
<ul style="list-style-type: none"> Load goose neck with the smaller opening toward the scoop operator and the clevis away from the operator 		1		
<ul style="list-style-type: none"> Secure in place with winch cable 	This should be secured to prevent disruption, damage to equipment or bodily injury to personnel during transportation.	2		

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
<ul style="list-style-type: none"> Tram to the crusher 		1		
<ul style="list-style-type: none"> Stop 2' from the crusher 		1		
<ul style="list-style-type: none"> Lower duck bill to bottom 		1		
<ul style="list-style-type: none"> Shut off scoop 		1		
<ul style="list-style-type: none"> Push ¾" wire rope sling through bottom on goose neck 		1		
<ul style="list-style-type: none"> Align to crusher using sigmas 		1		
<ul style="list-style-type: none"> Attach with two large pins 		1		
<ul style="list-style-type: none"> Install C clip keeper and two bolts 		1		
<p>Obtain and set stageloader drive with the 620 duck bill scoop</p>		1		
<ul style="list-style-type: none"> Un-spool enough winch rope to go entirely through the stageloader drive 		1		
<ul style="list-style-type: none"> Slide the duck bill under the discharge end of the stageloader drive 		1		
<ul style="list-style-type: none"> Lower the mast on the duck bill 		1		
<ul style="list-style-type: none"> Tram in until the end of the stageloader drive is about 1' from the duck bill mast 		1		

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
<ul style="list-style-type: none"> • Raise the tip of the duck bill until the end of the stageloader drive will clear the body of the scoop 		1		
<ul style="list-style-type: none"> • Tram forward slowly until the spline for the walk side motor is across from the operator 		1		
<ul style="list-style-type: none"> • Secure with winch rope through the top compartment of the drive 	This should be secured to prevent disruption, damage to equipment or bodily injury to personnel during transportation.	2		
<ul style="list-style-type: none"> • Tram the scoop to the stageloader 		1		
<ul style="list-style-type: none"> • Stop the scoop 2' from the stageloader 		1		
<ul style="list-style-type: none"> • Shut the scoop down 		1		
<ul style="list-style-type: none"> • Push the 3/4" wire rope sling through the bottom compartment of the drive 		1		
<ul style="list-style-type: none"> • Loose the winch cable and unhook 		1		
<ul style="list-style-type: none"> • Start the scoop 		1		
<ul style="list-style-type: none"> • Align the sigmas of the pan and the drive 		1		
<ul style="list-style-type: none"> • Tram forward slowly 		1		

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
<ul style="list-style-type: none"> Tram forward until the lip on the bottom of the stageloader drive aligns with the goose neck 	Pinch points are very likely during this process, body position and communication are important to prevent injury	3		Small adjustments can be made by tilting the duck bill up or down to get the bolt holes aligned. CAUTION: Do not work under or in close proximity of this unsecured drive
<ul style="list-style-type: none"> Shut scoop down 		1		
<ul style="list-style-type: none"> Install side panel bolts 		1		
<ul style="list-style-type: none"> Back the scoop about 3' so that the stageloader rests on the duck bill scoop bottom 		1		
<ul style="list-style-type: none"> Lay duck bill flat on the bottom 		1		
<ul style="list-style-type: none"> Shut off scoop 		1		
<ul style="list-style-type: none"> Build a 6 X 6 crib on the duck bill approximately in the center of the drive 		1		This is to adjust the height to install the mobile tailpiece
<ul style="list-style-type: none"> Raise the duck bill and the stageloader drive high enough for the mobile tailpiece to fit under the end 		1		
<ul style="list-style-type: none"> Build a second crib 1' from the end of the duck bill 		1		
<ul style="list-style-type: none"> Lower the duck bill so that the second install crib carries the weight of the drive 		1		

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
<ul style="list-style-type: none"> • Back the duck bill out of the way 		1		
<ul style="list-style-type: none"> • Disassemble crib on duck bill 		1		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 22: Install Mobile Tailpiece

Learner will demonstrate how to conduct a safe and thorough installation of the mobile tailpiece. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough process of installing the mobile tailpiece 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Two 50' $\frac{3}{4}$ " hydraulic hoses with $\frac{3}{4}$ " quick coupler on both end, hammer, rock bar, come-a-long
Obtain the mobile tailpiece with the 620 duck bill scoop from track		1		
<ul style="list-style-type: none"> Position the mobile tailpiece centered across the duck bill 		1		
<ul style="list-style-type: none"> Secure with winch rope 	This should be secured to prevent disruption, damage to equipment or bodily injury to personnel during transportation.	2		
<ul style="list-style-type: none"> Back away from the track 		1		
<ul style="list-style-type: none"> Back into the first crosscut 		1		
<ul style="list-style-type: none"> Take mobile tailpiece to the goose neck duck bill first 		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		
• Lower the duck bill		1		
• Unhook the winch rope		1		
• Shut down scoop		1		
Position the mobile tailpiece		1		
• Hook two hydraulic hoses to the tailpiece and PTO on the 620 duck bill scoop		1		
• Engage PTO				
• Maneuver mobile tailpiece into final position using the controls on the walkway side		1		
• Install the pins in the fifth wheel		1		See diagram/photo(s)
Raise stageloader by extending the stab jacks on the mobile tailpiece		1		
Remove the crib under the goose neck		1		
Lower stageloader by retracting stab jacks		1		
Shut off scoop		1		
Remove 3/4" hydraulic hoses		1		
Clean up any spilled oil		1		
Back scoop out of the way		1		
Install angle blade scrapper on goose neck		1		
• Obtain angle blade scrapper with lo-trac		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		
• Load on forks		1		
• Tram to goose neck		1		
• Place under goose neck and pin		1		
Install stageloader chain		1		
• Obtain chain box with 620 duck bill scoop		1		
• Place chain box at the tail sprocket of stageloader		1		
• Hook ¾" wire rope sling with clevis	Grade #8 chains or at least a 1 inch clevis should be used to connect to prevent breaking and becoming a projectile.	2		
• Lay cap board across chains on the outby end of the first flight		1		
• Hook scoop up to ¾" rope sling		1		
• Pull slowly		1		
• Guide flight into trough with rock bar	Communication with the scoop operator is critical to prevent breakage of chain or clevis, becoming a projectile, or bar becoming entangled causing injury or death.	3		After the first flight engages, the chain should pull through without problems. CAUTION: Do not attempt to guide chain with rock bar while chain is being pulled by the scoop. Stop scoop to make any adjustments to the chain.
• Pull with scoop until chain is completely through the stageloader		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"> • Unhook cable from scoop 		1		
<ul style="list-style-type: none"> • Take other end of cable to the other end of the stageloader 		1		
<ul style="list-style-type: none"> • Re-hook the scoop 		1		
<ul style="list-style-type: none"> • Pull the cable and the chain until all chain is into stageloader 		1		
<ul style="list-style-type: none"> • Connect chain 		1		
<ul style="list-style-type: none"> • Tension chain before operating 		1		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 23: Install Cables and Hoses in the Pan Line

Learner will demonstrate how to conduct a safe and thorough installation of cables and hoses in the pan line. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough installation of cables and hoses in the pan line 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Chisel, hammer, rags, ladies slipper, punch, screw driver, rock bars, 2 – 18” pipe wrenches, 12” crescent wrench, 2” super stecko staples, lo-trac
Obtain cables and hoses with lo-trac and take to headgate		1		
Install and guard the cables from the 8 Bay to all motors	The plan must be followed to insure that all state and federal requirements are met.	2		See Energy Control Plan. See diagram
Connect hoses from end of monorail down side of the stagelader on the walkway side to the headgate		1		See diagram
Continue on from the headgate to the tailgate with hoses and cables		1		Cables do not need to be guarded when they are behind the covers in the pan
Place shield power supply boxes and cables		1		
<ul style="list-style-type: none"> Obtain metal supply box with power supplies with the lo-trac 		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"> Load box onto forks and secure with winch rope 		1		
<ul style="list-style-type: none"> Tram to headgate 		1		
<ul style="list-style-type: none"> Place a power supply box, ISO adapter and cable at each of the following locations in the pan line on accu-trac) 		1		Shield #5, 25, 45, 65, 85, 105, 125, 145, 165, and 170. 170 is the termination box
Distribute the shield lighting equipment		1		
<ul style="list-style-type: none"> Obtain metal supply box with lighting equipment with the lo-trac 		1		
<ul style="list-style-type: none"> Load box onto forks and secure with winch rope 		1		
<ul style="list-style-type: none"> Tram to headgate 		1		
<ul style="list-style-type: none"> Place a florescent light , a splitter cable, and a light cable in the pan line (on accu-trac) 		1		Shield # 1, 2, and 3 and every other shield until the last three, each of those will have a light
Distribute face phones		1		
<ul style="list-style-type: none"> Obtain metal supply box with face phone on lo-trac 		1		
<ul style="list-style-type: none"> Load box onto forks and secure with winch rope 	This should be secured to prevent disruption, damage to equipment or bodily injury to personnel during transportation.	2		
<ul style="list-style-type: none"> Tram to headgate 		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"> Place a face phone in pan line (on accu-trac) 		1		Shield # 6, and at every eighth shield until all are placed.
<ul style="list-style-type: none"> Place a termination box with the last phone 		1		
Distribute shield hose kits		1		
<ul style="list-style-type: none"> Obtain metal supply box with shield hose kit with the lo-trac 		1		
<ul style="list-style-type: none"> Load box onto forks and secure with winch rope 	This should be secured to prevent disruption, damage to equipment or bodily injury to personnel during transportation.	2		
<ul style="list-style-type: none"> Tram to headgate 		1		
<ul style="list-style-type: none"> Place a shield hose kit in the pan line every 20 to 25 shields starting from the headgate 		1		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 24: Installing Shields on the Face

Learner will demonstrate how to conduct a safe and thorough installation of shields of the face. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough installation of shields on the face 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, 3broken bones, even death	2		Chisel, hammer, rags, ladies slipper, punch, screw driver, rock bars, 1 1/4" stecko staple, 2" staples, 3/4" staples, 1/2" staples, 3/8" staples, Electra-clean, anti-seize, 3/4" and 1/2" male staple lock plugs, 50 foot 1/2" slave line with two 1/2" ball valves, 1/2" T staple lock fitting, 1/2" to a 3/4" female staple lock adapter, 3/4" staple lock coupling, GPU box
Obtain shields from shield car with 620 duck bill scoop		1		
<ul style="list-style-type: none"> Pull scoop to the side of the shield car 		1		
<ul style="list-style-type: none"> Align duck bill scoop with the side of the shield car level with the shield car floor 		1		
<ul style="list-style-type: none"> Set brake on scoop 		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"> Run off enough winch cable to reach the center of the shield 		1		
<ul style="list-style-type: none"> Place hook in the shield canopy center hole of the shield canopy next to PM4 		1		
<ul style="list-style-type: none"> Retract winch cable pulling shield onto duck bill 	All persons in this area should be aware of shield movement, (pinch points), and of use of winch rope, that could break becoming a projectile, causing injury or death.	3		As the shield is being winched, it will spin onto the duck bill canopy end toward the operator. CAUTION: All persons in the area should be aware of shield movement and rocks on top of the shield. Stay out of the area where cable/hook could break and cause fatal injury.
<ul style="list-style-type: none"> Lift duck bill up 		1		
<ul style="list-style-type: none"> Tram duck bill to tailgate area where shield is to be set 		1		
Set shields with a 620 duck bill scoop		1		
<ul style="list-style-type: none"> Articulate scoop to the right 		1		
<ul style="list-style-type: none"> Lower shield back down to the bottom 		1		
<ul style="list-style-type: none"> Put slack in winch cable 		1		
<ul style="list-style-type: none"> Tram scoop back 2 feet 		1		
<ul style="list-style-type: none"> Shut down scoop 				

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		
• Hook slave line to the shield		1		
• Hook the GPU to the shield		1		
• Close the bleed valve on the slave line		1		
• Slowly open the pressure valve	A loose ended pressurized hose would become a projectile that could cause bodily injury or death.	3		CAUTION: Very high pressure (5000 psi) on these lines, and there could be damage lines or fittings
• Raise shield to within 1 foot of the top using the GPU	Anyone in this area would be in danger if unwanted shield movement should occur, causing injury or death.	3		CAUTION: No one may go under the shield while be raised
• Remove winch cable after shield is raised		1		
• Turn off slave line at shield and bleed pressure slowly	Insure that all personnel are in the clear before bleeding pressurized hose.	2		
• Raise duck bill up		1		
• Turn scoop to left				
• Lower shield to the bottom		1		
• Back scoop up		1		
• Raise duck bill up aligning with pontoon of shield		1		
• Slowly push into place		1		
• Close the bleed valve	All valves should be closed before pressurizing lines to prevent injury from hydraulic	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		
	fluid			
<ul style="list-style-type: none"> Slowly open the pressure valve 	Pressure should be applied slowly to insure there are no ruptured hoses that would cause injury.	2		
<ul style="list-style-type: none"> Extend the relay bar using the GPU 		1		
<ul style="list-style-type: none"> Connect relay bar to pan line 		1		
<ul style="list-style-type: none"> Install horizontal pin and keeper 		1		
<ul style="list-style-type: none"> Raise shield to the top 		1		
<ul style="list-style-type: none"> Turn leg jacks off 		1		½” cut off valve on each leg
<ul style="list-style-type: none"> Turn off slave line pressure and bleed slowly 	Insure that all personnel are in the clear before bleeding pressurized hose.	2		
<ul style="list-style-type: none"> Install base lift jack 		1		There are two different styles
<ul style="list-style-type: none"> Repeat this process until all shields are installed 		1		Note: The three headgate shields are larger and numbered 1,2, and 3, and will be the last shields installed
Hosing shield		1		
<ul style="list-style-type: none"> Examine hoses and replace as necessary 		1		
<ul style="list-style-type: none"> Remove hoses from the headgate side of the manifold on all shields that are looped 		1		
<ul style="list-style-type: none"> Install these hoses from the tailgate side of the shield to the ports on 		1		The headgate special shields and tailgate special shields require longer hoses at step

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		
headgate side of adjacent shield				down
• Clean all hose fittings		1		
• Check O-rings, back-up ring and damage to hoses		1		
• Examine and clean manifold		1		
• Coat the male fitting with anti-seize		1		
• Install male end of hose into the manifold		1		
○ Connect lines in the sequence listed below		1		
○ Hook up 3/4" water line first		1		
○ Install 3/4" staple on water line connection	Improper or damaged staples on a pressurized hose could cause the hose to blow apart causing bodily injury or death	2		Staples must be installed through both holes provided in the fitting. CAUTION: Improperly installed staples could cause serious injury or death
○ Hook up 3/4" pressure line		1		
○ Install 3/4" staple on pressure line connection		1		
○ Hook up 2" return line		1		
○ Install 2" staple on	Improper or damaged staples	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		
return line connection	on a pressurized hose could cause the hose to blow apart causing bodily injury or death			
○ Hook up 1 1/4" shield to shield pressure hose		1		
○ Install 1 1/4" super stecko staple on connection	Improper or damaged staples on a pressurized hose could cause the hose to blow apart causing bodily injury or death	2		
○ Check the staples on the previous shield to be sure they are installed correctly	Improper or damaged staples on a pressurized hose could cause the hose to blow apart causing bodily injury or death	2		Replace any damage or worn staples
○ Repeat this process for each shield		1		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 25: Pressurizing Shields with Damaged Hoses

Learner will demonstrate how to pressurize shields with damaged hoses safely and thoroughly. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A thorough and safe procedure for pressurizing shields with damaged hoses 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
Remove the staple from the ball valve on the leg jack		1		
Remove the hose		1		
Insert ½" slave line		1		
Replace staple		1		
Slowly pressurize the slave line	Pressure should be applied slowly to insure there are no ruptured hoses that would cause injury.	2		
Raise shield to 1' from the top	Working under this shield is a pinch point area; any unwanted shield movement could cause injury or death.	3		CAUTION: No one should go under the shields while shield is being operated.
Turn the ball valve off on the shield legs		1		
Turn the ball valve off the slave line		1		
Slowly bleed the pressure off the slave line	Insure all persons are in the clear before bleeding any pressurized hose that could cause injury.	2		
Replace damaged hoses on the shield		1		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 26: Establish Longwall Section Power

Learner will demonstrate how to establish safely and thoroughly the longwall section power. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough establishment of the longwall section power 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 exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Rags, Screw driver, 12" crescent wrench, lo-trac, high voltage lubricant, 2 spanner wrenches, electra-clean, anti-seize, 2" super stecko, 3" Victraulic, 18" pipe wrenches.
Lock and tag the high voltage power outlet at the vacuum breaker with visible disconnect located at the mouth of the section	Lock out, tag out plans must be followed. Not following these guidelines could cause injury or death.	3		CAUTION: See "ENERGY CONTROL PLAN".
Unscrew the high voltage cable using spanner wrenches		1		
Connect the cable to the longwall section power center		1		Inspect cable ends and clean if necessary. Be sure cables are shielded.
Connect the two 2300V cables from the AB boxes on the end of the monorail to the LW section power center		1		Inspect the cable and clean if necessary. Be sure cables are shielded.

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 power center for permissibility	Danger occurs when a piece of equipment is not permissible. Permissibility is done for the safety of all; failure could cause injury or deaths.	3		Permissibility records are to be entered in books on surface.
Remove locks and tags		1		
Reestablish power		1		
Check power center for correct phasing		1		
Remove all debris and materials	Slips, trips and falls could cause broken bones cuts, loss of limbs or death.	3		

Duty 27: Setting up the Pump Car

Learner will demonstrate how to conduct a safe and thorough procedure of setting up the pump car. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough procedure to setting up the pump car 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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Obtain and examine tools and materials	The use of defective tools or the wrong tools are a basic unsafe act. People tend to improvise, putting themselves at risk, hand tool injuries, cuts, broken bones, even death	2		Rags, Screw driver, 12" crescent wrench, lo-trac, high voltage lubricant, 2 spanner wrenches, electra-clean, anti-seize, 2" super stecko, 3" Victraulic, 18" pipe wrenches.
Obtain hoses with lo-trac		1		
Turn off in coming fresh water line		1		
Connect hoses between pressure board and pump car		1		Pressure hoses are 2" Super-stecko.
Connect return hoses between water board and pump car		1		Return hoses are 2" JIC hoses
Connect one 2" JIC fresh water line between the water board and pump car		1		
Connect 3" Victraulic hose from existing 4" water line to supply manifold for shear booster pump		1		
Hook-up the 1 1/2" emulsion		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		
line in to the tank				
Turn-on the fresh water line slowly		1		Check connections for any leaks
Flush all lines at the face		1		
Remove all debris and material	Slips, trips and falls could cause broken bones cuts, loss of limbs or death	3		

Duty 28: Longwall Section Start-up

Learner will demonstrate how to conduct a safe and thorough longwall section start up. Learner will also explain the job duties, why they are conducted, any associated risk, and how to implement appropriate controls. A safe and thorough longwall section start-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		
Conduct exam	Planned work, observe hazards, could save lives	3		
Establish face ventilation according to the plan	Inadequate ventilation could cause build up of gasses, causing explosions, injury, or deaths.	3		See "ventilation plan"
Clean face of all excess parts	Extra parts left on face area become a tripping hazard, (eyes on path) causing injury or broken bones.	2		
Walk the face chain and make sure chain is free of debris	All material should be removed from chain. This material could cause entanglement or become projectiles, causing injury or death.	3		
Conduct permissibility	Danger occurs when a piece of equipment is not permissible. Permissibility is done for the safety of all; failure could cause injury or deaths.	3		
Check phasing on the motors		1		Follow "ENERGY CONTROL PLAN"
Test run all components in automatic mode		1		