

TITLE: PERFORM SERVICE: Rig Up/ Rig Down of Equipment						HALLIBURTON MANAGEMENT SYSTEM										
PSL Production Enhancement		REGION Global		Sub PSL / Function		DOCUMENT NUMBER: RA-GL-HAL-PE-008										
OWNER Global PASQ		APPROVED BY: Global PASQ		REVIEW/REVISION BY: PE HMS Team		REVIEW/REVISION DATE: 31.OCT.2018		REVISION No: 8.0		PAGE: See Footer						
Description: Rig Up / Rig Down Equipment Utilize qualified personnel. Minimum Standard PPE to be worn at all times, (coveralls, steel toe boots, safety glasses, hard hat)						T A R G E T	Risk Assessment Existing			Existing Controls and Countermeasures and or Recommendations to Lower risk				Risk Assessment After		
S E V	P R O B	R P C	S E V	P R O B	R P C											
HAZARD DESCRIPTION		CAUSE		EFFECTS												
Manual handling		Slippery or uneven ground		Bodily injury		P	III	B	2	Use proper lifting techniques or equipment Obtain assistance as required				III	C	3
		Improper use of lift equip. or component failure (i.e. slings)		Equipment damage		E	III	B	2	Trained operators, authorized personnel only Be aware of shifting load Regular inspection & maintenance of crane & components Visually inspect crane components prior to use Clear area of personnel not required Communicate instructions clearly to all involved and during job (radios, hand signals) Locate & be aware of all overhead lines & wires prior to unloading Be aware of extreme temp. & operation of crane Proper swing radius, keep hands clear of contact Use designated signalman Use Taglines Utilize the 60# lifting rule				III	C	3
Pinch Points		Between Barge and Rig		Bodily injury		P	III	B	2	PPE Proper Body Position Create a Safe Work Area Use Proper Tools Use Tools Properly Add Extra Men Tag Lines Inspect Tools Go slow on lifts ALWAYS Man the lift control				III	C	3
		Pipe Wrenches Hammers Equipment moves Truck Tool Boxes Discharge line/Pump Air Hoist														

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HAZARD DESCRIPTION	CAUSE	EFFECTS												
Simultaneous Operations	Other Contractors Rig Operations	Bodily injury	P	III	B	2	Communicate hazards at pre job safety meeting. Evacuation & emergency response plan discussed				III	C	3	
		Equipment damage	E	III	B	2					III	C	3	
Pulling/Pushing	Moving Hoses Attaching Equipment to Well head Uncentered Lifts Air Hoist	Bodily injury	P	III	B	2	Proper Techniques Refuse Unsafe Work Use More People Balance the loads Tag/Securing lines				III	C	3	
Confined Space	Rig Cellar Tanks H2O	Bodily injury	P	III	B	2	Test Ventilate it. PPE-Resp. Refuse Unsafe Work Follow Permit to Work Process				III	C	3	
Overhead	Rig Lifts Work Over Head Equipment Failure	Bodily injury	P	III	B	2	Safe Work Area PPE				III	C	3	
		Equipment damage	E	III	B	2	Kick Plates PM/Inspection Plan Communicate				III	C	3	

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Suspended load / crane			Improper use of lift equipment or component failure (i.e. slings)		Bodily injury		P	II	B	1	Trained operators, only authorized personnel Be aware of shifting load Regular inspection & maintenance of crane & components Visually inspect crane components prior to use- Clear area of personnel not required Communicate instructions clearly to all involved and during job (radios, hand signals) Locate and be aware of overhead lines & wires prior to moving load Be aware of extreme temp. & operation of crane Proper swing radius Use designated signalman Use Taglines Use only certified lifting chains				II	D	3
			Improper procedures Untrained operators Moving equipment / loads Poor communication		Equipment damage		E	III	B	2					III	C	3
			Overhead power lines & guy wires Weather / poor visibility Extreme temperatures (structural integrity)		Environmental spill or release		ENV	III	B	2					III	C	3
Congested Area			Rig Proximity Rig Up/Down Requirements		Bodily injury		P	III	B	2	Plans/Schedules Signage/Awareness Communication Flag men Remove all unnecessary equipment from area				III	C	3
			Several contractors Site Traffic . Vehicular . People		Equipment damage		E	III	B	2					III	C	3
Air Quality			Motor Exhaust Sleeping in trucks H2S		Bodily injury		P	III	B	2	Park Upwind Shut down engines Proper Mufflers Training (Site) PPE Air Assessment				III	C	3

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Lighting		None		Bodily injury		P	III	B	2	Provide Light in the right places			III	C	3
		Little Wrong Place		Equipment damage		E	III	B	2				III	C	3
Moving Parts		Tongs-Rig		Bodily injury		P	III	B	2	Safe Work Area Signage/Awareness			III	C	3
		Draw works-Rig Rotary-Rig Pumps-Rig		Equipment damage		E	III	B	2				III	C	3
Weather Conditions		High Winds		Bodily injury		P	III	B	2	Awareness Shut-down. Procedure/Rules			III	C	3
		Fog Rain Lightning Heat Ice		Equipment damage		E	III	B	2				III	C	3
Chemical Exposure		Rig Lubricants Well Additives Rig Waste		Bodily injury		P	III	B	2	Right to refuse unsafe work Create safe paths Plan and Communicate Cleanup PPE (Special)			III	C	3

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HAZARD DESCRIPTION	CAUSE	EFFECTS											
Hoses (Moving into position)	Improper lifting procedure	Bodily injury	P	III	B	2	Proper training on lifting techniques & use loosen up Two (2) or more man job MBU Leader pick one person responsible for opening and closing of all discharge and release valves to avoid confusion Contain area Shutoff equipment Keep work area clean Notify Company / Rig personnel Resolve problem Leather welding gloves Safety glasses and face shields	III	C	3			
	Release of Fluids (SLIPS Poor housekeeping a. Obstructing b. Maintenance (RIG) Nitrogen	Equipment damage	E	III	B	2		III	C	3			
Pressured lines	Opening valves	Bodily Injury	P	I	C	1	Refer to SDS for proper handling & PPE (i.e. gloves, goggles, face shield, etc.) Proper maintenance of high pressure lines (check valve, bleeder tee, chicksans) Trained personnel Clear area of personnel not needed Communicate instructions clearly to all involved during rig up	I	E	3			
	Pressure release	Equipment / Material damage	E	II	C	2		II	D	3			
	Leaking lines (discharge valve, suction) Mechanical failure Operator error	Environmental contamination	ENV	II	C	2		II	D	3			
Improper spotting of equipment / materials	Not utilizing spotters	Bodily injury	P	III	B	2	Utilize spotters when available or periodically walk around equipment to determine hazards Train employees in proper spotting techniques	III	D	3			
	Poor weather conditions	Equipment damage	E	III	B	2		III	D	3			
	Human error Poor communication Poor visibility	Environmental contamination	ENV	II	C	2		II	D	3			

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Fall at same level		Slippery/uneven ground or surfaces Poor housekeeping Lines, hoses, cables Poor lighting		Bodily injury		P	III	B	2	Be aware of conditions on lease which cannot be immediately corrected (hoses, cables, ice) Use headlights / flashlights in poor light				III	D	3
Noise		Hammering unions		Bodily Injury		P	III	B	2	Hearing protection (ear plugs/muffs) required at all times Mandatory annual audiometric testing				III	C	3
Contact of hot/cold surfaces		Running of motors Extreme temperatures		Bodily Injury		P	III	B	2	Protect exposed skin (e.g.. gloves, coveralls)				III	C	3
Flying objects Projectiles		Tools Foreign objects (i.e. metal shards)		Bodily Injury		P	II	C	2	Watch line of fire while swinging hammers Ensure face & eye protection is worn				II	D	3
						E	II	C	2					II	D	3
Hand tools		Poor lighting Improper handling of tools and / or parts Tool boxes Line of fire		Bodily injury		P	III	B	2	Protect exposed skin (i.e. gloves) Use tool box lights / flashlights Use tools appropriate to the job Proper positioning of hands to nearby objects				III	C	3
Rigging up: Unloading iron/suction hose		Improper lifting Poor communication Poor visibility Slip, trips and falls Human error Trapped pressure Ice Plug		Bodily injury		P	III	B	2	Proper safety training Utilize pre job safety meeting to identify Hazards Proper training in rigging up procedures Make sure segments are in place and in good shape in detachable hammer unions Ensure all pressure is relieved prior to any disassembly of any DME Be aware that ice plugs can cause unexpected pressure release In the event of suspected ice plug, ensure DME is warmed sufficiently and pressure is bled from both sides.				III	C	3

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HAZARD DESCRIPTION		CAUSE		EFFECTS												
Falling / Climbing		Elevated work surface Failure to use fall arrest Slippery surfaces (oil, ice, etc.) Poor footing Improper use of ladder Poor housekeeping Lines, hoses, cables on ground Poor lighting Slips Trips, Falls		Bodily injury		P	II	C	2	Use fall arrest where required (4 feet/ 1.2 meters & higher) Ensure proper footing (step & hand hold) Maintain housekeeping on unit Be aware of conditions on lease which cannot be immediately corrected (i.e. lines, hoses, cables, ice, etc.) Use headlights / flashlights, work lights or light plants when available Trained personnel on spill response, remediation & provide spill kits (eliminate slipping) Utilize Fall Protection 3 Point Contact Rule Clean Work Area prior to commencing work				II	D	3
Shrapnel		Hammering during rig up/down		Bodily injury		P	III	B	2	Utilize proper tools & PPE (Safety Glasses) Remove all non essential personnel from immediate area All pressure has been released from lines Hold pre task safety meeting Discuss line of fire				III	C	3
Heat stress		Over exertion/fatigue		Bodily injury		P	III	B	2	Provide sufficient fluids Breaks as needed				III	C	3
TARGET:		P: Personnel		E: Equipment		DT: Down Time		DC: Data		ENV: Environment		I: Interface				