

EMPLOYER - PHYSICAL DEMANDS ANALYSIS

Lab Technician

Job Title:	Lab Technician	Video Link:	http://youtu.be/gIGXGsZX7HM (You Tube) 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 performing the necessary lab work (retrieving, preparing and testing numerous pulp samples) required to determine the finished products' quality 6-16 times per day. <ul style="list-style-type: none"> ➤ Collecting pre-bagged pulp samples from the finishing line (each trip involves 84 steps up/down – elevator is available), 6-16x/shift ➤ Testing pulp samples for pH, brite, HS's, COD, CSF, debris, AD, TSS and DCM – approximately 1 hour to complete these tests/sample) ➤ Entering test results into the computer - approximately 1 hour/day ➤ Replenishing lab supplies – Water bottle (44 lbs), DCM (63 lbs), Paper bags (58 lbs), COD vials (23 lbs), blotter paper (29 lbs) ➤ General clean-up of lab area – sweeping, mopping, moving anti-fatigue matting 		
Equipment used to perform the job: (may include, but not limited to)	<ul style="list-style-type: none"> ➤ Mop & pail ➤ Broom ➤ Various Lab Equipment ➤ Computer ➤ Supply cart 		
Recommended Personal Protective Equipment: (may include, but not limited to)	<ul style="list-style-type: none"> ➤ Eye Protection ➤ Hearing Protection (only when leaving Lab area to enter production area of mill) 		
Environmental Conditions:			
Inside/Outside:	Inside 100%		
Working Temperature:	Workstation location is mainly in the lab area, although the Lab technician is required to perform sample retrieval from the main mill area which can reach higher temperatures during the summer months; therefore, although the temperature varies, the operator is generally within the confines of a temperature-regulated Lab		
Walking Surfaces :	Tile, concrete, metal grating, anti-fatigue matting		
Dust:	N/A		
Lighting:	Adequate overhead, indoor lighting in most areas		
Vapour/Fumes:	N/A		
Noise Levels:	>85dBA when retrieving samples		
Vibration:	N/A		
Moving Objects:	Mobile equipment when outside Lab area		
Risks/Hazards: (may include, but not limited to)	<ul style="list-style-type: none"> ➤ Slipping, tripping, falling ➤ Pinch and nip ➤ Muscle strains and soreness ➤ Cuts and abrasions 		
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:	N/R
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: 20% (samples must be collected after every 400 bails) Machine: 80%
Interaction with Others:	Required to work with co-workers in several areas inside mill
Operation of Equipment: (may include, but not limited to)	Various Lab equipment

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					
	Mop pail, plastic jugs/pails	L	<20			X			
	COD vial, water bottle, blotter paper, anti-fatigue mats, pulp sample containers	M	20-49			X			
	Box of paper bags, DCM pail	H	50-99			X			
		VH	100+	X					
Waist Level		SD	0-10	X					
	Plastic jugs/pails	L	<20			X			
	COD vial, water bottle, blotter paper, anti-fatigue mats, pulp sample containers	M	20-49			X			
	Box of paper bags, DCM pail	H	50-99			X			
		VH	100+	X					
Waist to Chest		SD	0-10	X					
	Plastic jugs/pails	L	<20				X		
	Water bottle, pulp sample containers	M	20-49				X		
		H	50-99	X					
		VH	100+	X					
Waist to Overhead		SD	0-10	X					
	Plastic graduated cylinders, freeness chamber	L	<20				X		
	Pulp sample containers	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.e. weight generalities)</i>	MEASURE		FREQUENCY OF WORKDAY					
		FL	WH	N/R	S	R	O	F	C
Front Carry		SD	0-10	X					
	Plastic jugs/pails	L	<20			X			
	COD vial, water bottle, blotter paper, anti-fatigue mats, pulp sample containers	M	20-49			X			
	Box of paper bags, DCM pail	H	50-99			X			
		VH	100+	X					
Side Carry		SD	0-10	X					
Right Hand		SD	0-10	X					
	Plastic jugs/pails, sample bags	L	<20				X		
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Left Hand		SD	0-10	X					
	Plastic jugs/pails, sample bags	L	<20				X		
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Pushing (tools/objects)		SD	0-10	X					
Static		SD	0-10	X					
	Operating Lab equipment	L	<20			X			
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Dynamic		SD	0-10	X					
	Operating equipment, sweeping, mopping, pushing supply cart	L	<20				X		
	Pushing pulp sample containers onto shelves	M	20-49				X		
		H	50-99	X					
		VH	100+	X					
Pulling (tools/objects)		SD	0-10	X					
Static		SD	0-10	X					
	Operating Lab equipment	L	<20			X			
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Dynamic		SD	0-10	X					
	Operating equipment, sweeping, mopping, pulling supply cart	L	<20				X		
	Moving anti-fatigue mats, pulling pulp sample containers off shelves	M	20-49				X		
		H	50-99	X					
		VH	100+	X					
Grip Strength/Coordination									
Repetitive Use of Hands		SD	0-10	X					
Bilateral		SD	0-10	X					
	Retrieving/testing pulp samples, computer work	L	<20					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	
		M	20-49	X						
		H	50-99	X						
		VH	100+	X						
		SD	0-10	X						
Dominant Hand		L	<20						X	
	Retrieving/testing pulp samples	M	20-49	X						
		H	50-99	X						
		VH	100+	X						
Non-Dominant Hand		SD	0-10	X						
	Retrieving/testing pulp samples	L	<20				X			
		M	20-49	X						
		H	50-99	X						
		VH	100+	X						
Power Grip Bilateral		SD	0-10	X						
	Mop pail, plastic jugs/pails	L	<20			X				
	COD vial, water bottle, blotter paper, anti-fatigue mats, pulp sample containers	M	20-49			X				
	Box of paper bags, DCM pail	H	50-99			X				
		VH	100+	X						
	Dominant Hand		SD	0-10	X					
		Sample testing water jug/pail, graduated cylinders	L	<20					X	
			M	20-49	X					
			H	50-99	X					
	Non-Dominant Hand		VH	100+	X					
		SD	0-10	X						
Sample testing water jug/pail, graduated cylinders		L	<20				X			
		M	20-49	X						
		H	50-99	X						
		VH	100+	X						
Fine Hand Dexterity Bilateral	Operating Lab equipment and testing/recording samples							X		
	Dominant hand	Operating Lab equipment and testing/recording samples							X	
	Non-Dominant Hand	Operating Lab equipment and testing/recording samples					X			
Manual Handling Bilateral		SD	0-10	X						
	Mop pail, plastic jugs/pails	L	<20				X			
	COD vial, water bottle, blotter paper, anti-fatigue mats, pulp sample containers	M	20-49				X			
	Box of paper bags, DCM pail	H	50-99				X			
		VH	100+	X						
	Dominant hand		SD	0-10	X					
		Mop pail, plastic jugs/pails	L	<20				X		
			M	20-49	X					
			H	50-99	X					
	Non-Dominant Hand		VH	100+	X					
			SD	0-10	X					
		Mop pail, plastic jugs/pails	L	<20			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
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Tool Usage		SD	0-10	X					
Both Hands	Sweeping, mopping, testing samples	L	<20						X
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Dominant hand	Sweeping, mopping, testing samples	SD	0-10	X					
		L	<20				X		
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Non-Dominant Hand	Sweeping, mopping, testing samples	SD	0-10	X					
		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	Testing samples, computer work			X			
Standing	Retrieving/testing samples, clean-up, replenishing samples					X	
Driving (Car and Truck)	N/R	X					
Walking							
Level Surfaces	Retrieving/testing samples, clean-up, replenishing samples					X	
Rough Surfaces	N/R	X					
Slopes	N/R	X					
Climbing							
Stair	Retrieving pulp samples, replenishing supplies				X		
Ladder	N/R	X					
Other (stools/equipment/etc.)	Onto shelves to retrieve samples		X				
Jumping	N/R	X					
Running	N/R	X					
Balancing	N/R	X					
Bending							
Static	Retrieving/testing samples, clean-up, replenishing supplies				X		
Variable	Retrieving/testing samples, clean-up, replenishing supplies					X	
Trunk Rotation							
Static Twisting	Retrieving/testing samples, clean-up, replenishing supplies				X		
Variable Twisting	Retrieving/testing samples, clean-up, replenishing supplies					X	
Crouching Squatting							
Crouching	Retrieving samples, clean-up			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
Repetitive Squatting	Replenishing supplies			X			
Kneeling/Crawling							
Kneeling	Retrieving samples, clean-up			X			
Crawling	N/R	X					
Reaching							
Above Shoulder Level	Retrieving/testing samples			X			
Below Shoulder Level	Retrieving/testing samples, clean-up, replenishing supplies				X		
Neck Postures/Movements	All neck positions required (180°, up, down, side to side)					X	
Throwing	N/R	X					
Foot Action	N/R	X					
Forceful/Jerky Movements	Replenishing supplies		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
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	

Psychosocial Demands:	REQUIREMENTS					
	N/R	S	R	O	F	C
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.	Stretch-regularly used muscles throughout the shift
2.	Neck, back, upper and lower extremity warm-up exercises recommended before undertaking manual handling tasks to reduce the chance of soft tissue injuries
3.	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
4.	Utilize 2-person lifting technique when lifting more than 50 lbs or awkwardly shaped objects to reduce chance of soft tissue strains
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.	Place anti-fatigue matting at workstation areas where prolonged standing is required, or utilize slip-resistant, anti-fatigue boot matting (i.e. ergo-mates) to reduce chance of soft tissue &/or joint injuries to operators' feet, knee, hip and low back regions from prolonged weight bearing on hard floor surfaces
7.	Practice correct ergonomic sitting techniques throughout the shift and take a standing stretch break every 30 minutes to reduce risk of lumbar muscle discomfort from prolonged standing posture

Technical data provided by: Jason Shepherd Physical Therapy