EMPLOYER - PHYSICAL DEMANDS ANALYSIS

Pulp Mill Fibre Line/Recaust Operator

Job Title:	**Pulp Mill Fibre Line/Recaust Operator**	**Video Link:**	http://youtu.be/C4BZh7FK9sU (YouTube) http://albertaforestproducts.ca/our-industry/health-safety/physical-demands-analyses-pda (Website)
Work Schedule:	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 Recaust operation and equipment checks, as well as collecting liquor/mud/dreg samples to test accordingly. Responsible for maintaining pulp quality and making appropriate changes to the Digestor, Brownstock and Bleach areas to maintain the desired results. ➢ Turning valves ➢ General clean-up ➢ Line inspection ➢ Retrieving/testing samples ➢ Scraping doctor board ➢ Engaging/disengaging the auxiliary drive couplers
Marginal Job Functions: (may include, but not limited to)	➢ Sewer clean-out, 1x/mo ➢ Acid wash, 1x/mo ➢ Chip magnet maintenance, as required
Equipment used to perform the job: (may include, but not limited to)	➢ Wrenches ➢ Steel Pipe ➢ Come-alongs ➢ Shovel ➢ Sledgehammers ➢ Screwdrivers ➢ Flashlight ➢ Air wrenches ➢ Wheelbarrow ➢ Scraper ➢ Sample-testing Equipment (Recaust) ➢ Rolling staircase
Recommended Personal Protective Equipment: (may include, but not limited to)	➢ Eye Protection ➢ Face shield ➢ Hearing Protection ➢ Steel Toed Rubber Boots ➢ Dust mask ➢ Coveralls ➢ Scott Air Pack/Full-Face Gas Mask ➢ Rubber Suit ➢ Gloves
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:** Operating lift trucks, mobile cranes **Medium:** Sledgehammer
Moving Objects:	Mobile equipment, machinery

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Risks/Hazards: (may include, but not limited to)	➢ 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	**Feeling:** Tactile sensory discrimination
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)	**Seldom**: Forklift, mobile crane

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** ***Examples listed are for illustrative purposes (i.e. weight generalities)***	**MEASURE**		**FREQUENCY OF WORKDAY**					
		FL	**WH**	**N/R**	**S**	**R**	**O**	**F**	**C**
Manual Handling Tasks									
Lift:									
Floor to Waist		**SD**	**0-10**	**X**					
	Locks (ring of 30), tools, high-pressure water hose, elevator doors	**L**	**<20**			**X**			
	Locks (ring of 50)	**M**	**20-49**			**X**			
	Steel sewage grates	**H**	**50-99**		**X**				
	Steel sewage grates	**VH**	**100+**		**X**				
Waist Level		**SD**	**0-10**	**X**					
	Locks (ring of 30), tools, high-pressure water hose, elevator doors	**L**	**<20**			**X**			
	Locks (ring of 50)	**M**	**20-49**			**X**			

Critical Job Demands Weight/force (lb)	Comments *Examples listed are for illustrative purposes (i.e. weight generalities)*	MEASURE		FREQUENCY OF WORKDAY					
		FL	WH	N/R	S	R	O	F	C
	Steel sewage grates	H	50-99		X				
	Steel sewage grates	VH	100+		X				
Waist to Chest		SD	0-10	X					
	Tools, high-pressure water hose, elevator doors	L	<20				X		
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Waist to Overhead		SD	0-10	X					
	Tools, high-pressure water hose, elevator doors	L	<20				X		
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Front Carry		SD	0-10						
	Tools, high-pressure water hose	L	<20			X			
	Locks (ring of 50)	M	20-49			X			
	Steel sewage grates	H	50-99		X				
	Steel sewage grates	VH	100+		X				
Side Carry									
Right Hand		SD	0-10	X					
	Locks (ring of 30), tools, high-pressure water hose	L	<20				X		
	Locks (ring of 50)	M	20-49				X		
		H	50-99	X					
		VH	100+	X					
Left Hand		SD	0-10	X					
	Locks (ring of 30), tools, high-pressure water hose	L	<20				X		
	Locks (ring of 50)	M	20-49				X		
		H	50-99	X					
		VH	100+	X					
Pushing (*tools/objects*)									
Static		SD	0-10	X					
	Turning valves, high-pressure water hose	L	<20			X			
	Turning valves, high-pressure water hose	M	20-49			X			
		H	50-99	X					
		VH	100+	X					
Dynamic		SD	0-10	X					
	Turning valves, high-pressure water hose, wheelbarrow, opening/closing elevator doors, shovelling wood debris, scraping Doctor Board	L	<20					X	
	Turning valves, high-pressure water hose, wheelbarrow, opening/closing elevator doors, shovelling wood debris, scraping Doctor Board	M	20-49					X	
		H	50-99	X					
		VH	100+	X					

Critical Job Demands Weight/force (lb)	Comments *Examples listed are for illustrative purposes (i.e. weight generalities)*	MEASURE		FREQUENCY OF WORKDAY					
		FL	WH	N/R	S	R	O	F	C
Pulling (*tools/objects*)									
Static		SD	0-10	X					
	Turning valves, high-pressure water hose	L	<20			X			
	Turning valves, high-pressure water hose	M	20-49			X			
		H	50-99	X					
		VH	100+	X					
Dynamic		SD	0-10	X					
	Turning valves, high-pressure water hose, wheelbarrow, opening/closing elevator doors, shovelling wood debris	L	<20				X		
	Turning valves, high-pressure water hose, wheelbarrow, opening/closing elevator doors, shovelling wood debris	M	20-49				X		
	Steel sewage grates	H	50-99		X				
	Steel sewage grates	VH	100+		X				
Grip Strength/Coordination									
Repetitive Use of Hands									
Bilateral		SD	0-10	X					
	Operating mobile equipment, shoveling wood debris, scraping Doctor Board, retrieving/testing samples Turning valves	L	<20					X	
	Turning valves	M	20-49					X	
		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					
		VH	100+	X					
Non-Dominant Hand		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					
	High-pressure water hose, shoveling wood debris, scraping Doctor Board	L	<20				X		
	Turning valves	M	20-49				X		
	Steel sewage grates	H	50-99		X				
	Steel sewage grates	VH	100+		X				
Dominant Hand		SD	0-10	X					
	Turning valves	L	<20					X	
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Non-Dominant Hand		SD	0-10	X					
	Turning valves	L	<20					X	
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					

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Critical Job Demands Weight/force (lb)	Comments *Examples listed are for illustrative purposes (i.e. weight generalities)*	MEASURE		FREQUENCY OF WORKDAY					
		FL	WH	N/R	S	R	O	F	C
Fine Hand Dexterity									
Bilateral	Operating mobile equipment, turning valves, retrieving/testing samples						X		
Dominant hand	Operating mobile equipment, turning valves, retrieving/testing samples						X		
Non-Dominant Hand	Operating mobile equipment, turning valves, retrieving/testing samples						X		
Manual Handling									
Bilateral		SD	0-10	X					
	High-pressure water hose, shoveling wood debris	L	<20				X		
	Turning valves	M	20-49				X		
	Steel sewage grates	H	50-99		X				
	Steel sewage grates	VH	100+		X				
Dominant hand		SD	0-10	X					
	Turning valves	L	<20					X	
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Non-Dominant Hand		SD	0-10	X					
	Turning valves	L	<20					X	
	Turning valves	M	20-49					X	
		H	50-99	X					
		VH	100+	X					
Tool Usage									
Both Hands		SD	0-10	X					
	Scraping Doctor Board	L	<20			X			
	Turning valves with wrenches	M	20-49			X			
	Turning valves with wrenches	H	50-99			X			
		VH	100+	X					
Dominant hand		SD	0-10	X					
	Turning valves with wrenches	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	L	<20			X			
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					

Critical Job Demands Weight/force (lb)	Comments *(Examples listed are for illustrative purposes)*	FREQUENCY OF WORKDAY					
		N/R	S	R	O	F	C
Positional Mobility							
Sitting/Standing/Driving							
Sitting	Operating mobile equipment				X		
Standing	Inspecting Fibre Line process, turning valves, general clean-up, scraping Doctor Board				X		
Driving (Car and Truck)	N/R		X				

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Critical Job Demands Weight/force (lb)	Comments *(Examples listed are for illustrative purposes)*	FREQUENCY OF WORKDAY					
		N/R	S	R	O	F	C
Walking							
Level Surfaces	Inspecting Fibre Line process, turning valves, general clean-up (wet/slippery walking surfaces), scraping Doctor Board, retrieving/testing samples					X	
Rough Surfaces	Outside worksite terrain		X				
Slopes	Accessing work areas			X			
Climbing							
Stair	Accessing work areas				X		
Ladder	Accessing work areas				X		
Other (stools/equipment/etc.)	Portable stair-stand, scaffold workstations			X			
Jumping	N/R	X					
Running	N/R	X					
Balancing	Turning hard-to-reach valves, scraping Doctor Board			X			
Bending							
Static	Inspecting Fibre Line/Recaust process, accessing/turning valves, general clean-up, scraping Doctor Board, retrieving/testing samples				X		
Variable	Inspecting Fibre Line/Recaust process, accessing/turning valves, general clean-up, scraping Doctor Board, retrieving/testing samples						X
Trunk Rotation							
Static Twisting	Inspecting Fibre Line/Recaust process, accessing/turning valves, general clean-up, scraping Doctor Board, retrieving/testing samples				X		
Variable Twisting	Inspecting Fibre Line/Recaust process, accessing/turning valves, general clean-up, scraping Doctor Board, retrieving/testing samples						X
Crouching Squatting							
Crouching	Inspecting Fibre Line/Recaust process, accessing/turning valves, general clean-up				X		
Repetitive Squatting	Inspecting Fibre Line/Recaust process, accessing/turning valves, general clean-up		X				
Kneeling/Crawling							
Kneeling	Inspecting Fibre Line/Recaust process, accessing/turning valves, general clean-up, scraping Doctor Board, retrieving/testing samples			X			
Crawling	Inspecting Fibre Line/Recaust process, accessing/turning valves, general clean-up		X				
Reaching							
Above Shoulder Level	Turning valves, utilizing high-pressure water hose					X	
Below Shoulder Level	Operating mobile equipment, turning valves, utilizing high-pressure water hose, retrieving/testing samples					X	
Neck Postures/Movements	All neck positions required (180^0, up, down, side to side)						X
Throwing	N/R	X					
Foot Action	Moving hoses, turning valves			X			
Forceful/Jerky Movements	Turning valves, utilizing high-pressure water hose				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

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Psychosocial Demands:	REQUIREMENTS					
	N/R	S	R	O	F	C
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
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
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