EMPLOYER - PHYSICAL DEMANDS ANALYSIS

Chip Pad Dozer Operator

Job Title:	**Chip Pad Dozer Operator**	**Video Link:**	http://youtu.be/LuTQjXqXzOk (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 maintaining a steady flow of wood chips to the pulp mill. Chip dozer is utilized almost strictly on the chip pad 24/7/365. ➢ Operate Chip Dozer ➢ Feed the pulp mill the required amount of wood chips ➢ Push wood chips onto chip pile ➢ General chip pad clean-up, chip dozer track clean-up ➢ Daily machine walk-around inspection ➢ Communicate with other operators in log yard and pulp mill ➢ Grease moving parts of machine once/4-5 days ➢ Preventative maintenance/machine wash (4-8 hours bi-monthly)
Marginal Job Functions: (may include, but not limited to)	N/R
Equipment used to perform the job: (may include, but not limited to)	➢ Grease gun ➢ Shovel
Recommended Personal Protective Equipment: (may include, but not limited to)	➢ Safety Glasses ➢ Steel Toed Boots
Environmental Conditions:	
Inside/Outside:	Outside 100% - (Inside dozer cab 98% / Walking across chip pad 2%)
Working Temperature:	May involve exposure to hot or cold weather conditions. Work area location is mainly on the chip pad, although the operator is required to perform machine clean-up/maintenance duties during a daily inspection/maintenance window; therefore, although the temperature varies, the operator is generally within the confines of a temperature-regulated cab.
Walking Surfaces :	Outside - Mud, snow, ice, wood chips (terrain may be uneven)
Dust:	Mild
Lighting:	Natural/artificial lighting - may vary with season &/or weather conditions
Vapour/Fumes:	Mild – Diesel fumes from mobile equipment operation
Noise Levels:	>85dBA when outside of dozer cab, *when running*
Vibration:	Mild-Moderate
Moving Objects:	Trucks, moving machine parts
Risks/Hazards: (may include, but not limited to)	➢ Prolonged sitting – inside dozer cab ➢ Slipping, tripping, falling ➢ Pinch and nip ➢ Muscle strains and soreness ➢ Cuts and abrasions ➢ Vehicle roll-over
Size of Work Space:	Adequate
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/A	**Working Alone:**	N/A
Working Independently/In Group:	Required to work on independent activities for the majority of the shift		

The job tasks described in this report & related video footage may vary across companies.

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Work Pace (self/machine directed):	Self Directed – Responsible for meeting pulp mill productivity requirements
Interaction with Others:	Required to work with co-workers and contractors in pulp mill and chip pile
Operation of Equipment: (may include, but not limited to)	Chip dozer

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	N/R	**SD**	**0-10**	**X**					
		L	**<20**	**X**					
		M	**20-49**	**X**					
		H	**50-99**	**X**					
		VH	**100+**	**X**					
Waist Level		**SD**	**0-10**	**X**					
	Pneumatic grease gun, diesel fuel nozzle	**L**	**<20**			**X**			
	Shoveling caked-on mud/snow/ice from dozer tracks	**M**	**20-49**			**X**			
		H	**50-99**	**X**					
		VH	**100+**	**X**					
Waist to Chest		**SD**	**0-10**	**X**					
	Pneumatic grease gun, diesel fuel nozzle	**L**	**<20**			**X**			
	Shoveling caked-on mud/snow/ice from dozer tracks	**M**	**20-49**			**X**			
		H	**50-99**	**X**					
		VH	**100+**	**X**					
Waist to Overhead	N/R	**SD**	**0-10**	**X**					
		L	**<20**	**X**					
		M	**20-49**	**X**					
		H	**50-99**	**X**					
		VH	**100+**	**X**					
Front Carry	N/R	**SD**	**0-10**	**X**					
		L	**<20**	**X**					
		M	**20-49**	**X**					

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		FL	WH	N/R	S	R	O	F	C
		H	50-99	X					
		VH	100+	X					
Side Carry									
Right Hand		SD	0-10	X					
	Hand tools, pneumatic grease gun	L	<20			X			
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Left Hand		SD	0-10	X					
	Hand tools, pneumatic grease gun	L	<20			X			
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Pushing (*tools/objects*)									
Static		SD	0-10	X					
	Holding grease gun to machine grease nipple;	L	<20			X			
	Shoveling caked-on mud/snow/ice from dozer tracks	M	20-49			X			
		H	50-99	X					
		VH	100+	X					
Dynamic		SD	0-10	X					
		L	<20	X					
	Shoveling caked-on mud/snow/ice from dozer tracks	M	20-49			X			
		H	50-99	X					
		VH	100+	X					
Pulling (*tools/objects*)									
Static		SD	0-10	X					
		L	<20	X					
	Shoveling caked-on mud/snow/ice from dozer tracks	M	20-49			X			
		H	50-99	X					
		VH	100+	X					
Dynamic		SD	0-10	X					
	Machine maintenance	L	<20			X			
	Access/egress dozer cab	M	20-49			X			
	Access/egress dozer cab	H	50-99			X			
		VH	100+	X					
Grip Strength/Coordination									
Repetitive Use of Hands									
Bilateral		SD	0-10	X					
	Operating loader controls	L	<20					X	
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Dominant Hand		SD	0-10	X					
	Operating loader controls	L	<20					X	
		M	20-49	X					
		H	50-99	X					

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		FL	WH	N/R	S	R	O	F	C
		VH	100+	X					
Non-Dominant Hand		SD	0-10	X					
	Operating loader controls	L	<20					X	
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Power Grip									
Bilateral		SD	0-10	X					
		L	<20	X					
	Access/egress dozer cab, shoveling caked-on mud/snow/ice from dozer tracks	M	20-49			X			
		H	50-99	X					
		VH	100+	X					
Dominant Hand		SD	0-10	X					
	Machine maintenance duties	L	<20			X			
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Non-Dominant Hand		SD	0-10	X					
	Machine maintenance duties	L	<20			X			
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Fine Hand Dexterity									
Bilateral	Operating loader controls							X	
Dominant hand	Operating loader controls							X	
Non-Dominant Hand	Operating loader controls							X	
Manual Handling									
Bilateral	N/R	SD	0-10	X					
		L	<20	X					
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Dominant hand	N/R	SD	0-10	X					
		L	<20	X					
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Non-Dominant Hand	N/R	SD	0-10	X					
		L	<20	X					
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Tool Usage									
Both Hands		SD	0-10	X					
		L	<20	X					
	Shovelling caked-on mud/snow/ice from dozer tracks	M	20-49			X			
		H	50-99	X					
		VH	100+	X					

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		FL	WH	N/R	S	R	O	F	C
Dominant hand		SD	0-10	X					
	Machine maintenance duties	L	<20			X			
		M	20-49	X					
		H	50-99	X					
		VH	100+	X					
Non-Dominant Hand		SD	0-10	X					
	Machine maintenance duties	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 loader						X
Standing	Machine maintenance/inspection duties, cleaning tracks			X			
Driving (Car and Truck)	Operating equipment						X
Walking							
Level Surfaces	Machine maintenance/inspection duties, cleaning tracks Surfaces may be slippery/uneven due to snow, ice, mud, wood debris			X			
Rough Surfaces	Machine maintenance/inspection duties, cleaning tracks Surfaces may be slippery			X			
Slopes	Machine maintenance/inspection duties, cleaning tracks Surfaces may be slippery/uneven			X			
Climbing							
Stair	N/R	X					
Ladder	Access/egress dozer cab			X			
Other (stools/equipment/etc.)	Access/egress dozer cab			X			
Jumping	N/R	X					
Running	N/R	X					
Balancing	Slippery deck surfaces			X			
Bending							
Static	Operator chair allows for correct ergonomic positioning when seated, although correct ergonomic sitting posture is not possible in certain situations, maintenance/inspection duties			X			
Variable	Operator chair allows for correct ergonomic positioning when seated, although correct ergonomic sitting posture is not possible in certain situations, maintenance/inspection duties				X		
Trunk Rotation							
Static Twisting	Operator chair allows for correct ergonomic positioning when seated, although correct ergonomic sitting posture is not possible in certain situations, maintenance/inspection duties			X			
Variable Twisting	Operator chair allows for correct ergonomic positioning when seated, although correct ergonomic sitting posture is not possible in certain situations, maintenance/inspection duties				X		
Crouching Squatting							
Crouching	Machine maintenance/inspection duties		X				
Repetitive Squatting	Machine maintenance/inspection duties		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
Kneeling/Crawling							
Kneeling	Machine maintenance/inspection duties		X				
Crawling	Machine maintenance/inspection duties		X				
Reaching							
Above Shoulder Level	Machine maintenance/inspection duties, access/egress dozer cab		X				
Below Shoulder Level	Operating loader controls, machine maintenance duties						X
Neck Postures/Movements	All neck positions required (180^0, up, down, side to side)					X	
Throwing	N/R	X					
Foot Action	Foot pedals – driving						X
Forceful/Jerky Movements	**Medium**: Shovelling caked-on mud/snow/ice from dozer tracks		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						
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.	Neck, back, upper and lower extremity warm-up exercises recommended before undertaking manual handling tasks to reduce the chance of soft tissue injuries after prolonged sitting posture
3.	Stretch-regularly used muscles throughout the shift
4.	Utilize vibration-reducing, low back supporting cushions and/or ergonomically designed seating on the mobile equipment to prevent low back injuries from prolonged sitting/driving

Technical data provided by: Jason Shepherd Physical Therapy