



EMPLOYER - PHYSICAL DEMANDS ANALYSIS

Pulp Mill Recovery Field Operator

Job Title:	Pulp Mill Recovery Field Operator	Video Link: http://youtu.be/G7ovPfyPYk (YouTube) http://albertaforestproducts.ca/our-industry/health-safety/physical-demands-analyses-pda (Website)
Work Schedule:	10-12-hour shifts Regular breaks are self-directed and spaced throughout the workday: Usually two 15-minute coffee breaks and one 30-minute lunch break per shift.	
General Description and Job Function:	Responsible for the inspection, maintenance and cleaning of the various areas of the Recovery Unit. Also responsible for collecting samples throughout the shift. <ul style="list-style-type: none"> ➤ Turning valves ➤ Chipping ash build-up ➤ General clean-up ➤ Line inspection ➤ Retrieving samples 	
Marginal Job Functions: (may include, but not limited to)	<ul style="list-style-type: none"> ➤ Acid Washing the scrubbers, 1x/mo ➤ Wash-out Dog House, 1x/1-4 wks 	
Equipment used to perform the job: (may include, but not limited to)	<ul style="list-style-type: none"> ➤ Wrenches ➤ Lance ➤ Come-alongs ➤ Shovel ➤ Sledgehammer ➤ Screwdrivers ➤ Drill ➤ Screwdriver ➤ Pitchfork ➤ Air wand ➤ Steam hose ➤ Vacuum hose ➤ Broom ➤ Wheelbarrow 	
Recommended Personal Protective Equipment: (may include, but not limited to)	<ul style="list-style-type: none"> ➤ Eye Protection ➤ Face shield ➤ Hearing Protection ➤ Steel Toed Rubber Boots ➤ Dust mask ➤ Coveralls ➤ Scott Air Pack/Full-Face Chemical Mask ➤ Full Chemical Suit ➤ Gloves ➤ Rain Gear 	
Environmental Conditions:		
Inside/Outside:	Inside: 98% Outside: 2%	
Working Temperature:	Involves prolonged exposure to hot and extremely humid conditions	
Walking Surfaces :	Concrete, metal grating, oil/grease, wood debris, water	
Dust:	Mild	
Lighting:	Adequate overhead, indoor lighting in most areas	
Vapour/Fumes:	Propane, fumes from chemical process	
Noise Levels:	>85dBA	
Vibration:	Mild: Lance, air wand Medium:- Sledgehammer	
Moving Objects:	Mobile equipment, machinery	

Risks/Hazards: (may include, but not limited to)	<ul style="list-style-type: none"> ➤ Slipping, tripping, falling ➤ Skin punctures ➤ Pinch and nip ➤ Muscle strains and soreness ➤ Cuts and abrasions ➤ Heat stroke
Size of Work Space:	Varies. May have to maneuver into tight spots to complete duties
Sensory Requirements:	
Hearing: Conversation or sounds	Vision: Near/Far, Colour, and Depth
Reading: English	Speech/Comprehension: English
Other Work Factors:	
Travelling:	N/R
Working Alone:	Occasional (provided with radio)
Working Independently/In Group:	Required to work independently for the majority of the shift, may asked to assist a co-worker or request assistance when required
Work Pace (self/machine directed):	Self: 30% (must continually monitor all areas of responsibility and intervene in a timely manner) Machine: 70%
Interaction with Others:	Required to work with co-workers in several areas inside mill
Operation of Equipment: (may include, but not limited to)	N/R

Assessment Criteria Used

Frequency Key		
Frequency	% of Workday	Hours of 12 Hour Workday
Not Required (N/R)	0%	0
Seldom (S)	0-5%	Not performed on a daily basis
Rare (R)	1-5%	<37 min/day
Occasional (O)	6-33%	37 min to 3 hours 58 min/day or 1 rep/30 min
Frequent (F)	34-66%	3 hours 59 min to 7 hours 55 min/day or 1 rep/2 min
Constant (C)	67-100%	7 hours 56 min to 12 hours/day or 1 rep/30 sec

Force Level (FL)	Weight Handled (WH)
Sedentary (SD)	0-10 lbs
Light (L)	Less than 20 lbs
Medium (M)	20-49 lbs
Heavy (H)	50-99 lbs
Very Heavy (VH)	100+ lbs

Critical Job Demands Weight/force (lb)	Comments <i>Examples listed are for illustrative purposes (i.e. weight generalities)</i>	MEASURE		FREQUENCY OF WORKDAY					
		FL	WH	N/R	S	R	O	F	C
Manual Handling Tasks									
Lift:									
Floor to Waist		SD	0-10	X					
	Tools	L	<20				X		
	Acid totes	M	20-49		X				
		H	50-99	X					
Waist Level		VH	100+	X					
		SD	0-10	X					
	Tools	L	<20				X		
	Acid totes	M	20-49		X				
		H	50-99	X					

Critical Job Demands Weight/force (lb)	Comments <i>Examples listed are for illustrative purposes (i.e. weight generalities)</i>	MEASURE		FREQUENCY OF WORKDAY					
		FL	WH	N/R	S	R	O	F	C
Waist to Chest		VH	100+	X					
		SD	0-10	X					
	Tools	L	<20				X		
	Acid totes	M	20-49		X				
		H	50-99	X					
Waist to Overhead		VH	100+	X					
		SD	0-10	X					
	Tools	L	<20				X		
		M	20-49	X					
		H	50-99	X					
Front Carry		VH	100+	X					
		SD	0-10	X					
	Tools	L	<20			X			
	Acid totes	M	20-49		X				
		H	50-99	X					
Side Carry	Right Hand		VH	100+	X				
			SD	0-10	X				
		Tools	L	<20				X	
			M	20-49	X				
			H	50-99	X				
	Left Hand		VH	100+	X				
			SD	0-10	X				
		Tools	L	<20				X	
			M	20-49	X				
			H	50-99	X				
Pushing (tools/objects)	Static		VH	100+	X				
			SD	0-10	X				
		Turning valves	L	<20			X		
		Turning valves	M	20-49			X		
			H	50-99	X				
	Dynamic		VH	100+	X				
			SD	0-10	X				
		Turning valves, wheelbarrow, shovelling debris	L	<20					X
		Turning valves, wheelbarrow, shovelling debris	M	20-49					X
			H	50-99	X				
Pulling (tools/objects)	Static		VH	100+	X				
			SD	0-10	X				
		Turning valves	L	<20			X		
		Turning valves	M	20-49			X		

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		FL	WH	N/R	S	R	O	F	C	
Dynamic		H	50-99	X						
		VH	100+	X						
		SD	0-10	X						
	Turning valves, wheelbarrow, shovelling debris	L	<20				X			
	Turning valves, wheelbarrow, shovelling debris	M	20-49				X			
		H	50-99	X						
		VH	100+	X						
Grip Strength/Coordination										
Repetitive Use of Hands										
Bilateral		SD	0-10	X						
	Sweeping wood debris, retrieving samples	L	<20					X		
	Turning valves, chipping ash	M	20-49					X		
	Turning valves, chipping ash	H	50-99	X						
		VH	100+	X						
Dominant Hand		SD	0-10	X						
	Turning valves	L	<20					X		
	Turning valves	M	20-49					X		
		H	50-99	X						
Non-Dominant Hand		VH	100+	X						
		SD	0-10	X						
	Turning valves	L	<20					X		
	Turning valves	M	20-49					X		
		H	50-99	X						
		VH	100+	X						
Power Grip										
Bilateral		SD	0-10	X						
	Sweeping wood debris, retrieving samples	L	<20				X			
	Turning valves, chipping ash	M	20-49				X			
	Turning valves, chipping ash	H	50-99	X						
		VH	100+	X						
Dominant Hand		SD	0-10	X						
	Turning valves, chipping ash	L	<20					X		
		M	20-49	X						
		H	50-99	X						
Non-Dominant Hand		VH	100+	X						
		SD	0-10	X						
	Turning valves, chipping ash	L	<20					X		
		M	20-49	X						
		H	50-99	X						
		VH	100+	X						
Fine Hand Dexterity										
Bilateral	Turning valves, retrieving samples						X			
Dominant hand	Operating mobile equipment, turning valves, retrieving samples						X			
Non-Dominant Hand	Operating mobile equipment, turning valves, retrieving samples						X			

Critical Job Demands Weight/force (lb)	Comments <i>Examples listed are for illustrative purposes (i.e. weight generalities)</i>	MEASURE		FREQUENCY OF WORKDAY					
		FL	WH	N/R	S	R	O	F	C
Manual Handling		SD	0-10	X					
Bilateral	High-pressure water hose, shoveling wood debris	L	<20				X		
	Turning valves, chipping ash	M	20-49				X		
		H	50-99	X					
		VH	100+	X					
Dominant hand		SD	0-10	X					
	Turning valves, chipping ash	L	<20					X	
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Non-Dominant Hand		SD	0-10	X					
	Turning valves, chipping ash	L	<20					X	
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Tool Usage		SD	0-10	X					
Both Hands		L	<20	X					
	Turning valves with wrenches, chipping ash	M	20-49			X			
		H	50-99	X					
		VH	100+	X					
Dominant hand		SD	0-10	X					
	Turning valves with wrenches, chipping ash	L	<20			X			
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Non-Dominant Hand		SD	0-10	X					
	Turning valves with wrenches, chipping ash	L	<20			X			
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					

Critical Job Demands Weight/force (lb)	Comments <i>(Examples listed are for illustrative purposes)</i>	FREQUENCY OF WORKDAY					
		N/R	S	R	O	F	C
Positional Mobility							
Sitting/Standing/Driving							
Sitting	N/R	X					
Standing	Inspecting Recovery Line, turning valves, general cleanup, chipping ash, clearing plug-ups, retrieving samples					X	
Driving (Car and Truck)	N/R	X					
Walking							
Level Surfaces	Inspecting Recovery Line, turning valves, general cleanup, chipping ash, clearing plug-ups, retrieving samples					X	
Rough Surfaces	Outside worksite terrain		X				
Slopes	Accessing work areas			X			
Climbing							
Stair	Accessing work areas				X		

Critical Job Demands Weight/force (lb)	Comments <i>(Examples listed are for illustrative purposes)</i>	FREQUENCY OF WORKDAY					
		N/R	S	R	O	F	C
Ladder	Accessing work areas			X			
Other (stools/equipment/etc.)	Onto platforms to chip ash to reach valves			X			
Jumping	N/R	X					
Running	N/R	X					
Balancing	Walking on planks to access hard-to-reach valves			X			
Bending							
Static	Inspecting Recovery Line, accessing/turning valves, general clean-up, chipping ash, retrieving samples, clearing plug-ups				X		
Variable	Inspecting Recovery Line, accessing/turning valves, general clean-up, chipping ash, retrieving samples, clearing plug-ups						X
Trunk Rotation							
Static Twisting	Inspecting Recovery Line, accessing/turning valves, general clean-up, chipping ash, retrieving samples, clearing plug-ups				X		
Variable Twisting	Inspecting Recovery Line, accessing/turning valves, general clean-up, chipping ash, retrieving samples, clearing plug-ups						X
Crouching Squatting							
Crouching	Inspecting Recovery Line, accessing/turning valves, general clean-up, chipping ash, retrieving samples, clearing plug-ups				X		
Repetitive Squatting	Inspecting Recovery Line, general clean-up, chipping ash, retrieving samples, clearing plug-ups		X				
Kneeling/Crawling							
Kneeling	Inspecting Recovery Line, accessing/turning valves, general clean-up, chipping ash, retrieving samples, clearing plug-ups			X			
Crawling	Inspecting Recovery Line, general clean-up, chipping ash, clearing plug-ups		X				
Reaching							
Above Shoulder Level	Turning valves, chipping ash, clearing plug-ups					X	
Below Shoulder Level	Turning valves, chipping ash, clearing plug-ups, retrieving samples					X	
Neck Postures/Movements	All neck positions required (180°, up, down, side to side)					X	
Throwing	Throwing-like action utilized to chip ash					X	
Foot Action	N/R	X					
Forceful/Jerky Movements	Turning valves, chipping ash, clearing plug-ups				X		

Psychosocial Demands:	REQUIREMENTS					
	N/R	S	R	O	F	C
A. Understanding and Memory						
Remember locations and routine procedures						X
Understand and remember short and simple instructions						X
Understand and remember detailed instructions				X		
B. Sustained Concentration & Persistence						
Carry out short and simple instructions						X
Carry out detailed instructions				X		
Maintain attention and concentration for extended periods						X
Perform activities within a schedule						X
Sustain an ordinary routine without supervision						X

Psychosocial Demands:	REQUIREMENTS					
	N/R	S	R	O	F	C
Make simple decisions						X
Solve simple straightforward problems						X
Solve complex problems		X				
C. Social Interaction						
Interact with the general public		X				
Ask questions or request assistance				X		
Accept instructions and feedback				X		
Get along well with others without distracting them				X		
Get along well with others without being distracted by them				X		
D. Adaptation						
Respond to changes in the environment or tasks						X
Aware of normal hazards and take appropriate precautions						X
Travel in unfamiliar places or use public transportation	X					
Set realistic goals or make plans independently of others						X
Juggle tasks and prioritize					X	
E. Responsibility & Accountability		Yes		No		
Does the work involve occasional pressure to meet deadlines?		X				
Does the work involve significant pressures?				X		
F. Language Requirements		Yes		No		
Is English required for safety purposes?		X				
Is English required for professional purposes?		X				

Injury Prevention Recommendations	
1.	Practice correct ergonomic sitting techniques throughout the shift and take a standing stretch break every 45 minutes to reduce risk of back injuries from prolonged sitting posture
2.	Stretch-regularly used muscles throughout the shift
3.	Neck, back, upper and lower extremity warm-up exercises recommended before undertaking manual handling tasks to reduce the chance of soft tissue injuries
4.	To help prevent low back strain/sprain from incorrect manual handling techniques – incorporate proper manual handling techniques at all times; utilize dolly, cart, hoist or forklift for all items over 50 lbs or of awkward shape whenever possible; maintain physical conditioning to a Medium-Heavy manual handling level
5.	To help prevent lower extremity joint/muscle pain due to general de- conditioning, poor cushioning in footwear and spending extended periods weight bearing on concrete surfaces – ensure proper fitting footwear with adequate cushioning; take regular stretch breaks hourly
6.	To prevent knee injuries, knee pads should be utilized when kneeling on hard or rough surfaces

Technical data provided by: Jason Shepherd Physical Therapy