

Work Activity (Job): ADJUSTING DRAWWORK BRAKE		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures (Review JSA)	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment 1) Wrenches 2) Hammer	Personal injury Pinch points Struck by	Equipment in good condition Right tools for the job
C) Proper personal protective equipment	Personal injury Loss of life	Review Mallard fall protection program See equipment required below
2) Hang block in derrick (if applicable) A) Inspection of hoisting wire rope and bridle (If not applicable – proceed to next step)	Falls	Fall protection Review “Hanging Block JSA” Review “Hoisting Personnel JSA”
3) Remove guard(s) from drawworks	Pinch points	Right tools for the job – effective communication
4) Inspect brake linkages		
5) Loosen jam nut – top and bottom	Pinch points	Right tool for the job
6) Engage clutch and pick up on block, adjusting turnbuckles ¼ turn on each side, keeping equalizer bar even.	Equipment damage	Adjust evenly
7) Driller check brake handle position for proper braking angle	Struck by	Keep hold of handle at all times
8) Adjust until proper braking is attained – repeat steps 7 and 8	Review steps 8 and 9	Review steps 8 and 9
9) Re-tighten jam nuts – top and bottom	Pinch points	Right tools
10) Replace drawwork guard(s) (if applicable)	Pinch points – Struck by	
11) Unhang block	Falls	Communication – teamwork Review JSA on Hanging Block



JOB SAFETY ANALYSIS
Romfor International LTD

Revised October, 2011

Work Activity (Job): ADJUSTING DRAWWORK BRAKE		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
12) Clean work area	Slips, trips, falls, back injuries	Good housekeeping, proper lifting

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Back Belts? <input checked="" type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input checked="" type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Fall Protection <input checked="" type="checkbox"/>		

Work Activity (Job): BR WORK		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Changing linen / making beds	Strains – falls	Use proper lifting techniques – use 3' ladder to reach top bunks – never use top step
3) Cleaning galley after meals	Cuts, scrapes - slips, trips, falls – burns	Always take your time – schedule clean up for light traffic times ex: after meals – use rubber gloves – read warning labels on all cleansers
4) Sweeping	Strains	Always let legs do the work – never twist back when sweeping – use arms to control broom
5) Disposing of trash	Smashed fingers – eye injury	Lifting techniques – get proper instructions for compactor – never rest hand on compactor when operating and never look in compactor while it is crushing trash – use Personal protective equipment

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input checked="" type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
* When necessary		

Work Activity (Job): BR WORK		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Changing linen / making beds	Strains – falls	Use proper lifting techniques – use 3' ladder to reach top bunks – never use top step
3) Cleaning galley after meals	Cuts, scrapes - slips, trips, falls – burns	Always take your time – schedule clean up for light traffic times ex: after meals – use rubber gloves – read warning labels on all cleansers
4) Sweeping	Strains	Always let legs do the work – never twist back when sweeping – use arms to control broom
5) Disposing of trash	Smashed fingers – eye injury	Lifting techniques – get proper instructions for compactor – never rest hand on compactor when operating and never look in compactor while it is crushing trash – use Personal protective equipment

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input checked="" type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belts? <input checked="" type="checkbox"/>	* When necessary	

Work Activity (Job): CHANGE OUT AIR LINES		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Close air valve		
3) Bleed off pressure from lines	Struck by – eye injury	Bleed off pressure
4) Remove safety clip	Struck against	Remove slowly
5) Disconnect both ends of air line	Pinch points – soft tissue injury	Proper procedure – wear gloves
6) Install new line	Pinch points	Proceed carefully
7) Attach safety clips on both ends		
8) Open air valve	Struck by – eye injury	Open slowly
9) Discard old air line	Slips, trips, falls	Good housekeeping
10) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belts? <input checked="" type="checkbox"/>		

Work Activity (Job): CHANGING COUPLERS ON MOTOR		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Lockout / tagout procedure	Shock – pinch points – caught between	Safety Policy Manual section B-6
3) Remove set screw on each side of hub (half moon)	Pinch points	Right tools for the job
4) Remove rubber gasket / seal that wraps around shaft	Struck by / against	Good procedure
5) Remove hub set screw and slide it back away from pump or motor	Struck against – pinch points	Right tool – proper procedure
6) Remove coupler	Struck by	Team work – ask for assistance if needed
7) Slide hub back and set screw	Struck by – pinch points	Good procedure – right tool for the job
8) Install rubber gasket around shaft	Pinch points	Good technique – right tool for the job
9) Place set screw on each side of hub	Pinch points	Right tool for the job
10) Remove lockout / tagout	Shock – caught between – pinch points	Safety Policy Manual section B-6
11) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input checked="" type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

JOB SAFETY ANALYSIS
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Work Activity (Job): CHANGE GRIPPER (Note: Change from 3 1/2 to 4 1/2 or visa versa – Same procedure)		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Close blind rams – install hole cover (if pipe is in hole, place cover around slips)	Hole damage – down time	Follow proper procedure for closing rams
3) Lower top drive to floor and perform lockout / tagout	Falls – Shock – loss of life	Follow company procedure for lockout / tagout
4) Extend back-up wrench to proper length	Pinch points	Clear area
5) Remove rubber guide from back-up wrench	Pinch points	Use the proper tool for the job
6) Remove pin from front of back-up – pin will come out from the top	Pinch points	Follow proper procedure
7) Remove front side gripper	Pinch points – struck by	Use the proper tools – watch foot placement
8) Close gripper – knock pin out – pin will come out from the top	Pinch points	Clean area – one person job
9) Remove backside gripper	Pinch points	Use the proper tools
10) Install new backside gripper – pin same	Pinch points	Follow procedure
11) Re-open gripper	Pinch points	Clear area
12) Install front side gripper and pin	Pinch points	Use the proper tools
13) Install new rubber guide – back first then front and screw down tight	Pinch pints	Use the proper tools

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input checked="" type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				



JOB SAFETY ANALYSIS
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14) Pick up new side pipe and test gripper	Struck by	Review JSA for picking up drill pipe
15) Clean work area – store tools	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input checked="" type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

Work Activity (Job): CHANGING IMPELLERS		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Lockout / tagout	Shock – pinch points	Safety Policy Manual section B-6
3) Disconnect the two (2) housing flanges	Pinch points	Right tool for the job (wrench)
4) Disconnect centrifugal housing from wear bushing	Pinch points – struck by	Right tool for the job
5) Remove impeller by unscrewing the impeller counter clockwise while holding shaft	Pinch points – struck by	Proper tools for the job – teamwork – may require assistance
6) Install new impeller	Pinch points – struck by	Good procedure
7) Connect centrifugal housing	Pinch points – struck by	Right tools for the job
8) Connect the two (2) housing flanges	Pinch points – struck by	Right tools for the job
9) Restore power (remove lockout / tagout)	Shock – soft tissue damage	Follow Lockout / tagout procedures
10) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input checked="" type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

Work Activity (Job): CHANGING OIL AND FILTER		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential azards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Let engine cool while preparing tools and equipment	Burn	Proper cooling – follow lockout / tagout procedure – Safety Policy Manual section B-6
3) Locate drain plug and remove or use suction to drain oil completely	Pinch points – struck against	Right tool for the job
4) Remove filter	Pinch points – struck against	Right tool for the job – filter wrench
5) Replace drain plug	Pinch points – struck against	Right tool for the job
6) Install new oil filter	Pinch points – struck against	Use oil filter wrench
7) Fill crankcase	Strains – slips, trips, falls	Good technique and procedure
8) Proper disposal of old filter and burnt motor oil	Pollution – burns	Follow Company policy for disposal Make sure you have a burn safety kit that is properly filled
8) Clean area and return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input checked="" type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

Work Activity (Job): CHANGING OUT AND SPOOLING NEW DRILL LINE		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment 1) Snake 2) Hanging cable 3) Drill line clamp 4) Safety harness 5) Life line	Personal injury Break or slip and fall Break and fall Slip off Fall Fall or break	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Install snake on both cables A) Tie with small rope B) Tape with friction tape	Slip, fall Slip, fall Punctures, equipment malfunction	Make sure snake secure Help to secure snake Cover nails and rope – prevent punctures
3) One man climbs to block A) Secure safety harness B) Hang off block	Slip and fall Fall	Tie off over head Check cable – ensure in good condition
4) Take wraps off dead man	Pinch points	Effective communication
5) Connect old line and new line with snake	Pinch points – struck by	Effective communication
6) One man climbs to crown A) Secure safety harness B) Watch cable through sheaves	Slip, fall Slip, fall Stuck cable – fall	Tie off over head Tie off over head Good communication
7) Roll cable on drum slowly until new cable	Pull apart	Good communication – flagging

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input checked="" type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belts? <input checked="" type="checkbox"/>		

reaches drum		
8) Remove snake	Slip, fall	Tie off with chain – won't slip

Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
9) Remove old cable from drum A) Roll up old line on spool B) Turn spool by hand	Slip, fall Slip, fall Slip, fall – pinch points Pinch points – caught between	Tie and chain off stand Nail and tie to spool Hand placement – effective communication
10) Remove cable clamp from old line	Struck by	Effective communication
11) Install clamp on new cable	Slip, fall	Make sure cable is well secured
12) Spool new cable on drum	Caught between – pinch points	Effective communication – flagging
13) Install wraps on dead man	Caught between – pinch points	Effective communication
14) Tighten clamp on dead man	Sip, fall – Struck by	Make sure well secured
15) One man climbs to block A) Secure safety harness B) Unhook block	Slip, fall Equipment damage – downtime	Tie off over head Effective communication
16) Slack block to floor A) check wraps on drum	Equipment damage	Ensure adequate wraps on drum
17) Run block and check crown stop	Slip, fall	Check cable wraps and slippage
18) Clean work area	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	✓	Work Vests?		Barricades?	
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	
Safety Glasses?	✓	Face Shield?		Lock Out/Tag Out?	
Cotton Gloves?	✓	Goggles?		Work Permit Required?	
Back Belts?	✓				

Work Activity (Job): CHANGE OUT AIR LINES		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Close air valve		
3) Bleed off pressure from lines	Struck by – eye injury	Bleed off pressure
4) Remove safety clip	Struck against	Remove slowly
5) Disconnect both ends of air line	Pinch points – soft tissue injury	Proper procedure – wear gloves
6) Install new line	Pinch points	Proceed carefully
7) Attach safety clips on both ends		
8) Open air valve	Struck by – Eye injury	Open slowly
9) Discard old air line	Slips, trips, falls	Good housekeeping
10) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>

Work Activity (Job): CHANGING MODULE		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Lockout / tagout pump – notify driller	Caught between	Lockout / Tagout – HSE Manual
3) Wash down area	Slips, trips, falls	Good Housekeeping throughout job
4) Hammer nut loose on module	Struck by – eye injury	Use rope on hammer wrench – safety glasses
5) Rig up hoist and secure to module	Pinch points – struck by	Ensure hoist in good condition
6) Remove nut and pry module off pump	Pinch points – struck by	Good communication
7) Set module out of way and secure	Pinch points – struck by	Good communication
8) Inspect gasket area	Not following procedures	Proceed carefully
9) Clean out pump – install gaskets	Not following procedures	Proceed carefully
10) Hoist new module into place	Pinch points – struck by	Good communication
11) Install nut and hammer tight	Hand and eye injury	Use rope on hammer wrench – safety glasses
12) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping
13) Notify driller and unlock pump		Effective communication
If Using Air Wrench To Back Nuts Off	Smashing injury – Hose blow off	Use proper sockets with keepers – Use ACR clips on all air lines

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>	Barricades?	<input checked="" type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input checked="" type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

Work Activity (Job): HANGING RETRACTABLE LIFELINES		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Locate the position to hang retractable lifeline – pad eye		
3) Scaffold up or used ladders	Falls	See JSA on ladders and/or scaffolds
4) Climb on scaffolds or ladders by using 100% tie off capabilities	Falls	Double lanyards
5) Tie off securely – then pull up retractable lifeline inside a 5 gallon bucket – slot is cut	Strains – fall	Fall protection – good technique
6) Shackle lifeline through bucket to pad eye	Pinch point – struck by	Clear area below
7) Attach pull line to life line		
8) Climb down by using 100% tie off capability	Falls	Follow correct procedure
9) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	<input checked="" type="checkbox"/>	Back Belts?	<input checked="" type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input checked="" type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Lanyards	<input checked="" type="checkbox"/>				

Work Activity (Job): CHANGING SEAT AND VALVES		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Notify driller and lockout pump – isolate pump – close all valves	Pinch points – pump startup before job completion	Lockout / tagout – HSE Manual
3) Hammer cap loose	Hand injury	Use rope to hold bar in place while hammering
4) Wash fluid out of hosing	Slips, trips, falls – mud on tools	Clean housing before proceeding
5) Install jack and remove seat – check seat for damage	Hand injury – struck by	Secure jack – tie off to keep from falling when seat come loose
6) Hammer new seat in place	Pinch points	Proper tools – good communication – secure hammer with rope
7) Install cap and tighten	Pinch points – struck by	Use rope to secure bar while tightening
8) Notify driller when job is complete	Miscommunication	Effective communication
9) Unlock pump		Proceed carefully
10) Clean area – return tools to storage	Slips	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats?	✓	Work Vests?
Safety Shoes?	✓	Safety Harness?
Safety Glasses?	✓	Face Shield?
Cotton Gloves?	✓	Goggles?
Ear Plugs	✓	Back Belts?
		✓*
		Barricades?
		Fire Extinguisher?
		Lock Out/Tag Out?
		✓
		Work Permit Required?

Work Activity (Job): CHANGING BRUSHES IN TRACTION MOTORS		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Ensure all power is shut off at SCR room – lockout / tagout	Electrocution	Use lockout / tagout procedures – Safety Policy Manual section B-6
3) Ensure motor is locked out / tagged out or wiring is disconnected from motor	Electrocution	Follow all guidelines for electrical safety – see Safety Policy Manual
4) Remove cover and places aside	Finger injury – struck by	Wear gloves – use proper tools
5) Change brushes – once installed use sealant for moisture barrier and re-install cover	Laceration	Wear long sleeves when inserting arms inside traction motor – use proper tools
6) Remove all tools – be sure they are all accounted for	Equipment damage – personal injury	Ensure all tools are accounted for – no tools left inside motor
7) Remove lockout / tagout or reconnect wires to motor	Electrocution	Check wiring for proper connections before turning power on at SCR
8) Remove lockout / tagout at SCR bay		
9) Clean area – return tools to proper storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats?	✓	Work Vests?
Safety Shoes?	✓	Safety Harness?
Safety Glasses?	✓	Face Shield?
Cotton Gloves?	✓	Goggles?
Ear Plugs	✓	Back Belts?
		✓
		Barricades?
		Fire Extinguisher?
		Lock Out/Tag Out?
		✓
		Work Permit Required?

Work Activity (Job): CHANGING VALVE IN CHOKE MANIFOLD		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Off loading valve from barge to rig floor		
A) Inspection of crane, wire rope, slings, taglines	Equipment failure	Good inspection – repair / replace as necessary
B) Tie on valve	Struck by – pinch points	Good communication – use of tag line
C) Transport to rig floor – untie	Struck by – pinch points	Good communication – use of tag line
3) Move valve by choke manifold		
A) Inspect air hoist, wire rope, chain	Equipment failure	Good inspection – repair / replace as necessary
B) Tie on valve and move by manifold	Struck by	Good communication
C) Untie same		
4) Check for pressure on the choke manifold	Laceration – eye and face injury	Ensure beyond any doubt that there is no pressure
5) Rig up come-a-long and inspect same	Equipment failure	Good inspection of chain, tag line, handle and body of wrench
6) Attach come-a-long to valve for support	Pinch points	Knowledge of procedure – teamwork
7) Secure hammer and Cameron wrenches to	Struck by	Team work – keep area clear and clean

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	<input checked="" type="checkbox"/>	Back Belts?	<input checked="" type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Tag Lines	<input checked="" type="checkbox"/>				

employee by rope		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
8) Break nuts and bolts on flanges	Struck by – pinch points	Team work
9) Lower old flange to floor	Pinch points	Come-a-long – knowledge of procedure
10) Remove old ring gasket and clean out ring seal	Pinch points – absorption	Personal protective equipment
11) Clean out grease on new valve	Pinch points – absorption	Personal protective equipment
12) Raise new valve into position	Strain – struck by	Come-a-long
13) Put new ring gasket in	Pinch points	Team work
14) Position valve in place	Pinch points	Team work
15) Apply never-seize to new bolts and bolt new valve in place	Allergic reaction – pinch points	Personal protective equipment
16) Tighten bolts on flanges evenly for proper fit	Struck by	Team work
17) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping
18) Attach air hoist to old valve and move by v-door	Pinch points	Good communication
19) Attach crane to valve and move to pipe rack to be sent in for repair	Struck by – pinch points	Good communication – tag line – teamwork

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Back Belts?	✓	Barricades?	_____
Safety Shoes?	✓	Safety Harness?	_____	Fire Extinguisher?	_____
Safety Glasses?	✓	Face Shield?	_____	Lock Out/Tag Out?	_____
Cotton Gloves?	✓	Goggles?	_____	Work Permit Required?	_____
Tag Lines	✓				

Work Activity (Job): CLEANING EQUIPMENT		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
C) Proper personal protective equipment	Personal injury	See equipment required below
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
1) Pressure washer (if available)	Burn – laceration	Read instruction manual
2) Bucket and soap	Slips, trips, falls	Use properly
3) Water hoses	Slips, trips, falls	Keep out of walkways
4) Scrub brushes		
2) Lay out water hose and connect to supply line and pressure washer (if available)	Slips, trips, falls – eye injury – struck by	Layout hose, keep out of walkways – use safety clip on each end
3) Prepare soap and water in bucket	Eye irritation	Add soap to water – check MSDS sheet for chemical hazards
4) Wet entire unit to be cleaned	Slips, trips, falls – skin irritation	Rubber boots – slicker suit if necessary
5) Scrub with brushes, soap and water	Skin or eye irritation	Use personal protective equipment as necessary
6) Rinse thoroughly with washer / hose	Slips, trips, falls	Rubber boots
7) Squeegee or mop floor thoroughly	Slips, trips, falls – strain	Good technique – watch footing
8) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>	Barricades?	<input checked="" type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

Work Activity (Job): CLEANING SCREEN ON MUD PUMP		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Inform driller of operation	Hole problems	Proper communication
3) Lockout pump	Fatal injury – caught between	HSE Manual – lockout / tagout
4) Isolate pump	High pressure – fluid loss – eye injury – Pollution	Close all valves to pump
5) Put rope on wrench	Hand injury	Use rope to secure wrench
6) Hammer nuts loose	Hand injury – eye injury	Proper Personal protective equipment – safety glasses – hand placement
7) Remove plate	Strains	Always have help to remove plate
8) Clean out screen pot	Scrapes – lacerations	Rubber gloves to protect hands
9) Replace plate and install nuts	Sprains	Proceed carefully
10) Hammer nuts to tighten	Hand injury – eye injury	Rope on wrench to keep hand away – safety glasses
11) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping
12) Unlock pump and notify driller	Miscommunication	Effective communication

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats?	✓	Work Vests?
Safety Shoes?	✓	Safety Harness?
Safety Glasses?	✓	Face Shield?
Cotton Gloves?	✓	Goggles?
Back Belts?	✓*	
		Barricades?
		Fire Extinguisher?
		Lock Out/Tag Out?
		Work Permit Required?

Work Activity (Job): GENERAL CLEANING		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Read all warning labels on cleaning agents to be used – consult MSDS	Burns – rashes – eye injury – inhalation of chemicals	Always wear proper personal protective equipment
3) Clear area of personnel while cleaning	Burns – eye irritation	Wear proper personal protective equipment - have non-essential personnel clear the area
4) Install barricades as needed	Burns – eye irritation	Block off area
5) Disposal of cleansers	Burns – eye irritation – inhalation	Follow manufacturers recommendation for disposal
6) Clean up area – return tools to storage	Slips, trips, fall – accidental misuse of chemicals	Always store chemicals in original container – good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:			
Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input checked="" type="checkbox"/>
Rubber Gloves	<input checked="" type="checkbox"/>		
		Barricades?	<input checked="" type="checkbox"/>
		Fire Extinguisher?	<input type="checkbox"/>
		Lock Out/Tag Out?	<input type="checkbox"/>
		Work Permit Required?	<input type="checkbox"/>

JOB SAFETY ANALYSIS
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Work Activity (Job): DISCONNECTING PRESSURIZED BOTTLES (Oxygen, Acetylene, Nitrogen etc.)		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-Job meeting		
A) Discussion of procedures		
2) Inspection of equipment		
A) Bottle / valve cap	Loss of life – high pressure	Make sure bottle is secure before removing cap
B) Valve	Damage to equipment – fire / explosion	Check pressure on gauges
C) Lines	Leaks – fire / explosion	Check condition of lines for kinks, holes etc.
D) Wrench	Damage to equipment	Use proper size wrench
3) Close calve on bottle	Fire / explosion – high pressure	Close valve on bottle before beginning operations
4) Release pressure	High pressure	Bleed pressure off of regulator before disconnecting
5) Check pressure on gauges	High pressure	Check gauge for zero pressure
6) Break loose fittings / remove regulator	High pressure – damage to equipment	Use wrench to break threads loose, then use hand to remove in order to avoid damage to threads
7) Attach safety cap over valve	Loss of life – high pressure	Safety cap should be installed over valve on bottle after regulator is removed

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? _____	Back Belts? _____	Barricades? _____
Safety Shoes? _____	Safety Harness? _____	Fire Extinguisher? _____
Safety Glasses? _____	Face Shield? _____	Lock Out/Tag Out? _____
Cotton Gloves? _____	Goggles? _____	Work Permit Required? _____

Work Activity (Job): DRIVING PIPE		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures 1) Loading / unloading equipment 2) Rig up procedures 3) Driving pipe / pick up pipe 4) Welding procedures	Misunderstanding procedures Caught between – moving more equipment than necessary Loss of life – falls Noise levels – flying debris Loss of life - fire	Effective communication Use tag line – organization – where does equipment need to be? Care inspection of equipment Ear plugs – stay alert / be aware Gas detectors – fire watch
B) Prepare and inspect all tools and equipment	Personal injury – equipment failure	Equipment in good condition – careful inspection
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Equipment handling		
A) Inspect crane / sling / tag line – communicate crane signals	Equipment failure – caught between – pinch points – Loss of life	Replace / repair defective equipment Effective communication
B) Unloading equipment	Danger in handling equipment more than necessary – pinch points – struck by	Handle equipment only once – hoses, ropes, cable, choke pipe
3) Rig up procedure		
A) Drive hammer 1) Setting hammer on rig floor 2) Pick up hammer with block 3) Rig up hammer	Caught between – pinch points – rig damage back injury – crushing injury falls	Communication – flagman – crane operation air hoist may be used to keep hammer still bosun chair to rig up hammer
B) Welding – cutting equipment	Slips, trips, falls	Route all cables / hoses out of walkways – proper positioning of equipment

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Work Vests?	✓	Barricades?	
Safety Shoes?	✓	Safety Harness?		Fire Extinguisher?	✓
Safety Glasses?	✓	Face Shield?		Lock Out/Tag Out?	
Cotton Gloves?	✓	Goggles?		Work Permit Required?	✓
Back Belts?	✓*	Bosun Chair	✓		

JOB SAFETY ANALYSIS
Romfor International LTD

Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
4) Driving Pipe		
A) Setting drive pipe in v-door	Caught between – pinch points	Alert personnel when moving pipe – tag lines will be used
B) Pick up drive pipe	Struck by	Use rope across v-door when tailing pipe
C) Welding procedure	Flash burn	Never look at welder’s ark
D) Hammering	Noise level - Slips, trips, falls – hammer malfunction	Ear protection – watch your step – communication – timing of hammer pick up
5) Welding drive pipe to rotary pan		
A) Rig up scaffold boards	Falls	Correct use of sala block
B) Cut excess pipe	Burns	Protective equipment
C) Weld drain valve and fill up line	Flash burns	Look away – use welder’s hood
D) Install adapter flange and dressed sleeve	Mashed fingers – falls	Keeps hands free- wear fall protection
6) Rig down hammer	Crushes – caught between	Good communication
7) Clean Area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input checked="" type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>	Fire Extinguisher?	<input checked="" type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input checked="" type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>	Bosun Chair	<input checked="" type="checkbox"/>		

Work Activity (Job): FAN BELTS – CHANGING AND TIGHTENING		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Stop and cool engine	Soft tissue damage	Follow procedure
3) Lockout / tagout	Soft tissue damage	Lockout / tagout procedures – Safety Policy Manual section B-6
4) Remove fan guard	Pinch points – struck against	Right tool – proper procedure
5) Tight fan belt (or)	Pinch points	Right tool – proper procedure
6) R remove fan belt	Pinch points – struck against	Right tool – proper procedure
7) Install new fan belt	Pinch points – struck against	Right tool – proper procedure
8) Reinstall guard	Pinch points	Right tool – proper procedure
9) Clean area and return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?
Back Belts?	<input checked="" type="checkbox"/>	Barricades?
		Fire Extinguisher?
		Lock Out/Tag Out?
		Work Permit Required?

Work Activity (Job): FOOD STORAGE – REFRIGERATOR / FREEZER		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Keep walkways clear	Slips, trips, falls	Perform at low traffic times and do not stack in walkways
3) Rotate new supplies to back – existing supplies to front	Spoiled or expired food – strains – frost bite	Rotate regularly – proper lifting techniques – Cotton gloves
4) Take care when working in walk in cooler	Slips, trips, falls – frost bite	Put non-skid material on floor – wear shoes with non-skid soles – cotton gloves
5) Organize food to store commonly used items near door	Slips, trips, falls – strains	Proper lifting techniques
6) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats?	_____	Work Vests? _____
Safety Shoes? Non-skid	_____ ✓	Safety Harness? _____
Safety Glasses?	_____	Face Shield? _____
Cotton Gloves?	_____ ✓	Goggles? _____
Back Belts?	_____ ✓*	Barricades? _____ ✓
		Fire Extinguisher? _____
		Lock Out/Tag Out? _____
		Work Permit Required? _____

Work Activity (Job): FOOD STORAGE - DRY		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Unpacking boxes	Strains	Use proper lifting techniques – put boxes at waist level to unpack – avoid bending at waist
3) Clean storage area and organize before storing new goods	Slips, trips, falls	Always have work area and walkways clear
4) Rotate stock – new cans in back	Food date expiration - slips, trips, falls	Always rotate existing stock to front – always be aware of footing and walkways when using ladder to store goods -- never stand on top step
5) Clean area – remove boxes – store ladder	Slips, trips, falls	Good housekeeping – do not lay packing boxes in walkway (flatten and remove from work area)

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? _____	Work Vests? _____	Barricades? _____
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? _____	Fire Extinguisher? _____
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? _____	Lock Out/Tag Out? _____
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? _____	Work Permit Required? _____
Back Belts? <input checked="" type="checkbox"/>		

JOB SAFETY ANALYSIS
Romfor International LTD

Work Activity (Job): GENERAL REPAIR – LOCKOUT / TAGOUT		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Lockout / tagout – de-energize equipment		
A) Electrical	Electrocution	Shut power off at SCR – lockout / tagout – disconnect unit – use test meter
B) Pneumatic	Debris blown into eyes – struck by	Shut down air going to unit – bleed off air, disconnect air line from unit
C) Hydraulic Lockout (disconnect power at motor and breaker)	High pressure release – struck by	Shut down – de-energize line to unit – bleed off all pressure and disconnect line
D) Mechanical (shut down – lockout starter)	Burns – pinch points – caught between	Allow equipment to cool down before servicing – use proper tool to prevent slippage – hand protections
3) Make proper repairs	Strains – overexertion – high noise levels – Struck by – caught between	Get help to move or position heavy equipment – use ear protection – use of proper tools – use caution when moving equipment
4) Test equipment	Struck by – caught between – fire	Clean up all solvents and other flammables – Proceed carefully when testing equipment
5) Clean Area – return tools to proper storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Back Belts?	✓	Barricades?	✓
Safety Shoes?	✓	Safety Harness?		Fire Extinguisher?	
Safety Glasses?	✓	Face Shield?	✓	Lock Out/Tag Out?	✓
Cotton Gloves?	✓	Goggles?		Work Permit Required?	
Ear Plugs	✓				

JOB SAFETY ANALYSIS
Romfor International LTD

Work Activity (Job): GENERATORS – DISCONNECTING AND CONNECTING POWER SOURCE		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Lockout / tagout at SCR panel the specific generator to be worked on		
A) Tagout starter for generator	Shock – burn – fatality	Proper lockout / tagout procedure – see Safety Policy Manual section B-6
B) Allow engine / generator to cool down	Burns	Follow procedure
C) Test connections to ensure “no power”	Shock – burn	Use test meter to ensure no voltage in lines
3) Disconnecting – disconnect lead line from generator	Shock – burn	Lockout / tagout – good supervision
4) Connecting – connect lead line to generator	Shock – burn	Lockout / tagout – good supervision
5) Account for all tools	Equipment damage – struck by	Good housekeeping
6) Test equipment – install guards	Shock – fire – struck by	Ensure all electrical connections are of good integrity – no open splices – ensure no flammables in area
7) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Back Belts?	✓	Barricades?	
Safety Shoes?	✓	Safety Harness?		Fire Extinguisher?	
Safety Glasses?	✓	Face Shield?		Lock Out/Tag Out?	✓
Cotton Gloves?	✓	Goggles?		Work Permit Required?	
Ear plugs	✓				

**JOB SAFETY ANALYSIS
Romfor International LTDA**

Work Activity (Job): HANGING / CONNECTING LIGHTS		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Ensure there is a helper for proper completion of this job	Strain – fall	Have a helper – use fall protection
3) Hang light and install safety cable	Strain - fall	Have the light lifted up to you – bring it up by rope with helper assisting
4) Mount on beam and secure	Strain	Proper lifting techniques
5) Run wire along beam and strap	Fall	Proper use of personal protective equipment
6) Designate power source (if not using a plug in type receptacle) – lockout / tagout source	Shock – burn	Lockout / tagout – Safety Policy Manual section B-6 – Use test meter to insure no power is coming into box
7) Connect wiring and seal (explosion proof if required)	Possible shock	Ensure lockout / tagout
8) Unlock and turn power back on – check with meter	Shock	Proceed carefully
9) Clean work area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	<input checked="" type="checkbox"/>	Back Belts?	<input checked="" type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input checked="" type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Ear Plugs	<input checked="" type="checkbox"/>				

Work Activity (Job): HOT WORK		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-Job meeting		
A) Discussion of procedures		
2) Inspection of equipment		
A) Permit system	Combustion	Competent person
B) Fire watch	Fire / combustion	Responsible person – fire extinguisher
C) Tools and equipment		
1) Welding lead	Electric shock	Inspection – repair / replace
2) Torch	Combustion	Inspection – repair / replace
3) Grinders / chipping hammer	Electric shock – struck by	Inspection
4) Metal material	Struck by	Organization
3) Permit system		
A) Gas detector	Fire – fatality	Calibration of unit, test complete area – done by shipyard competent person
B) Fill permit out completely	Downtime – MMS	Fill out permit – always have a copy at work site
4) Gather tools, equipment and material	Struck By – shock – slips, trips, falls	Lay out tools in an orderly manner, not in walkway
5) JSA is needed for the specific job at hand		Step by step plan for the project

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? _____	Back Belts? _____	Barricades? _____
Safety Shoes? _____	Safety Harness? _____	Fire Extinguisher? _____
Safety Glasses? _____	Face Shield? _____	Lock Out/Tag Out? _____
Cotton Gloves? _____	Goggles? _____	Work Permit Required? _____



JOB SAFETY ANALYSIS
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Work Activity (Job): HOT WORK		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
7) Clean up work area and store tools properly	Slips, trips, falls	Clean and store all tools – roll up hoses, ropes and cable, sweep up all slag – pieces of metal

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? _____	Back Belts? _____	Barricades? _____
Safety Shoes? _____	Safety Harness? _____	Fire Extinguisher? _____
Safety Glasses? _____	Face Shield? _____	Lock Out/Tag Out? _____
Cotton Gloves? _____	Goggles? _____	Work Permit Required? _____

JOB SAFETY ANALYSIS
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Work Activity (Job): GENERAL REPAIR – LOCKOUT / TAGOUT		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Lockout / tagout – de-energize equipment		
A) Electrical	Electrocution	Shut power off at SCR – lockout / tagout – disconnect unit – use test meter
B) Pneumatic	Debris blown into eyes – struck by	Shut down air going to unit – bleed off air, disconnect air line from unit
C) Hydraulic Lockout (disconnect power at motor and breaker)	High pressure release – struck by	Shut down – de-energize line to unit – bleed off all pressure and disconnect line
D) Mechanical (shut down – lockout starter)	Burns – pinch points – caught between	Allow equipment to cool down before servicing – use proper tool to prevent slippage – hand protections
3) Make proper repairs	Strains – overexertion – high noise levels – Struck by – caught between	Get help to move or position heavy equipment – use ear protection – use of proper tools – use caution when moving equipment
4) Test equipment	Struck by – caught between – fire	Clean up all solvents and other flammables – Proceed carefully when testing equipment
5) Clean Area – return tools to proper storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Back Belts?	✓	Barricades?	✓
Safety Shoes?	✓	Safety Harness?		Fire Extinguisher?	
Safety Glasses?	✓	Face Shield?	✓	Lock Out/Tag Out?	✓
Cotton Gloves?	✓	Goggles?		Work Permit Required?	
Ear Plugs	✓				

Work Activity (Job): INSTALLING BUG BLOWER		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Locate correct position / location for bug blower		
3) Connect air hoist or crane with a shackle to the bug blower	Pinch points – struck by	Good communication – follow procedure
4) Place and secure bug blower into position	Pinch points	Teamwork
5) Properly run electric wire and secure as needed	Electric shock	Run wire properly – secure and test before plugging in
6) Plug electric wire in	Electric shock	Inspect connection
7) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belts? <input checked="" type="checkbox"/>		

JOB SAFETY ANALYSIS
Romfor International LTD

Work Activity (Job): INSTALLING HEAVY EQUIPMENT – RE: GENERATORS, MOTORS, ETC.		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury – Equipment failure	Equipment in good condition – Inspect systematically
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Clear path to area of placement	Slips, trips, falls	Clear path – communicate
3) Organize equipment for placement in room – shackles, pulleys, come-a-longs	Pinch points – struck by	Have all equipment needed in proper location for smoother job
4) Place equipment as closely as possible with crane	Pinch points – struck by	Good communication – tag lines
5) Attach pulleys, air hoist, come-a-long as needed to pull and move equipment	Pinch points – struck by	Use proper procedure to move equipment – Use right equipment for move – inspection
6) Coordinate the move		
A) Crane, air hoist, come-a-long	Pinch points	Team work – effective communication
B) Keep all personnel clear	Struck by	Communication
C) Align into proper position	Pinch points	Team work – communication
7) Secure equipment		
A) Bolts	Pinch points – struck against	Right tool for the job
B) Weld	Burns – fire – explosion	Hot work permit
8) Power the equipment		
A) Electric	Shock – eye injury	Lockout / tagout before connection
B) Pneumatic	Eye injury – struck by	Check to ensure no power – connect then
SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input type="checkbox"/>	Fire Extinguisher? <input checked="" type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input checked="" type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input checked="" type="checkbox"/>
Back Belts? <input checked="" type="checkbox"/>		

		energize
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Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
9) Secure all line properly	Slips, trips, falls	Properly secure out of walkways
10) Rig down shackles, pulleys, etc.	Slips, trips, falls	Good housekeeping
11) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>	Fire Extinguisher?	<input checked="" type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input checked="" type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input checked="" type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

Work Activity (Job): INSTALLING LINES / DRAINS		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Layout the route for the line / drain	Slips, trips, falls	Proper layout and route of pipe
3) Measure and cut the first / next section of PVC pipe	Laceration	Measure twice – cut once
A) Cut with PVC cutter	Laceration	Use the right tool for the job
B) Hacksaw	Laceration	Use the right tool for the job
4) Hang / secure section of pipe		
A) Fall protection	Falls	Personal protective equipment for fall protection
B) Scaffolding	Falls	Secure properly
C) Hangers / welded	Burns – fire – explosion	Hot work permit
D) Insulate if necessary	Equipment damage	Insulate pipe
5) Repeat steps 3 and 4 until job is complete	Repeat steps 3 and 4	Repeat steps 3 and 4
6) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>	Barricades?	<input checked="" type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input checked="" type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

JOB SAFETY ANALYSIS
Romfor International LTD

Work Activity (Job): INSTALLING / REMOVING SHEAVES AND CABLES IN DERRICK		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare & inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Choose proper mounting equipment for derrick	Personal injury	Used properly rated equipment
A) Shackles with nut and safety clip	Regular pin could back out	Always use shackles with safety clips when installing overhead
B) Hang off cable or pad eye	Cable or pad eye breaks	Use properly rated equipment
3) Climb derrick to the area that sheave is to be located	Falls – loss of life	Use Lad-Saf system on ladder – use double lanyards or retractable lifeline when moving around in derrick
4) Install hang off cable onto derrick frame work and tighten all clamps	Struck by	Keep rig floor area clear while working overhead
5) Raise sheave / cable with air hoist and attach to hang off cable / pad eye with shackle	Struck by – personal injury	Maker certain that sheave and cable are properly secured before disconnecting air hoist
6) Attach properly rated safety cable with clamps	Sheave / cable falling	Attach safety cable through sheave / cable
7) Gather tools and climb down out of derrick	Falls – loss of life	Use double lanyards or retractable lifelines when moving around in derrick – use Lad-Saf system on derrick ladder
8) Return tools and equipment to proper location	Struck by	Always check derrick – don't leave loose tools or equipment on beams

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Back Belts?	✓	Barricades?	_____
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	_____
Safety Glasses?	✓	Face Shield?	_____	Lock Out/Tag Out?	_____
Cotton Gloves?	✓	Goggles?	_____	Work Permit Required?	_____
Retractable Lifeline	✓	Lad-Saf System	✓		

JOB SAFETY ANALYSIS
Romfor International LTD

**Note: Personnel should remain connected at all times when working at heights.
Small tools and items carried into derrick should be tied off to avoid falling. Larger equipment can be hoisted.
Area below workers should be roped off to keep people out of the area until work is completed.**

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Back Belts?	✓	Barricades?	
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	
Safety Glasses?	✓	Face Shield?		Lock Out/Tag Out?	
Cotton Gloves?	✓	Goggles?		Work Permit Required?	
Retractable Lifeline	✓	Lad-Saf System	✓		

Work Activity (Job): LADDER SAFETY		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Paint ladder – a shape ladder	Falls	Follow the rules list in the sequence of job steps
A) Someone has to hold the bottom while ladder is being climbed	Falls	Follow procedure
3) Extension ladder		Follow procedure
A) 3 to 1 rule – every 3’ that the ladder goes up, the bottom of the ladder comes out 1’	Falls	Follow procedure
B) Bottom of ladder must be tied back toward the wall	Falls	Follow procedure
C) Top will be tied once the climb is made	Falls	Follow procedure
D) Tie yourself off	Falls	Follow procedure
4) Clean area – return tools to storage	Falls	Follow procedure

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input checked="" type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belts? <input checked="" type="checkbox"/>		

Work Activity (Job): LAUNDRY WASHING AND DRYING		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Put clothes in washer	Soap – burns	Always read warning labels – use eye protection when necessary (windy)
3) Remove clothes to dryer	Strains	Use proper lifting techniques – transfer partial load at a time
4) Galley towels – washing and drying	Fire hazard	Always dry galley towels or work clothes with oil base mud on cool cycle to prevent possible fires
5) Clean screen on dryer	Fire hazard	Keep screen clean at all time to ensure against over heating
Note: If washers / dryers are in high noise level areas, hearing protection must be worn at all times. Do not leave trash bags or bags hanging around generators.		

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? _____	Work Vests? _____	Barricades? _____
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? _____	Fire Extinguisher? _____
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? _____	Lock Out/Tag Out? _____
Cotton Gloves? _____	Goggles? _____	Work Permit Required? _____
Ear plugs <input checked="" type="checkbox"/>		

Work Activity (Job): LAYING DOWN PIPE		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment 1) Inspect tubular handling equipment 2) Inspect air hoist cable	Personal injury Pinch points Struck by	Equipment in good condition Careful inspection
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Procedure		
A) Pump slug	Skin irritation	Good weight for slug
B) Break out kelly – lead tong on top – back up tongs on bottom	Pinch points – caught between	Stay alert – teamwork
C) Rack kelly in shuck and secure	Pinch points – caught between	Stay alert – teamwork
D) Install wiping rubber over drill pipe	Pinch points	Know the job
E) Latch elevators above rubber	Pinch points	Team work
F) Pull pipe about 6 feet	Pinch points	
G) Pull bushing from rotary		Coordination between air hoist operator and crewman
H) Slack off drill pipe and reinstall bushing above wire rubber	Pinch points	
I) Pull pipe until first joint		
J) Set slips	Back strains	Good technique
K) Break connection – lead tong on top,	Pinch points – caught between	Teamwork

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belts? <input checked="" type="checkbox"/>		

back up on bottom		
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Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
2) Procedure (cont'd)		
L) Rotate out / spinner tong	Slips, trips, falls	Stay alert
M) Set joint in mousehole	Pinch points	Team work
N) Unlatch elevators	Pinch points – caught between	Know the job
O) Tie air hoist chain to joint (half hitch only)	Struck by	Half hitch properly tied
P) Pick up on air hoist	Struck by	Smooth operation
Q) Punch joint out of v-door and slack off on air hoist	Strains	Good technique
R) Latch elevators on drill string	Pinch points	Stay alert
3) Repeat steps I through R	Pinch points – caught between – strains – struck by	Some tasks repetitive or boring – stay alert!
4) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Work Vests?	_____	Barricades?	_____
Safety Shoes?	✓	Safety Harness?	_____	Fire Extinguisher?	_____
Safety Glasses?	✓	Face Shield?	_____	Lock Out/Tag Out?	_____
Cotton Gloves?	✓	Goggles?	_____	Work Permit Required?	_____
Back Belts?	✓*				

Work Activity (Job): GENERAL LIFTING / CARRYING EQUIPMENT		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Visualize the lift	Back strains – slips, trips, falls	Use proper lifting technique - think
3) check the weight of the load	Back strains – slips, trips, falls	Get help if needed
A) Check weight distribution	Back strains – slips, trips, falls	Make sure distribution is even and stable
4) Make certain the path of travel is clear	Back strains – slips, trips, falls	Move debris and obstructions or choose a different route
5) Tuck your pelvis	Back strains – slips, trips, falls	Tighten stomach muscles
6) Bend your knees	Back strains – slips, trips, falls	Don't bend at the waist
7) Hug the load	Back strains – slips, trips, falls	Get object close to your body
8) Straighten your legs	Back strains – slips, trips, falls	Return to standing position
9) Avoid twisting	Back strains – slips, trips, falls	Knees and torso facing the same direction
10) Carry the load to its destination	Back strains – slips, trips, falls	Take the straightest and clearest path
11) Set load down properly on surface	Back strains – slips, trips, falls	Bend your knees – not your back
12) Leave area clean – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belts? <input checked="" type="checkbox"/>		

JOB SAFETY ANALYSIS
Romfor International LTD

Work Activity (Job): LOADING / UNLOADING BASKETS AND BOXES		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Open box if it has a lid	Head, neck, back injury	If box or basket has a lid, remove it or make certain it is held or has a proper latching system to keep the lid from falling
3) Visualize the lift	Back strains – slips, trips, falls	Use good lifting practices – think
4) Check the weight of the load	Back strains – slips, trips, falls	Get help if needed
A) Check weight distribution		
Note: for heavy items, someone should climb in the box and safely lift the item to someone outside the box		
5) Make certain the path of travel is clear	Slips, trips, falls	Ensure clear pathway or choose a different route
6) Raise the load to your chest	Back strains	Use your legs against side of box for leverage
7) Avoid twisting	Back strains	Knees and torso facing the same direction
8) Carry the load to its destination	Back strains	Take the straightest and clearest path
9) Set load down properly	Back strains - slips, trips, falls	Bend your knees – not your back
10) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

✓SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belt <input checked="" type="checkbox"/>		

JOB SAFETY ANALYSIS
Romfor International LTD

Work Activity (Job): LOADING / UNLOADING BASKETS AND BOXES		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Open box if it has a lid	Head, neck, back injury	If box or basket has a lid, remove it or make certain it is held or has a proper latching system to keep the lid from falling
3) Visualize the lift	Back strains – slips, trips, falls	Use good lifting practices – think
4) Check the weight of the load	Back strains – slips, trips, falls	Get help if needed
A) Check weight distribution		
Note: for heavy items, someone should climb in the box and safely lift the item to someone outside the box		
5) Make certain the path of travel is clear	Slips, trips, falls	Ensure clear pathway or choose a different route
6) Raise the load to your chest	Back strains	Use your legs against side of box for leverage
7) Avoid twisting	Back strains	Knees and torso facing the same direction
8) Carry the load to its destination	Back strains	Take the straightest and clearest path
9) Set load down properly	Back strains - slips, trips, falls	Bend your knees – not your back
10) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

✓SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belt <input checked="" type="checkbox"/>		

Work Activity (Job): NIPPLE UP CASING HEAD		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Check casing for proper size and weight	Personal injury	Use slings of proper size
3) Load out casing head to bottom deck	Sling breaking	Use slings of proper size
4) Clean and inspect ring groove and ring gasket	Equipment damage	Check ring group and gasket
5) Rig up snatch block to hold back-up	Swinging load	Attach snatch block
6) A) Note: if weld up head, make out hot work permit, rig up and pick up head, establish fire watch, weld head and test B) Note: if bolt on head, rig up and pick up head, install head and bolts	Fire Caught between – struck by	Test area and complete hot work permit Post fire watch Use rope wrench to hold back while striking with hammer
7) Untie pick up line and replace cover over rotary	Cable getting caught	Make certain cable does not get caught on anything, replace cover
8) Check crack for even space and tighten evenly to recommended torque (usually 3 rounds)	Caught between – equipment damage – struck by	Use rope on wrench
9) Prior to nipple up of BOP, install scaffolding and tie down same	Scaffold coming apart	Tie together with ¼” rope

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Work Vests?	✓	Barricades?	✓
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	✓
Safety Glasses?	✓	Face Shield?	✓	Lock Out/Tag Out?	✓
Cotton Gloves?	✓	Goggles?	✓	Work Permit Required?	✓
Back Belts?	✓				

10) Clean work area – store tools	Slips, trips, falls	Good housekeeping
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SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input checked="" type="checkbox"/>	Barricades?	<input checked="" type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input checked="" type="checkbox"/>	Fire Extinguisher?	<input checked="" type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input checked="" type="checkbox"/>	Lock Out/Tag Out?	<input checked="" type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input checked="" type="checkbox"/>	Work Permit Required?	<input checked="" type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

Work Activity (Job): MOPPING AND WAXING BR DUTIES		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Get wax, mop and bucket	Burns – eye injury	Read all MSDS concerning cleanser or was being used
3) Put wax or cleanser into water	Chemical burns – eye injury	Wear goggles and rubber gloves while mixing
4) Section off area to be waxed	Slips, trips, falls	Install barricades – wet floor signs
5) Mop area	Burns – Slips, trips, falls	Avoid splashing – wear proper foot wear – watch footing – do not take large steps
6) Allow to dry before removing wet floor signs	Slips, trips, falls	Allow to dry thoroughly
7) Move to next section to be mopped	Same as 4 through 6	Same as 4 through 6
8) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping
Note: Always correlate time so traffic is at a minimum. Example: After lunch – close galley.		
NEVER MIX CLOROX AND AMMONIA!		

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Back Belts?	✓*	Barricades?	✓
Safety Shoes?	✓	Safety Harness?		Fire Extinguisher?	
Safety Glasses?		Face Shield?		Lock Out/Tag Out?	
Cotton Gloves?		Goggles?	✓	Work Permit Required?	
Rubber Gloves	✓	MSDS	✓		

Work Activity (Job): NIPPLE UP CASING HEAD		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Check casing for proper size and weight	Personal injury	Use slings of proper size
3) Load out casing head to bottom deck	Sling breaking	Use slings of proper size
4) Clean and inspect ring groove and ring gasket	Equipment damage	Check ring group and gasket
5) Rig up snatch block to hold back-up	Swinging load	Attach snatch block
6) A) Note: if weld up head, make out hot work permit, rig up and pick up head, establish fire watch, weld head and test B) Note: if bolt on head, rig up and pick up head, install head and bolts	Fire Caught between – struck by	Test area and complete hot work permit Post fire watch Use rope wrench to hold back while striking with hammer
7) Untie pick up line and replace cover over rotary	Cable getting caught	Make certain cable does not get caught on anything, replace cover
8) Check crack for even space and tighten evenly to recommended torque (usually 3 rounds)	Caught between – equipment damage – struck by	Use rope on wrench
9) Prior to nipple up of BOP, install scaffolding and tie down same	Scaffold coming apart	Tie together with ¼” rope

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Work Vests?	✓	Barricades?	✓
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	✓
Safety Glasses?	✓	Face Shield?	✓	Lock Out/Tag Out?	✓
Cotton Gloves?	✓	Goggles?	✓	Work Permit Required?	✓
Back Belts?	✓				

10) Clean work area – store tools	Slips, trips, falls	Good housekeeping
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SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input checked="" type="checkbox"/>	Barricades?	<input checked="" type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input checked="" type="checkbox"/>	Fire Extinguisher?	<input checked="" type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input checked="" type="checkbox"/>	Lock Out/Tag Out?	<input checked="" type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input checked="" type="checkbox"/>	Work Permit Required?	<input checked="" type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

Work Activity (Job): OPERATING PORTABLE POWER TOOLS		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Layout power cord (see hoses, ropes, cables, JSA)	Slips, trips, falls	Follow JSA for hoses, ropes and cables
3) Connect power cord to equipment	Pinch points	Stay alert
4) Connect power cord to power source	Shock – eye injury	Proper procedure
5) Use correct personal protective equipment	Eye injury – soft tissue damage	Goggles – face shield - properly used
6) Disconnect from power source	Eye and face injury	Personal protective equipment
7) Disconnect power tool from cord	Shock – soft tissue damage	Bleed off pressure if applicable
8) Roll up cord – store	Shock	Disconnect from power source
9) Clean power tool and store	Soft tissue damage	Personal protective equipment – gloves
10) Clean area and return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?
Back Belts?	<input checked="" type="checkbox"/>	Barricades?
		Fire Extinguisher?
		Lock Out/Tag Out?
		Work Permit Required?

JOB SAFETY ANALYSIS
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Work Activity (Job): PICKING UP PIPE		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
1) Tongs	Struck by - pinch points	Good inspection of equipment – repair / replace as necessary
2) Snubbing line	Struck by	
3) Pick up slings	Struck by	
4) Stabbing board	Falls	
5) Elevators	Pinch points	
6) Pipe stop – V-door	Pinch points	
C) Proper personal protective equipment	Personal injury	Secure completely Right size – greased Adjusted correctly
2) Rig up stabbing board		See equipment required below
A) Secure both ends	Falls	Secured
B) Adjust safety belt	Falls	Good equipment – rope at proper length
3) Pick up bottom hole assembly – run in hole – set slips	Struck by - pinch points	Team work
4) Tie pick up cable to block	Pinch points	Stay alert
5) Put bundle of pipe in V-door		
A) Make sure pipe stop is secured	Pipe could fall	Adjust stop correctly
B) Straighten pipe	Pinch points	Use pry bar
C) Remove box end protector	Puncture	Wear gloves
6) Tie pick up cable to joint of pipe	Pinch points	Teamwork

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belts? <input checked="" type="checkbox"/>		

JOB SAFETY ANALYSIS
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A) Put rabbit in joint	Struck by	Stay alert – keep feet clear of pipe
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Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
7) Pick up joint – unscrew bottom protector		
A) Remove rabbit	Struck by	Knowledge of job
8) Dope pipe and stab joint		
A) Derrickman unties pipe pick up sling	Falls - pinch points	Belt adjusted – stay alert
B) Derrickman latches elevator on pipe	Pinch points	Knowledge of the job
C) Tong operator screws up joint on pipe and torques connection	Struck by – pinch points	Equipment in good condition – snub lines
9) Run joint in hole – set slips	Strains - pinch points	Good technique
11) Repeat steps 7 through 10	Repetition of job tasks	Always stay alert
12) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Work Vests?	_____	Barricades?	_____
Safety Shoes?	✓	Safety Harness?	_____	Fire Extinguisher?	_____
Safety Glasses?	✓	Face Shield?	_____	Lock Out/Tag Out?	_____
Cotton Gloves?	✓	Goggles?	_____	Work Permit Required?	_____
Back Belts?	✓*				

Work Activity (Job): POLLUTION GATE – RAISING AND LOWERING		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Raising pollution gate		Work vest required
A) Pollution gate should have a two pulley system rigged up	Struck by	Inspect pulley system regularly
B) Attach air hoist chain to end of pulley system	Pinch points	Follow procedure – good technique
C) Operate air hoist to pick up gate	Struck by	Knowledge of equipment
D) Secure gate	Struck by	Properly secure
3) Lowering pollution gate		
A) Refer to 1 A, B. and C	Refer to 1 A, B. and C	Refer to 1 A, B. and C
B) Unsecure gate	Struck by	Team work – communication
C) Operate air hoist and lower into position	Struck by	Proper procedure
D) Take air hoist off pulley system		
4) Clean area – return tools to storage		

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats?	✓	Work Vests?
Safety Shoes?	✓	Safety Harness?
Safety Glasses?	✓	Face Shield?
Cotton Gloves?	✓	Goggles?
Back Belts?	✓	Barricades?
		Fire Extinguisher?
		Lock Out/Tag Out?
		Work Permit Required?

Work Activity (Job): POWERING UP RIG		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Line up cold start generator and pressure up air system	Slips, trips, falls	Emergency lighting – flash lights
3) Isolate air system to main	Leaks	Extended time to pressure tanks – close off all valves coming off bulk tanks except to engine
4) Shut off breakers (lockout)	Shocks – unable to start engine – loaded up	Lockout breaker at SCR or generator panel
5) Start engine	Loaded up - slips, trips, falls	Have emergency lighting – clear walkways
6) Bring engine up to speed – warm up		
7) Unlock and turn on power to SCR bay or generator panel	Shock - slips, trips, falls	Make sure all panels are closed and all unnecessary breakers are off
8) Open up air valves at air receiver to rest of rig one at a time	Over heat air compressor	Open up lines of air receiver one at time – let pressure build up
9) Turn on breakers at SCR bay or generator panel	Possible shock	Ensure rubber matting is in place – hands dry – proceed with caution
10) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Back Belts?	✓	Barricades?	
Safety Shoes?	✓	Safety Harness?		Fire Extinguisher?	
Safety Glasses?	✓	Face Shield?		Lock Out/Tag Out?	✓
Cotton Gloves?	✓	Goggles?		Work Permit Required?	
Emergency Lighting	✓				

Work Activity (Job): PRESSURE WASHING / STEAM CLEANING		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Employee should be trained in the proper use of equipment before use	Burns – cuts – personal injury	Supervisors should train employees on the proper use of equipment
3) Wear required safety equipment	Burns – cuts – personal Injury	Wear proper personal protective equipment at all times
A) Hard had, steel toed boots, safety glasses	Burns – cuts – personal Injury	All normal equipment required
B) Slicker suit pants	Burns – cuts – personal Injury	Pants should be worn outside of boots
C) Gloves	Burns – cuts – personal Injury	Wear gloves to protect hands
D) Face shield with glasses or goggles	Burns – cuts – personal Injury	Eye and face protection
4) Check connections on hoses and turn on water	High pressure	Check hose connections - insert safety clips
5) Install barricades if needed	Burns – cuts – personal injury	No other work should be conducted in immediate area
6) Start pressure washer – steam cleaner	Burns – cuts – personal injury	Check for leaks or bad connections
7) Assure good footing	Slips, falls	Avoid working off of ladders
8) Begin pressure washing – steam cleaning	Burns – cuts – slips, falls	Keep a close watch for personnel entering area

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Back Belts?	✓	Barricades?	✓
Safety Shoes?	✓	Safety Harness?	_____	Fire Extinguisher?	_____
Safety Glasses?	✓	Face Shield?	✓	Lock Out/Tag Out?	_____
Cotton Gloves?	✓	Goggles?	✓	Work Permit Required?	_____
Slicker Suit Pants	✓				

JOB SAFETY ANALYSIS
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9) Keep nozzle directed at work area to be cleaned	Burns – cuts – personal injury	Never point nozzle in the direction of other workers
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Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
10) Use safe work practices when using pressure washers – steam cleaners	Burns – cuts – personal injury	Never wash boots with a pressure washer
11) Turn off unit when job is complete	Burns – cuts – personal injury	Never tie down triggers on pressure washer
12) Shut off water supply	High pressure	Bleed off pressure after supply is shut off
13) Disconnect hoses / lines – store properly	Trips, slips, falls	Clear walkways of trip hazards
14) Store pressure washer / tools	Trips, slips, falls	Clear walkways of trip hazards
15) Check area to make certain it is free of hazards	Trips, falls	Clear walkways of trip hazards
16) Return personal protective equipment to proper place	Missing equipment	Always return equipment to its proper place

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Back Belts?	✓	Barricades?	✓
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	✓
Safety Glasses?	✓	Face Shield?	✓	Lock Out/Tag Out?	✓
Cotton Gloves?	✓	Goggles?	✓	Work Permit Required?	✓
Slicker Suit Pants	✓				

JOB SAFETY ANALYSIS
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Work Activity (Job): TRANSFERRING PRESSURIZED BOTTLES WITH CRANE (Oxygen, Acetylene, Nitrogen, etc.)		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-Job meeting		
A) Discussion of procedures		
2) Inspection of equipment		
A) Bottle/ caps	Loss of life – high pressure	Close valve, secure caps over valves before lifting
B) Crane	Struck By – caught between	Inspect condition of crane, cables and pedestal
C) Slings	Slings slipping / breaking	Choose and inspect proper slings
D) Shackles	Pins backing out	Use proper size, attach pin through eyes, not around sling
E) Basket / bottle Rack	Struck by - caught between	Stay alert – properly secure bottles
F) Tag lines	Tag lines caught between objects	No knots in free end of tag line
3) Communication with hand signals for crane operator / signalman	Struck by – pinch Points	Knowledge of hand signals signalman – stay in sight of crane operator
4) Discuss the mechanics of hooking / unhooking	Struck by – pinch Points	Good communication of job requirements
A) Always know the weight of your lift and the limits of your equipment (crane and slings)	Loss of life – rig damage	Knowledge of equipment check angle indicator / load chart
B) Position the block DIRECTLY over the load	Struck by	Good signal man
C) Hook up the load evenly for balance	Struck by	Teamwork
D) Connect tag lines	Loss of life – struck by – pinch points	Have tag line ready

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Back Belts?	✓	Barricades?	_____
Safety Shoes?	✓	Safety Harness?	_____	Fire Extinguisher?	_____
Safety Glasses?	✓	Face Shield?	_____	Lock Out/Tag Out?	_____
Cotton Gloves?	_____	Goggles?	_____	Work Permit Required?	_____

JOB SAFETY ANALYSIS
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E) Ease into lift – balance load – no hang up – lift above head (as necessary)	Struck by	Knowledge of crane – requirements of job
4) Swing load smoothly	Rig damage – caught between	Knowledge of equipment – stay clear of load

Work Activity (Job): TRANSFERRING PRESSURIZED BOTTLES WITH CRANE (Oxygen, Acetylene, Nitrogen, etc.)		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
4) Mechanics continued		
G) Slack off smoothly – stop completely before unhooking	Rig damage – struck By	Knowledge of equipment
5) Teamwork – always have an escape route, eliminate hazards, general housekeeping, before starting job	Struck by – pinch points Slips, trips, falls	Team effort Eliminate any excess equipment
6) Discuss the order of lifts and placement only handle equipment once	Loss of life – pinch points	Handle lift only once – eliminate exposure hazard
7) Blind lifts	Loss of life – rig damage	Have good signalman, don't assume anything
8) Disconnect slings / shackles after load is placed in proper position	Pinch points	Allow enough slack in lifting cable so that shackles / slings can be removed safely
9) Properly store slings / shackles after completion of job	Trip hazards	Hang or store in proper area – don't leave slings laying on deck or in walkway

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:			
Hard Hats?	✓	Back Belts?	✓
Safety Shoes?	✓	Safety Harness?	_____
Safety Glasses?	✓	Face Shield?	_____
Cotton Gloves?	_____	Goggles?	_____
		Barricades?	_____
		Fire Extinguisher?	_____
		Lock Out/Tag Out?	_____
		Work Permit Required?	_____

JOB SAFETY ANALYSIS
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Work Activity (Job): PRODUCTION TUBING (DUAL STRING)		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication – discussion with company rep. And service personnel on dual equipment and testing equipment used to make up and run production tubing
B) Prepare and inspect all tools and equipment	Personal injury	Make sure drill crew knows purpose of TIW valve and how it works Check engine each tour Assemble and inspect equipment to complete job Proper inspection – right tool for the job Keep work area clear of unused tools Secure both ends of stabbing board in derrick
1) Check TIW and wrench to be ready on floor	Well blowout – equipment damage	
2) Check engine oil, water and grease on rig floor	Downtime – equipment damage	
3) Inspect third party equipment before rigging up	Downtime – equipment damage	
4) Dual elevators – dual Slips	Slips, trips, falls	
5) Tubing tongs, snubbing and hanging lines	Pinch points	
6) Stabbing board	Fall from derrick	Secure both ends of stabbing board in derrick
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Rig up derrick equipment to rig floor for operation	Slips, trips, falls	Good housekeeping
A) Rig up stabbing board in derrick	Objects falling from derrick	Clear the floor when picking up stabbing board Keep hands clear of pinch points
B) Rig up dual elevators and pick up slings	Pinch points – caught between	
C) Rig up dual slips		

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	✓	Work Vests?	✓	Barricades?	_____
Safety Shoes?	✓	Safety Harness?	_____	Fire Extinguisher?	_____
Safety Glasses?	✓	Face Shield?	✓	Lock Out/Tag Out?	_____
Cotton Gloves?	✓	Goggles?	✓	Work Permit Required?	_____
Back Belts?	✓				

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D) Rig up testing equipment on rig floor	High pressure line bursting – personal injury	Stay away from lines when testing
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Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
3) Measure production tubing on pipe rack Note: rabbit all tubulars before running in hole		
4) Pick up bundle of tubing with crane (inspect slings on spreader bar before using) A) Place bundle of pipe in v-door – spread out and remove top protectors B) Run rabbit in first two joints – pick up same – remove protector and watch for rabbit – slack off joints on rotary and latch same – pick up make up assembly and production PKR's as per procedure C) Torque up with tongs to recommended torque tightness D) Stab testing bars in tubing and test same - release pressure E) Remove bar pick up – open slips and run in hole	Caught between Struck by Struck by Struck by Pinch points – caught between Equipment falling in hole	Be aware of hand placement when picking up tubing Be aware when bundle is placed in v-door – use tag lines Keep feet from under joint while picking up – be aware that the rabbit is coming out Inspect snub lines on tongs and shackles periodically Be aware of hand and finger positions Place wiper rubber over hole
5) Continue tripping in hole – pick up production tubing, measuring, rabbiting and testing – running in dual completion	Pinch points – caught between	Team work – effective communication

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	✓	Work Vests?	✓	Barricades?	_____
Safety Shoes?	✓	Safety Harness?	_____	Fire Extinguisher?	_____
Safety Glasses?	✓	Face Shield?	✓	Lock Out/Tag Out?	_____
Cotton Gloves?	✓	Goggles?	✓	Work Permit Required?	_____
Back Belts?	✓				

JOB SAFETY ANALYSIS
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6) Clean area	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input checked="" type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input checked="" type="checkbox"/>	Lock Out/Tag Out?	<input type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input checked="" type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

Work Activity (Job): PRODUCTION TUBING (SINGLE STRING)		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication – include Company Representative and service personnel
B) Prepare and inspect all tools and equipment – rig TIW and wrench to be ready on rig floor 1) Tongs, hanging cables, snub lines, elevators and slips 2) Pick up sling to be used 3) Derrickman’s stabbing board	Personal injury Well blowout Equipment failure could cause personal injury	Equipment in good condition Everyone needs to know purpose of TIW Rigging up reduces chances of equipment failure
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Rig up derrick and rig floor for operation: A) Rental tongs B) Handling tools C) Install pick up sling to block	Slips, trips, falls	Good housekeeping – keep walkways clear
3) Strap tubulars on rack Note: all tubulars should be rabbitted before running in hole	Slips, trips, falls	Have proper footing when climbing on top of pipe on rack to tail pipe
4) Pick up bundle (10 to 12 joints) with crane and move to v-door	Struck by load	Use tag lines and used good crane signals
5) Remove top protectors	Trip hazard	Store in proper area
6) Wrap pick up sling around tubing and drop rabbit through joint	Sling slipping off of pipe	Wrap sling properly

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input checked="" type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belts? <input checked="" type="checkbox"/>		

JOB SAFETY ANALYSIS
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Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
7) Driller pick up on joint with block – crewman tails pipe	Struck by joint being picked up	Stay clear of rotary as joint is being picked up
8) Remove lower protector and remove rabbit from pipe	Struck by rabbit	Be aware – rabbit could be hung up in joint and fall out after protectors are removed
9) Slack joint in rat hole – remove sling and latch on to joint with elevators	Pinch points – caught between	Keep hands clear of pinch points
10) Pick up joint out of rat hole with block and make up seal assembly or packer as per procedure	Back strain	Use mechanical lifting
11) Pull tong onto joint and make up and torque up connection	Pinch points – caught between	Use tong handles – proper hand placement
12) Check for well pressure below blind rams and then open	Trapped pressure	Open casing valve to check for pressure
13) Slack off joint in BOP's slowly – install wiper - set wiper below rotary – re-install bushing and set slips - unlatch	Bushing falling over	Lay bushing flat on deck
14) Wrap pick up sling on next joint to be picked up and insert rabbit	Back strain	Use proper lifting
15) Driller picks up on block raising joint	Joint falling while being picked up	Wrap sling properly – stand clear of rotary – Stay alert
16) Joint slide down catwalk and up v-door	Joint hanging up on catwalk or between other joints	Stay alert – crewman flags driller as to joint problems
17) Joint is stabbed into previous joint A) Derrickman holds joint while driller slacks off on block and flags driller at stop position	Struck by elevators Broken fingers or hand	Keep hands away from top of joint while driller slacks off Effective communication – flag Driller

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	✓	Work Vests?		Barricades?	
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	
Safety Glasses?	✓	Face Shield?		Lock Out/Tag Out?	
Cotton Gloves?	✓	Goggles?		Work Permit Required?	
Back Belts?	✓				

JOB SAFETY ANALYSIS
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18) Tongs are pulled onto joint – backup is set on lower joint	Struck by – caught between	Keep hands away from pipe while pulling tongs
19) Joint is made up and proper torque put on connection	Hit by tongs	Check snub lines and shackles periodically
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
20) Tongs are removed	Back strain	Help tong operator remove and secure tongs out of the way
21) Driller picks up on pipe	Equipment failure	Monitor equipment for broken parts
22) Slips are pulled from rotary	Backs train	Use proper lifting techniques
23) Joint is lowered into well	Joint hanging up in BOP's – struck by pipe	Stand back from rotary while driller slacks off
24) Slips are set in rotary	Pinch points – caught between	Pull slips in rotary and remove hands from handles
25) Repeat steps 15 through 25	Inattention – repetition	Stay alert
26) Clean area	Slips, trips, falls	Good housekeeping
Note: Proper well control must be maintained at all times. All crew members need to know signs of well flowing. Monitor well closely.		

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats?	✓	Work Vests?
Safety Shoes?	✓	Safety Harness?
Safety Glasses?	✓	Face Shield?
Cotton Gloves?	✓	Goggles?
Back Belts?	✓	
		Barricades?
		Fire Extinguisher?
		Lock Out/Tag Out?
		Work Permit Required?

Work Activity (Job): PULLING ROTARY BUSHINGS		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Inspect air hoist, cable, chain and bushing puller	Equipment failure – struck by	Review maintenance procedure for same
3) Unlock bushings	Hole damage	Knowledge of procedure – hole cover
4) Tie onto bushing pulley with air hoist	Struck by – pinch points	Correct procedure – teamwork
5) Hook bushing puller into bushing	Struck by	Communication
6) Untie bushing puller	Pinch points – struck by	Knowledge of procedure
7) Clean area and return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belts? <input checked="" type="checkbox"/>		

JOB SAFETY ANALYSIS
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Work Activity (Job): MUD PUMP – SWAB / LINER / MODULE		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment 1) Sledge hammer 2) Chain hoist (module) 3) Cameron type wrenches 4) Impact wrench 5) Socket 6) Torch (if necessary) 7) Pinch bar	Personal injury Struck by Pinch points – struck by Struck by Pinch points Pinch points Burns Struck by	Equipment in good condition Inspect head and handle Inspect – lubricate Inspect wrenches Good equipment inspection – air lines Careful inspection Inspect line and connections Proceed carefully
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Mud pump is “powered off”		
A) Lockout / tagout	Loss of life – laceration	Follow procedures – HSE Manual
B) Close discharge and suction line	Burns	Close valves
C) Open bleed off line	High pressure	Bleed lines
3) Remove cap and inserts	Pinch points – struck by	Teamwork
4) Remove swab coupling		
A) Remove the swab / piston rod	Pinch points – strains	Use the right tool
B) Repair swab	Pinch points – strains	Good technique – help is required
C) Replace swab	Pinch points – strains	Good effort – job
D) Reverse steps	Pinch points – strains	Ask for assistance

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>	Fire Extinguisher?	<input checked="" type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input checked="" type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
For Liner Replacement		
5) Remove liner		
A) Unbolt liner	Pinch points	Right tool for the job
B) Remove retainer	Strains	Help is needed
C) Remove liner	Strains – struck by	Help is needed
6) Reinstall liner – mechanically if possible	Pinch points	Assistance is required if not using mechanical aid
A) Reverse sequence		
7) Module		
A) Back bolts out of flange	Struck by	Use the right tool
B) Slide module sleeve out of housing	Strains – struck by	Chain hoist is needed
C) Reinstall	Strains	Assistance is needed
D) Reverse procedure		
8) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>	Fire Extinguisher?	<input checked="" type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input checked="" type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

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Work Activity (Job): RAISING DERRICK		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Crewman – check cables, sheaves (greased), loose debris on derrick	Falling debris – struck by	Remove all unnecessary debris
3) Crewman / Roustabout – awaken / remove all personnel in living quarters and make sure crew boat is away from rig	Crushing – possible loss of life	Personnel should be in a safe place and accounted for – wear personal protective equipment
4) Driller – check block / drill line – sheaves – drawwork – then start drawwork motor	Struck by (drilling) (sheaves)	Careful inspection of equipment and effective communication
5) Derrickman – recheck all derrick and A-frame sheaves – make sure air hoist line is connected properly	Struck by – rig damage	Thorough inspection process – communicate any discrepancy and repair / replace as necessary
A) Locate and inspect derrick pins and keepers – designate crewman on installation		
B) Ensure that air hoist is secured to / by the headache rack		
6) Driller – engage clutch and slack off the brake	Struck by	Careful operation of the drawworks

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	<u>4</u>	Work Vests?	<input checked="" type="checkbox"/>	Barricades?	<u> </u>
Safety Shoes?	<u>4</u>	Safety Harness?	<u> </u>	Fire Extinguisher?	<u> </u>
Safety Glasses?	<u>4</u>	Face Shield?	<u> </u>	Lock Out/Tag Out?	<u> </u>
Cotton Gloves?	<u>4</u>	Back Belts?	<u> </u>	Work Permit Required?	<u> </u>
Rope	<u>4</u>	Lanyards	<input checked="" type="checkbox"/>		

JOB SAFETY ANALYSIS
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7) Pick-up on derrick at 6" from headache rack	Line breakage	Careful cooperation and communication
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Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
8) Raise derrick slowly – have derrickman slack off on the air hoist	Struck by	Effective communication between driller and derrickman
9) When derrick is about 10' from A-frame – Derrickman starts holding back on derrick with air hoist	Struck by – rig damage	Stay alert – communicate any problems
10) Derrick in position against A-frame – two (2) Crewmen climb up A-frame ladder with fall protection and tie off – the pins and keepers are installed Note: After derrick is secured all non-working personnel are to return to the living quarters – no loitering outside!	Rig damage Slips, trips, falls – none of these personnel are wearing personal protective equipment	Effective communication – stay alert No loitering – return to the living quarters as soon as possible
11) Bottom ladder section is installed	Falls – pinch points	Fall protection – right tool for the job
12) Derrickman – with fall protection (properly secured) ties off bull line	Loss of life – pinch points – struck by	Fall protection inspected / secured – use of the right tools and these tools secured
13) Driller slacks off block – Derrickman unhooks saddle and secures saddle bull line	Pinch points	Derrickman uses ropes to tie off saddle, then unhooks latch
14) Driller slacks off block and checks the block for hanging position	Future problem with drilling	Pay attention – do a good job
15) Air hoist cable is re-routed to the normal operating position	Falls	Fall protection – properly used

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	4	Work Vests?	✓	Barricades?	_____
Safety Shoes?	4	Safety Harness?	_____	Fire Extinguisher?	_____
Safety Glasses?	4	Face Shield?	_____	Lock Out/Tag Out?	_____
Cotton Gloves?	4	Back Belts?	_____	Work Permit Required?	_____
Rope	4	Lanyards	✓		

JOB SAFETY ANALYSIS
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16) Clean up area, return tools and equipment	Slips, trips, falls	Good housekeeping
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SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	<u>4</u>	Work Vests?	<u>✓</u>	Barricades?	<u> </u>
Safety Shoes?	<u>4</u>	Safety Harness?	<u> </u>	Fire Extinguisher?	<u> </u>
Safety Glasses?	<u>4</u>	Face Shield?	<u> </u>	Lock Out/Tag Out?	<u> </u>
Cotton Gloves?	<u>4</u>	Back Belts?	<u> </u>	Work Permit Required?	<u> </u>
Rope	<u>4</u>	Lanyards	<u>✓</u>		

Work Activity (Job): REFUELING MACHINERY FROM PORTABLE CONTAINERS		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Use approved closed top containers	Spills	Use only closed top containers
D) Lifting techniques	Back strains	Good lifting techniques
E) Personal protective equipment	Back strains – spills – eye irritation	Back belt – eye / face protection – see list below
2) Fill portable container with diesel from day tank – always use two people	Spills	Have oils rags available – use closed top container
A) Close / secure outlet after filling container	Spills – leaks	Have oils rags available – use closed top container
3) Transfer fuel (carry to unit)	Back strains – slips, trips, falls	Proper lifting techniques – good housekeeping
4) Shut off unit to be filled	Fire hazard	Shut off ignition sources
5) Pour fuel into unit to be filled	Spills – fire hazard – overfilling	Have oil rags and fire extinguisher on hand – check level in tank often
6) Repeat steps 2 – 5 until tank is full	Same as 2 – 5 above	Same as 2 – 5 above
7) Close fuel tank lid on unit after filling	Fire hazard	Replace fuel tank lid
8) Clean up area – return tools to storage	Slips, trips, falls	Check for spills and clean up area – good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Back Belts?	✓	Barricades?	
Safety Shoes?	✓	Safety Harness?		Fire Extinguisher?	✓
Safety Glasses?	✓	Face Shield?		Lock Out/Tag Out?	
Cotton Gloves?	✓	Goggles?	✓	Work Permit Required?	
Rubber Gloves	✓	Absorbent Pads	✓		

Work Activity (Job): REFUELING MACHINERY FROM PORTABLE CONTAINERS		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Use approved closed top containers	Spills	Use only closed top containers
D) Lifting techniques	Back strains	Good lifting techniques
E) Personal protective equipment	Back strains – spills – eye irritation	Back belt – eye / face protection – see list below
2) Fill portable container with diesel from day tank – always use two people	Spills	Have oils rags available – use closed top container
A) Close / secure outlet after filling container	Spills – leaks	Have oils rags available – use closed top container
3) Transfer fuel (carry to unit)	Back strains – slips, trips, falls	Proper lifting techniques – good housekeeping
4) Shut off unit to be filled	Fire hazard	Shut off ignition sources
5) Pour fuel into unit to be filled	Spills – fire hazard – overfilling	Have oil rags and fire extinguisher on hand – check level in tank often
6) Repeat steps 2 – 5 until tank is full	Same as 2 – 5 above	Same as 2 – 5 above
7) Close fuel tank lid on unit after filling	Fire hazard	Replace fuel tank lid
8) Clean up area – return tools to storage	Slips, trips, falls	Check for spills and clean up area – good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Back Belts?	✓	Barricades?	
Safety Shoes?	✓	Safety Harness?		Fire Extinguisher?	✓
Safety Glasses?	✓	Face Shield?		Lock Out/Tag Out?	
Cotton Gloves?	✓	Goggles?	✓	Work Permit Required?	
Rubber Gloves	✓	Absorbent Pads	✓		

JOB SAFETY ANALYSIS
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Work Activity (Job): REMOVAL AND INSTALLATION OF BRIDAL LINES		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Proper timing of job	Personal injury	Check weather conditions – day job – experienced crew
2) Pre-job meeting A) Discussion of procedures 1) Communicate with all hands as to why job is to be performed 2) Discuss any old or new ideas to improve job performance 3) Discuss any and all hazards B) Prepare and inspect all tools and equipment C) Proper personal protective equipment	Misunderstanding procedures Personal injury Falling cable – falling objects	Effective communication Equipment in good condition Do not stand under cable Tie off tools See equipment required below
3) Engines and drawworks checks – block raised to top level with bridal line A) Crown-o-matic should be checked and all clutches on drawworks checked for proper release	Equipment damage Personal injury	Ensure all equipment is working properly
4) Derrickman, with fall protection properly secured, places bridal onto block	Pinch points – fall cable – slips	Fall protection in place, cable secured until bridal line is attached to block
5) Air hoist is connected to bridal line below where bridal is pinned (air hoist routed through derrick for direct pull)	Slips – personal injury – pinch points	Wear personal protective equipment

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input checked="" type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input checked="" type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input checked="" type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belts? <input checked="" type="checkbox"/>		

JOB SAFETY ANALYSIS
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Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
6) Pin removed from derrick – make sure no one is under area where working	Flying debris – eye injury – damage from falling pin	Wear face shield – tie off all tools – clear work area
7) Bridal end is lowered and worked through sheaves, then lowered to rig floor	Pinch points – struck by – falls	Fall protection – proper tools for the job
8) Repeat steps 5, 6 and 7 for opposite side		
9) Driller slowly lowers block – crewman rolls up old bridal line as block is lowered – bridal line removed from rig floor	Back strains – falling cable – slips	Teamwork – don't work under loads – keep area clear of obstacles
10) Inspect all bridal line sheaves – grease up and repair if necessary	Pinch points – slips, trips, falls	Watch fingers – keep grease from spilling
11) Yoke removed from old bridal line, inspected cleaned and lubricated	Pinch points – struck by	Be aware of potential damage – stay alert
12) Install yoke on long side of 2 piece new bridal line – install on block	Struck by – pinch points	Pay attention – use power equipment
13) Connect bridal together – install proper keepers	Pinch points	Be alert – proper keepers used
14) Driller slowly raises block – crewman keeps bridal lines even as line is raised – crewman inspects bridal line as it is raised	Falling or shifting cable	Keep lines even – teamwork
15) When bridal line is in proper position, ends are raised and worked through sheaves in derrick – air hoist is to be used	Back strains – line damage – pinch points – struck by	Use power equipment – don't get pinned – don't force line
16) Air hoist is repositioned and attached to bridal line end – bridal pulled into place and pins installed – Proper keepers put in place	Pinch points – falls – struck by	Good communication – watch your hands

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input checked="" type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input checked="" type="checkbox"/>	Lock Out/Tag Out?	<input type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input checked="" type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

JOB SAFETY ANALYSIS
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17) Repeat steps 15 and 16 for opposite side	Strains - pinch points – struck by	Teamwork – be aware of where you are
18) Install keepers on all sheaves – Insure all tools are removed from derrick	Falling tools – personal injury – rig damage	Tie off all tools – account for all tools
19) Bridal line tied back in place and block lowered to rig floor	Pinch points – rig damage	Bridal properly tied – no cable damage
20) Clean area – return tools and equipment	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input checked="" type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input checked="" type="checkbox"/>	Lock Out/Tag Out?	<input type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input checked="" type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

Work Activity (Job): REMOVING AND REINSTALLING GUARDS		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Unbolt guard	Pinch points – struck against	Right tool for the job – lockout / tagout procedures – Safety Policy Manual section B-6
3) Remove guard	Strains – pinch points	Air hoist – crane
A) Air hoist – crane	Pinch points – struck against	Tag lines – good communication
4) Complete task	See JSA for job at hand	Proper procedure
5) Reinstall guard	Pinch points – struck against	Tag line – good communication
6) Rebolt guard	Pinch points – struck against	Right tool for the job
7) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?
Back Belts?	<input checked="" type="checkbox"/>	Barricades?
		Fire Extinguisher?
		Lock Out/Tag Out?
		Work Permit Required?

JOB SAFETY ANALYSIS
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Work Activity (Job): REMOVING HEAVY EQUIPMENT – RE: GENERATORS, MOTORS, ETC.		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Disconnect procedures		
A) Lockout / tagout	Shock	Double check work with meter / other equipment
B) Disconnecting		
1) Bolts	Struck by / against	Right tool for the job
2) Welds – cutting	Burns – fire – explosion	Hot work permit – proper procedure
B) Wires and cables	Struck by	Thorough inspection of all equipment
C) Other equipment – check exit route	Pinch points	Have a clear exit path
3) Equipment needed to move		
A) Crane	Struck by – pinch points	Inspection of crane, wire rope, shackles
B) Air hoist	Struck by – pinch points	Inspection of air hoist, wire rope, shackles
C) Come-a-long	Struck by – pinch points	Inspection of equipment – right size for the job
D) Shackles – pulleys	Struck by – pinch points	Proper placement of pulleys and inspection – keep all personnel clear
4) Coordinate		
A) Cranes, air hoist, operator	Struck by – pinch points	Teamwork – signal man

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>	Fire Extinguisher?	<input checked="" type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input checked="" type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input checked="" type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

Work Activity (Job): RETRIEVING AND LAYING DOWN OF CORE BARREL		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting with essential personnel.		Raise Permit to Work
A) Discussion of procedures and JSA	Misunderstanding procedures.	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	1. Equipment in good condition
1) Inspect tubular handling equipment	Pinch points	2. Careful inspection by drill floor supervisor
2) Inspect air hoist cable	Struck by	3. Total Safety technicians to inspect.
3) Inspection of BA equipment and associated hoses.	Malfunction – inhalation of toxic gas – H2S	4. Total Safety technicians to inspect.
4) Ensure H2S detection systems are functioning correctly.	Undetected presence of H2S presenting toxic, flammable and explosive environment.	
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Procedure		
A) Raise core barrel through rotary table to drill floor.	Presence of H2S – toxic / flammable / explosive. Pinch Points.	1. Erect barriers and signs in all areas that have the potential to be affected by this operation. 2. PA announcement informing personnel of operation and instructing non-essential personnel to keep off the drill floor and pipe deck. 3. H2S technician to be present on the drill floor at least 10 stands before the core barrel is POOH. 4. Personnel present to have BA set on hand and ready to don upon instruction from H2S technician. 5. H2S technician will monitor core barrel at top and bottom as it is pulled through the rotary table. If H2S is detected, instruction will be given for all personnel present to put on BA sets and hook up to the cascade

JOB SAFETY ANALYSIS
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Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
		system. 6. Safety awareness, communication between personnel, teamwork.
b) Splitting core barrel into 2 sections.	Present of H2S – toxic / flammable / explosive. Pinch points. Rigging and slinging operations. Falling objects	1. All personnel to wear BA sets during this phase of the operation and continue wearing until instructed to remove by a supervisor. Good safety awareness, communication between personnel, teamwork. 2. Core barrel will be placed in such a position to allow access to split sample barrel into two sections. This operation will be carried out on the drill floor. 3. Safety awareness, communication between personnel, teamwork.
B) Transporting core barrel sections to the pipe deck catwalk.	Presence of H2S – equipment failure / malfunction. Pinch points. Rigging and slinging operations. Falling objects.	1. One half section of the core barrel will be loaded and clamped securely into position on the fabricated cradle and lowered/skidded to the pipe deck catwalk using the drill floor air tugger and the pipe deck Nautilus crane. 2. Coordination and communication between the tugger operator and the Nautilus crane operator.

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	✓	Work Vests?		Barricades?	✓
Safety Shoes?	✓	Safety Harness?		Fire Extinguisher?	✓
Safety Glasses?	✓	Face Shield?		Lock Out/Tag Out?	
Cotton Gloves?	✓	Goggles?		Work Permit Required?	✓
Back Belts?				Breathing Apparatus	✓

Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
		3. Personnel to wear BA sets. 4. Area below V-door to be kept clear of personnel.
C) Transfer second half of core barrel section. Follow same steps listed in point C) above.	As above.	As above.
D) DBS engineer will carry out surface gamma survey.	Presence of H2S – toxic / flammable / explosive.	Gamma survey is detection only and survey tool does not emit.
F) Drill sample holes in core.	Presence of H2S – toxic / flammable / explosive.	1. Personnel to wear BA sets. 2. If H2S is detected in a concentration greater than 200 ppm, then sample will be allowed to ventilate to 200 ppm before cutting core sample. 3. DBS engineer to drill the sample holes and specify distance apart.
G) Open up core barrel cut and cap core samples.	Presence of H2S – toxic / flammable / explosive.	1. Personnel to wear BA sets. 2. Air powered, diamond tooth cold cutting saw to be used when cutting core samples.
H) Return barriered areas to normal duties.	Slips, Trips and Falls	1. Good housekeeping / maintenance of BA sets. 2. Inform rig personnel via PA announcement that the core retrieval operation is complete. 3. Sign off the Permit to Work.
NOTE: Steps E, F, G and H may require individual JSA's.		

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Work Vests?	_____	Barricades?	✓
Safety Shoes?	✓	Safety Harness?	_____	Fire Extinguisher?	✓
Safety Glasses?	✓	Face Shield?	_____	Lock Out/Tag Out?	_____
Cotton Gloves?	✓	Goggles?	_____	Work Permit Required?	✓
Back Belts?	_____			Breathing Apparatus	✓

JOB SAFETY ANALYSIS
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Work Activity (Job): RIGGING DOWN AND PREPARING TO LOWER DERRICK		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Removing bails and elevator from the block	Pinch points – struck by	Air hoist should be used to assist – inspect the air hoist prior to use
A) The hook should be opened and a rag put between the hook and lock (after kelly is laid out)	Strains by derrickman – struck by	The opening of the hook makes it easier for the derrickman to hook up the bull line
3) Pick up kelly and remove cross-overs and bushing	Pinch points – caught between	Use mouse hole to break connection, remove the cross over and bushing out of work area
4) Set kelly back in shuck – remove kelly hose and kelly spinner lines, secure same – secure kelly to shuck and lay out kelly and shuck with block in the V-door	Struck by – pinch points – caught between	Inspection of chain / cable that secures kelly to shuck – effective communication
5) Set kelly on pipe rack with crane	Suspended loads – pinch points	Use tag lines – know exactly where kelly is to be stored before moving
Note: No one should be working on floor while Derrickman is in derrick		
6) Derrickman's duties:	Falls – pinch points	Fall protection properly secured Note: Block with rag in hook – make this an easier task
SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Back Belts? <input checked="" type="checkbox"/>	Barricades? _____
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input checked="" type="checkbox"/>	Fire Extinguisher? _____
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? _____	Lock Out/Tag Out? _____
Cotton Gloves? _____	Goggles? _____	Work Permit Required? _____
Retractable Lifeline <input checked="" type="checkbox"/>	Lanyards <input checked="" type="checkbox"/>	

JOB SAFETY ANALYSIS
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A) Connect block to bull lines		
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Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
6) Derrickman's duties: (cont'd)		
B) Check derrick for any loose debris – re: Tools / pins / shackles etc.	Struck by – falls	Remove any debris – be aware of any person who may be working under you – use fall protection
C) Secure / remove stabbing board	Struck by	Secure with at least three (3) ropes or remove completely
D) Secure monkey board and fingers	Struck by – falls	Fall protection secured – secure monkey board and finger with at least two (2) ropes
E) Check again for debris and check the rig lights, secure safety cables, check sheave and drill line	Struck by – falls	Remove anything that may fall when derrick is lowered – always use fall protection
F) Pass air hoist line through derrick above monkey board (after rig floor is secured)	Falls – struck by	Fall protection equipment – secure / remove any debris
7) Floorhand duties:		
A) Lay down any tubular – handling tongs	Struck by – pinch points – falls	Fall protection – right tool for the job
B) Layout mouse hole	Struck by – pinch points	Use air hoist – good communication
C) Remove top bolt from deadman	Rig damage	Remove bolt – right tool for the job
D) Remove standpipe union or section and secure	Rig damage	Ladder safety – fall protection – clean work area
E) Remove drill line guide	Rig damage – fall	Fall protection properly used

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	✓	Back Belts?	✓	Barricades?	_____
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	_____
Safety Glasses?	✓	Face Shield?	_____	Lock Out/Tag Out?	_____
Cotton Gloves?	_____	Goggles?	_____	Work Permit Required?	_____
Retractable Lifeline	✓	Lanyards	✓		

JOB SAFETY ANALYSIS
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F) Remove any handrail sections	Rig damage – struck by	Air hoists used – good communication
G) Clear any objects from path of derrick leg	Rig damage – back strain	Good lifting techniques
H) Remove bottom section of derrick ladder	Rig damage – pinch points	Good communication between air hoist operator and crewman

Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
7) Floorhand duties: (cont'd)		
I) Untie ladder climbing safety device and secure	Cable damage	Remove properly
J) Make sure crane is clear	Rig damage – loss of life	Move crane
8) Make sure that bull line is in sheaves – double check air hoist cable (refer to 6F)	Rig damage – loss of life	Review all procedures – double check
9) Ensure all personnel are out of the living quarters and are on the keyway end of rig – crew boats are away from the galley end	Loss of life	Double check living quarters and physically check that the boats are away
10) Remove pins from derrick leg Note: All pins will have a safety chain properly secured – also secure keepers	Pinch points – struck by	Safety chains on pins – right tool for knocking pins – secure keeper
11) Make sure the drawworks is in low gear and the hydraulic brake is in (check bull line in sheaves)	Rig damage – loss of life	Double check!!
12) Hold tension on derrick with air hoist while slacking off of brake	Rig damage	Good communication – team work
13) Lay down derrick and let sit gently in	Rig damage – loss of life	Team work

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	✓	Back Belts?	✓	Barricades?	_____
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	_____
Safety Glasses?	✓	Face Shield?	_____	Lock Out/Tag Out?	_____
Cotton Gloves?	_____	Goggles?	_____	Work Permit Required?	_____
Retractable Lifeline	✓	Lanyards	✓		

JOB SAFETY ANALYSIS
Romfor International LTD

headache rack – chain off break		
14) Give all clear signal – all non-working personnel will return to the living quarters	Slip, trip, fall	Wear personal protective equipment
15) Clean up area – return tools and equipment	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	<input checked="" type="checkbox"/>	Back Belts?	<input checked="" type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input checked="" type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input type="checkbox"/>
Cotton Gloves?	<input type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Retractable Lifeline	<input checked="" type="checkbox"/>	Lanyards	<input checked="" type="checkbox"/>		

JOB SAFETY ANALYSIS
Romfor International LTD

Work Activity (Job): RIG UP / RIG DOWN ELEVATOR LINK (ITEM #1 – THE BAILS)		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Lower block to comfortable position		
3) Attach air hoist to bail	Pinch points – slipping – struck by	Use two raps, use tag lines – good hand signals
4) Pick up on air hoist	Watch for swinging load	Use tag lines to hold back load
5) Open latches on both sides of block	Pinch points	Watch hand placement
6) Lift bail with hoist and maneuver larger loop in bail into latch	Pinch points – dropping bail – struck by	Keeps hands clear of latches and loop in bail while positioning – stay alert
7) Slack off air hoist slowly until bail rests in latch easily	Pinch points – dropping bail – struck by falling objects	Keep hands clear – do not stand underneath stay alert – use designated flagman
8) Close latch and tighten bolt	Pinch points – caught between	Watch hand placement
9) To remove, reverse procedure	Personal injury	Follow steps 8 through 2 above
Note: It is important to notice which way the block is turned and which bail goes on which side of the block. The slightly curved end of the bail should curve to the inside, not outside.		

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belts? <input checked="" type="checkbox"/>		

Continued on next page		
Work Activity (Job): RIG UP / RIG DOWN ELEVATOR LINK (ITEM #2 – THE ELEVATORS)		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
10) Lower block with bails to comfortable position lower block with bails to comfortable position	Struck by bails	Stand clear while lowering block and bails
11) Attach hoist to back handle on elevator	Pinch points	Watch hand placement
12) Raise elevators with latches open	Struck by elevators	Hold on to elevator to avoid swinging load
13) Elevators will be hanging with one latch slightly lower than the other A) Install lower latch on bail loop first B) Slack off slowly on air hoist and place the other latch onto other bail loop	Pinch points Pinch points	Watch hand placement Watch hand placement
14) Slack off hoist slowly while applying inward pressure on the long stem of bails	Pinch points	Watch hand placement
15) Close latches and tighten bolts	Pinch points	Watch hand placement
16) Remove air hoist cable	Pinch points	Watch hand placement
17) To remove elevators and bails, reverse above process		
18) Clean up area – return tools and equipment	Slips, trips, falls	Good housekeeping
Note: It is important to notice how the cow cock is positioned. The elevator should face the same way as the cow cock.		

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belts? <input checked="" type="checkbox"/>		

Work Activity (Job): RIG UP / RIG DOWN STROKE COUNTERS		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Lockout / tagout mud pump	Shock	HSE Manual
3) Lockout / tagout energy source to stroke counters	Shock	HSE Manual – use meter to confirm absence of power
4) Run proper wiring in trays or remove when rigging down	Slips, trips, falls	Use safety harness when over 6' and ensure wiring is neatly run
5) Mount or remove stroke counter	Caught between – lacerations	Proper tools – cotton gloves
6) Tie in wiring to sending unit or disconnect	Caught between – lacerations	Proper tools – cotton gloves
7) Connect wiring at rig floor unit or disconnect	Shock	Lockout / Tagout - proper tools – cotton gloves
8) Unlock and turn power on – check unit for proper operation	Shock	Proceed carefully – check wiring
9) Unlock and turn power back on to mud pumps	Shock	Proceed carefully – check wiring
10) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input checked="" type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input checked="" type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

Work Activity (Job): RIGGING UP POWER OUTLETS		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Designate area for plug in / installation		
3) Run wiring in trays and secure	Slips, trips, falls	Keep wiring off deck and out of walkways
4) Connect wiring to plug in	Scrapes – punctures	Use proper tools – do not use a knife
5) Lockout / tagout source of power for tie in	Shock	Lockout / tagout – section B-6 of the Safety Policy Manual
6) Test source with meter	Shock	Lockout / tagout – section B-6 of the Safety Policy Manual
7) Only when source is dead – tie in using proper connections	Shock	Lockout / tagout – section B-6 of the Safety Policy Manual
8) Unlock source – power on and check new power outlet with meter	Shock	Proceed carefully
9) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping
Note: If you have to work 6 feet or more off deck – Always wear a safety harness!		

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Work Vests?		Barricades?	
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	
Safety Glasses?	✓	Face Shield?		Lock Out/Tag Out?	✓
Cotton Gloves?	✓	Goggles?		Work Permit Required?	
Back Belts?	✓				

JOB SAFETY ANALYSIS
Romfor International LTD

Work Activity (Job): INSTALLING / REMOVING SHEAVES AND CABLES IN DERRICK		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare & inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Choose proper mounting equipment for derrick	Personal injury	Used properly rated equipment
A) Shackles with nut and safety clip	Regular pin could back out	Always use shackles with safety clips when installing overhead
B) Hang off cable or pad eye	Cable or pad eye breaks	Use properly rated equipment
3) Climb derrick to the area that sheave is to be located	Falls – loss of life	Use Lad-Saf system on ladder – use double lanyards or retractable lifeline when moving around in derrick
4) Install hang off cable onto derrick frame work and tighten all clamps	Struck by	Keep rig floor area clear while working overhead
5) Raise sheave / cable with air hoist and attach to hang off cable / pad eye with shackle	Struck by – personal injury	Make certain that sheave and cable are properly secured before disconnecting air hoist
6) Attach properly rated safety cable with clamps	Sheave / cable falling	Attach safety cable through sheave / cable
7) Gather tools and climb down out of derrick	Falls – loss of life	Use double lanyards or retractable lifelines when moving around in derrick – use Lad-Saf system on derrick ladder
8) Return tools and equipment to proper location	Struck by	Always check derrick – don't leave loose tools or equipment on beams

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	<input checked="" type="checkbox"/>	Back Belts?	<input checked="" type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input checked="" type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Retractable Lifeline	<input checked="" type="checkbox"/>	Lad-Saf System	<input checked="" type="checkbox"/>		

JOB SAFETY ANALYSIS
Romfor International LTD

Note: Personnel should remain connected at all times when working at heights.
Small tools and items carried into derrick should be tied off to avoid falling. Larger equipment can be hoisted.
Area below workers should be roped off to keep people out of the area until work is completed.

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Back Belts?	✓	Barricades?	
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	
Safety Glasses?	✓	Face Shield?		Lock Out/Tag Out?	
Cotton Gloves?	✓	Goggles?		Work Permit Required?	
Retractable Lifeline	✓	Lad-Saf System	✓		



JOB SAFETY ANALYSIS (JSA)

GENERAL INFORMATION

This method was designed to review the individual steps when performing a job for both machines generated hazard (unsafe conditions) and personnel generated hazards (unsafe acts)

With the practice of JSA, we can generate solutions for each hazard and develop an effective ways to control hazards or to completely eliminate them.

Therefore, JSA are similar to an incident prevention survey in purpose. They are design to identify solve safety related issues. While keeping in mind that the Incident prevention surveys cover a broader area, JSA'S focus in individual tasks in detail with their preventing procedure.

There are as follows:

- Being practice properly; and effectively eliminating or minimizing the hazard (S)

There are a number of benefits of JSA

- Developing safe work practices that become habits that would help employees to reduce injuries.
- Supervisors learn more about how employees are performing jobs and how to better manage those jobs.
- JSA are very good tool for training new employees. The employee learns how to do the job and at the same time learns how to do it safety.
- Using the JSA as a training tool establishes from the beginning that safety is important in their job.
- JSA help determine the cause of an incident that might occur. The steps of the JSA can be gone with the injured employee to see which steps were missed or performed incorrectly



PURPOSE

JSA'S are design to assist field personnel in safety preplanning jobs and they have to be used to make operations safer for all personnel in our Romfor Rigs. [Please see JSA forms](#)

SCOPE

All Romfor International LTD operations must use JSAs to make operations safer for all personnel

JOB SAFETY ANALYSIS DETAILED PROCEDURES

Select the job to be analyzed

- Start with jobs that have the most injuries associated with them.
- Reducing the incidents within these jobs, will highly impact the rates that increase such number of incidents.

BREAKING THE JOB DOWN INTO STEPS

“job” is defined as a specific activity. An important part of JSA is to keep the job small. Do not attempt to perform a JSA on a job on the job that have more than 4-7 steps. For example: tripping pipe is too large a job and needs to be broken down. e.g. installing/pulling slips; putting on/removing tongs; setting/pulling slips; racking back a stand; picking up a stand; etc. Each task can then be easily analyzed for hazards.

Be careful not to break the job down into parts too small. This will make the job of analyzing much more difficult.



IDENTIFY THE HAZARDS

Ask questions such as “what could happen?” Use the STOP Observation Report, Positions of People to help identify the hazards. The hazard may be the employee getting caught between, struck by, etc. “What are the hazards of getting Caught Between? Once you’ve looked at what could potentially happen, then the next step is to develop solutions.

DEVELOPING SOLUTIONS

The objective is to eliminate the hazard from the job totally, either through a new procedure or through redesigning the equipment or machinery sometimes reducing exposure to the hazards is all that is possible, such as wearing hearing protection in high noise level areas or wearing protection clothing while working with chemicals or any other hazard material.

USING THE JOB SAFETY ANALYSIS TO TRAIN PERSONNEL

The JSA is used in crew safety meetings to communicate to crewmember the task steps, the hazards that are associated with the task and solutions that will prevent them from being harmed.

The JSA Manual is kept at the work site in the office of the Person in Charge (HSE Supervisor) and the appropriate JSA(s) must be reviewed by rig teams prior to performing to the task.

The JSAs in the JSA Manual are generic in nature and should be updated to reflect what actually takes place on your particular rig.



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The JSAs in the JSA Manual are generic in nature and should be updated to reflect what actually takes place on your particular rig.

Work Activity (Job): SCAFFOLDING – RIG DOWN		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-Job meeting		
A) Discussion of procedures		
2) Remove tools / equipment from scaffold	Struck by	Hand tools to person on lower level or lower with rope
A) Store in proper place		Good housekeeping
3) Untie scaffold board and remove	Struck by	Make sure no one is below
4) Untie cross braces / bars and remove	Struck by	Make sure no one is below
5) Properly store all scaffolding and braces	Trips, falls	Stack / store neatly – good housekeeping
6) Check area to make certain all equipment has been put away and area is free of hazards	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats?	✓	Back Belts?
Safety Shoes?	✓	Safety Harness?
Safety Glasses?	✓	Face Shield?
Cotton Gloves?	✓	Goggles?
		Barricades?
		Fire Extinguisher?
		Lock Out/Tag Out?
		Work Permit Required?

Work Activity (Job): SCAFFOLDING – RIG UP		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-Job meeting		
A) Discussion of procedures		
2) Prepare tools and equipment	Falls	Equipment in good condition
A) Scaffold end supports	Falls	Inspect locking pins – secure all sections together with ¼” rope, using locking pins.
B) Cross braces	Falls	
C) Cross bars	Falls	
D) Scaffold boards	Falls	Don’t use broken or damaged scaffold boards
E) ¼ “ rope	Falls	
F) Safety harness	Falls	
G) Lifeline / lanyard	Falls	Inspect latches and due date on lifelines
H) Work vest	Possible drowning if over water	Use work vest
3) Ensure a safe work area	Slips, trips, falls	Good housekeeping
4) Connect and secure scaffolding	Falls	Tie all sections together with ¼” rope
5) Climb scaffolding		
A) Secure lifeline or lanyard	Falls	Always tie off overhead – fo Not tie off lanyard to lower scaffolding frame
6) Retrieve tools needed	Struck by	Have tools handed to person on scaffold or pull up with rope

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:			
Hard Hats?	✓	Back Belts?	✓
Safety Shoes?	✓	Safety Harness?	✓
Safety Glasses?	✓	Face Shield?	
Cotton Gloves?	✓	Goggles?	
Lanyard	✓		
		Barricades?	
		Fire Extinguisher?	
		Lock Out/Tag Out?	
		Work Permit Required?	

JOB SAFETY ANALYSIS
Romfor International LTD

Work Activity (Job): SLIP AND CUT DRILL LINE		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Inspection of equipment		
A) Hang off line for block	Rig damage – loss of life	Careful inspection – repair / replace
B) Shackles and air hoist	Struck by	Careful inspection
C) Sledge hammer, Cameron wrench	Struck by	Right tools – rope for Cameron wrench
D) Hydraulic cutter	Struck by	Careful inspection
3) Install TIW valve on drill pipe and remove front guards on drawworks.	Pulled back muscles – well blowout	Proper lifting – use air hoist
4) Derrickman is brought up to top of block with air hoist, block is hung off while crewmen are removing weight sensors off deadman.	Falls – caught between – struck by falling objects	Use flagger, safety harness while on top of block – secure tools while working overhead
5) After block is hung off, anchor bolts are removed; drill line wraps are taken off. Note: with block hanging, bottom of hook should be one foot above rig floor. Should have six wraps of drill line on drum.	Caught between – pinch points	Watch for pinch points
6) Spool up amount of drill line on drum that is needed to cut.	Caught between	Watch for pinch points
7) Unspool six wraps plus what is needed for drill line clamp and make cut on drill line. While cutting drill line, put wraps back on deadman	Struck by – caught between drill line	Watch for backlash from drill line when cutting – use hydraulic cutters

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	✓	Work Vests?		Barricades?	
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	
Safety Glasses?	✓	Face Shield?	✓	Lock Out/Tag Out?	✓
Cotton Gloves?	✓	Goggles?		Work Permit Required?	
Back Belts?	✓				

anchor.		
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Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
8) While putting drill line back on drum, tighten bolts on deadman anchor.	Caught between	Watch for pinch points
9) Spool drill line back on drum and install weight sensors back on deadman.	Caught between - pinch points	Watch for pinch points
10) Roll old drill line and dispose of properly	Caught between – struck by	Team work – use crane and flagger
11) Mark drill line next to clamp	Loss of life – struck by	Periodically check line for slippage
12) Replace weight sensor, drawworks guard, etc.	Caught in - pinch points	Stay alert
13) Raise derrickman to remove hang off cable from block	Falls – caught between	Use flagger – safety harness
14) Lower derrickman to rig floor	Falls – caught between	Use flagger – good communication
15) Latch onto pipe and lift drill string with slips set	Loss of life – rig damage	Clear personnel from rig floor first
16) Test and retest before pulling with slips out	Loss of life – struck by	Stay clear of rig floor
17) Run block up and reset crown-o-matic	Loss of life – rig damage	Reset and trip crown – o – matic for proper setting
18) Record cut	Loss of life – rig damage	Record cut in record book to keep actual ton miles on drill line
19) Clean area, return all tools and equipment	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Work Vests?		Barricades?	
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	
Safety Glasses?	✓	Face Shield?	✓	Lock Out/Tag Out?	✓
Cotton Gloves?	✓	Goggles?		Work Permit Required?	
Back Belts?	✓				

Work Activity (Job): SPINNER HAWKS USE AND MAINTENANCE		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Inspection of spinner hawk	Laceration – struck by – caught between	Pre-tour lockout / tagout
A) Chain, rollers for work	Equipment failure	Close and thorough inspection
1) Adjusted for current pipe size	Pipe damage	
B) Back up/snub line	Struck by	Check for breaks in the thimbles
C) Shackles, springs	Struck by	Close inspection
D) Hanging cable	Struck by	Close inspection
E) Safety cable from hanging line to body of spinner hawk	Struck by	Safety cable properly secured by both ends
F) Hydraulic hose / safety pin	Struck by	Equipment in good condition with safety clips
G) Levers	Equipment damage	Equipment in good condition – tightly fitted
3) Servicing spinnerhawk		
A) Grease all alemites	Equipment damage	4 to 5 shots of grease in the alemites
B) Roller, chain	Equipment damage	Check for slack and wear – change when needed
4) Operation of spinnerhawk		
A) Inspection / servicing will always proceed the operation of the spinnerhawk	Equipment failure – struck by – pinch points	Review steps 1 through 3 of this JSA
SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input checked="" type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belts? <input checked="" type="checkbox"/>		

Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
4) Operation of spinnerhawk (cont'd)		
B) After pipe is broken – pull out of hole and ensure the tongs (2) are clearly removed	Pinch points	Good team work and timely communication
1) The spinnerhawk is then put on the pipe	Equipment damage	Proper technique and good timing
C) Operate the right lever to close jaws around pipe	Struck by	Squeeze operating handle slowly
D) Operate the left lever to spin the pipe	Struck by	Squeeze handle slowly
E) Operate right lever to open the jaws	Equipment damage	Operate carefully – slowly
F) Hang Spinnerhawk out of the way	Struck by	Ensure tie back line is adequate
G) After pipe is stabbed – go in the hole		
H) Repeat Steps 4.B (1) through F	Repeat steps B (1) through F	Repeat steps B(1) through F
5) Clean equipment when trip is finished – to include greasing	Equipment damage	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Work Vests?		Barricades?	
Safety Shoes?	✓	Safety Harness?		Fire Extinguisher?	
Safety Glasses?	✓	Face Shield?		Lock Out/Tag Out?	✓
Cotton Gloves?	✓	Goggles?		Work Permit Required?	
Back Belts?	✓				

JOB SAFETY ANALYSIS
Romfor International LTD

Work Activity (Job): TRIPPING PIPE – PRE JOB		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures 1) Trip objective 2) Hole condition / trip tank 3) 4) Crew position	Misunderstanding procedures Morale / lack of reasoning Kicks – blowout – formation damage Accidents due to poor communication	Effective communication Good communication – teamwork One man designated to observe return / trip tank Knowledge of duties
B) Prepare and inspect all tools and equipment 1) Crewman inspects/prepares rig floor a) Inspect all tubular handling equipment b) Ensure safe working area c) Check safety valves 2) Derrickman inspects/prepare derrick a) Inspect climbing equipment b) Inspect derrick safety harness/ropes c) Inspect crown-o-matic with driller	Personal injury Accident with faulty equipment Slips, trips, falls Blowout – kicks Falls – loss of life Falls - loss of life Loss of life - rig damage	Equipment in good condition Replace / repair faulty equipment Good housekeeping Proper size - open/close position Careful inspection / replacement if necessary Careful inspection / replacement if necessary Check to ensure proper working condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Tripping pipe – pulling out of hole please refer to tripping pipe – pre-job steps 1 A, B, C		
A) Breaking out kelly	Pinch points – smashed fingers – eye injury	Be aware - stay alert – watch pinch points –

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	✓	Work Vests?		Barricades?	
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	
Safety Glasses?	✓	Face Shield?		Lock Out/Tag Out?	
Cotton Gloves?	✓	Goggles?		Work Permit Required?	
Back Belts?	✓*				

		mud pump off – no pressure
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Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
2) Tripping pipe – pulling out of hole (cont'd)		
B) Latching elevator	Finger injuries – pinch points	Two man operation – stay alert
C) Pulling slips	Lower back injury	Three man operation – bending at knee – use your legs – keep back straight
D) Raising block	Loss of life – rig damage	Use medium speed (Dynamic brake)
E) Setting slips	Back strains – pinch points	Set slips – be aware of pinch points – bend knees
F) Break tool joint – lead tongs on top, back on bottom	Pinch points between tongs and when latching	Place tongs on pipe separately
G) Driller engages cathead to break connection	Struck by	Inspect cable and connections – tong dies to prevent slippage
H) Remove make up tongs	Pinch points – struck by	Do not allow tongs to swing
I) Driller engages rotary to break out connection	Slips, trips, falls - pinch points – struck by	Stay clear of turning rotary – keep snub line tight
J) Block is raised and then lowered – pipe is racked	Struck by - pinch points – slips, trips, falls	Always handle and push pipe with the palm of the hand – keep feet clear – keep mud squeezed from pipe rack
K) Derrickman unlatches and racks pipe	Pinch points – struck by	Wraps pipe with rope – jack rope to pull pipe into fingers
L) Proper fill up of hole every five (5) strands – three (3) heavy weight – one (1) drill collar	Loss of life – rig damage	Check for flow / swabbing

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	✓	Work Vests?		Barricades?	
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	
Safety Glasses?	✓	Face Shield?		Lock Out/Tag Out?	
Cotton Gloves?	✓	Goggles?		Work Permit Required?	
Back Belts?	✓*				

JOB SAFETY ANALYSIS
Romfor International LTD

M) Repeat steps B through L	Too routine – not paying attention	Stay alert – pay attention throughout the trip
3) Tripping pipe: tripping in the hole Recheck steps 1 A, B, C		
A) Raise block – stop at monkey board	Going too fast – overlooking – crown out – loss of life	Safety first – eliminate all hazards – check crown-o-matic – use safe speed

Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
3) Tripping pipe: tripping in the hole (cont'd)		
B) Derrickman latches pipe	Falls – caught between	Keep mind on job at hand
C) Tailing pipe	Struck by – contusions	Keep feet clear – don't wrap finger around pipe
D) Stabbing pipe	Do not put finger under pipe – struck by	Keep pipe from swinging – keep hands clear
E) Make up tool joint – spinner wrench	Caught between	Know the tool you are using – be aware of your co-workers
F) Torquing pipe 1) Make up tongs on top 2) Lead tongs on bottom	Struck by Caught between (wormhole) Caught between (wormbite)	Good condition of equipment – tong snub line Clean working area – be aware of co-workers and their position
G) Pulling slips	Back strains – pinch points	Good lifting techniques – hand positioning
H) Lowering pipe	Loss of life – rig damage	Hydromatic brake – control speed
I) Set slips	Back strains – pinch points	Good lifting techniques – hand position
J) Unlatching elevators	Pinch points – caught between	Good hand positioning – teamwork
K) Repeat steps A through J	Lackadaisical attitude	Pay attention at all times
4) Clean area – return tools to storage	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	✓	Work Vests?		Barricades?	
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	
Safety Glasses?	✓	Face Shield?		Lock Out/Tag Out?	
Cotton Gloves?	✓	Goggles?		Work Permit Required?	
Back Belts?	✓*				

Work Activity (Job): USING SPINNING CHAIN		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
D) Crew experience	Standing in wrong place	New hire watch experienced crew do job
2) Break out tong is latched around pipe (already sitting on slips in rotary)	Pinch points – caught between	Watch for pinch points on tongs and elevators
3) Most experienced crewman wraps spinning chain on tool joint above break out tong Note: chain is wrapped counter clockwise leaving approximately 4 feet of chain with tail for crewman to hold	Slips, trips, falls	Keep floor clear of trip hazards – wrap chain neatly
4) Driller runs block up to derrickman – pipe is latched, driller picks up and pipe is tailed by the two (2) Crewmen	Struck by	Use tail rope for stands – double up while tailing pipe
5) Pipe threads are doped and joint is stabbed into string	Pinch points	Keep hands above tool joints and away from threads
6) With both crewmen standing clear of spinning chain, crewman flags driller that he is ready	Tangled up in chain – personal injury	Effective communication – avoid jerking chain
7) Driller pulls lightly on cathead and chain is thrown into position		
SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:		
Hard Hats? <input checked="" type="checkbox"/>	Work Vests? <input type="checkbox"/>	Barricades? <input type="checkbox"/>
Safety Shoes? <input checked="" type="checkbox"/>	Safety Harness? <input type="checkbox"/>	Fire Extinguisher? <input type="checkbox"/>
Safety Glasses? <input checked="" type="checkbox"/>	Face Shield? <input type="checkbox"/>	Lock Out/Tag Out? <input type="checkbox"/>
Cotton Gloves? <input checked="" type="checkbox"/>	Goggles? <input type="checkbox"/>	Work Permit Required? <input type="checkbox"/>
Back Belts? <input checked="" type="checkbox"/>		

Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
8) Crewman holds pressure on chain tail while driller spins connection up – after connection is made up, crewman is allowed to pull off excess chain from pipe and releases chain		Inform driller to stop when joint is made up – remove excess chain
9) Make up tong is installed on top	Struck by	Check snub lines – keep fingers away from jaws on tongs
10) Driller pulls on cathead and tightens connection to final torque		
11) Each crewman on tongs unlatches the other crewman's tong and secures tongs to derrick legs	Pinch points – caught between – struck by	Stand on side of tongs – if tong slips there is less chance of being hit
12) Driller now picks up on string slips and stand is lowered into well	Back strain	Proper lifting techniques
13) When block reaches floor, slips are re-set	Back strain – pinch points	Use proper lifting techniques to set slips – remove hands from slips handles after setting
14) Block is then run back up to derrickman		
15) Repeat steps 3 to 15	Personal injury	Stay alert
16) Clean area	Slips, trips, falls	Good housekeeping

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	<input checked="" type="checkbox"/>	Work Vests?	<input type="checkbox"/>	Barricades?	<input type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Back Belts?	<input checked="" type="checkbox"/>				

JOB SAFETY ANALYSIS
Romfor International LTD

Work Activity (Job): WORKING IN DERRICK		
Sequence of basic job steps	Potential incidents or hazards	Recommendations to eliminate or reduce potential hazards
1) Pre-job meeting		
A) Discussion of procedures	Misunderstanding procedures	Effective communication
B) Prepare and inspect all tools and equipment	Personal injury	Equipment in good condition
C) Proper personal protective equipment	Personal injury	See equipment required below
2) Rope off area below worker	Falls – loss of life	Install barricades – inform personnel of workers overhead
3) Connect to anti-fall device	Falls – loss of life	Remain connected to anti-fall device throughout
A) Apply full body safety harness	Falls – loss of life	Use derrick harness when climbing ladder
B) Lad-Saf derrick ladder system	Falls – loss of life	Connect to Lad-Saf system to climb ladder
C) Retractable lifeline	Falls – loss of life	Can be used on rigs with offset derrick along with a derrick assist
D) Double lanyards	Falls – loss of life	Use once you reach working height
4) Tie off hand tools / items carried aloft	Struck by	Tie off with cord or rope to keep from falling
5) Perform job to be done	Slips, falls – struck by	Proper footing – keep self and tools tied off at all times
6) Remove all tools from derrick	Struck by	Check all beams for items that could fall below
7) Connect to anti-fall device	Falls – loss of life	Remain connected to anti-fall device
8) Climb back down ladder	Falls – loss of life	Remain connected to anti-fall device

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:					
Hard Hats?	✓	Back Belts?	✓	Barricades?	✓
Safety Shoes?	✓	Safety Harness?	✓	Fire Extinguisher?	_____
Safety Glasses?	✓	Face Shield?	_____	Lock Out/Tag Out?	_____
Cotton Gloves?	✓	Goggles?	✓	Work Permit Required?	_____
Retractable Lifelines	✓	Lanyards	✓		

JOB SAFETY ANALYSIS
Romfor International LTD

9) Store tools and equipment	Trips, falls	Put tools back in their proper place
10) Remove barricades		Remove barricades – inform personnel that overhead work is completed

SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:

Hard Hats?	<input checked="" type="checkbox"/>	Back Belts?	<input checked="" type="checkbox"/>	Barricades?	<input checked="" type="checkbox"/>
Safety Shoes?	<input checked="" type="checkbox"/>	Safety Harness?	<input checked="" type="checkbox"/>	Fire Extinguisher?	<input type="checkbox"/>
Safety Glasses?	<input checked="" type="checkbox"/>	Face Shield?	<input type="checkbox"/>	Lock Out/Tag Out?	<input type="checkbox"/>
Cotton Gloves?	<input checked="" type="checkbox"/>	Goggles?	<input checked="" type="checkbox"/>	Work Permit Required?	<input type="checkbox"/>
Retractable Lifelines	<input checked="" type="checkbox"/>	Lanyards	<input checked="" type="checkbox"/>		