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Physical Demands Analysis

Crush Plant Operator

Prepared for:
Alberta Construction Association

Job Title:	Crush Plant Operator	Assessment Location:	Burnco	Data Collection Date:	November 2, 2020
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Completed By:	Ryan Pauls MSc, CEP	Submitted on:	April 6, 2021
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Disclaimer:	The Physical Demands noted in this report may vary depending on company and location. Please contact the company directly to confirm this physical demands analysis is an accurate representation of the specific job title for the specific location.
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Work Schedule:	Shift Duration: 12 hours/day, 5 days/week; may vary Break Schedule: Total of 1 hour break per day Shift Rotation: Not applicable On call is required: No Overtime required: No; but may be available
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Education / Experience:	Education required: No formal education, on job training Hours required for position: NA Tickets that may be required (not limited to): Fall protection, Ground Disturbance, Elevated Work Platform (EWP) machinery use, Confined Space, First Aid, WHMIS, RSTS, Cone Training, RSTS.
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Labour Provider:	
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Job Overview:	As a Crush Plant Operator the worker is required to complete the following tasks:		
	% of shift	Job Task	Task Description
	6-33%	General Machine Inspection/Monitoring	<ul style="list-style-type: none">Inspecting/monitoring equipment as work is being done throughout plant.Equipment includes but is not limited to; conveyer, motors, rollers, gear boxes, checking cone, etc.Notes are kept regarding equipment condition and relayed to service for potential work to be completed.
	6-33%	Maintenance/Service	<ul style="list-style-type: none">Servicing cone – calibration.Checking/changing screens.Cleaning cone head.Servicing worn rollers, conveyer and drive belt, etc, changing bearings.
	34-66%	Cone Liner Change	<ul style="list-style-type: none">New liner must be prepped for install using wire wheel or buffing wheel.

	Every 3 weeks		<ul style="list-style-type: none"> Parts are removed using a crane or excavator and cleaned. Involves removing bolts and using various wrenches/tools. New liner is installed and parts are reassembled. Cone calibration.
	34-66%	General Personnel Monitoring	<ul style="list-style-type: none"> Supporting laborers and other staff in a leadership role. Answering questions and directing work flow. Monitoring staff efficiencies.
	34-66%	Clean-up	<ul style="list-style-type: none"> Completed throughout day and includes raking debris from under conveyer belts either by hand, or using machinery. General site cleanup of tools/machinery, etc.

Equipment/ Tools:	<ul style="list-style-type: none"> Various wrenches Impact Staplers Skid steer Loader Shovel Rake
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Exposures / Environment:	<ul style="list-style-type: none"> Weather (cold, heat) Silica/dust Chemicals Vibration Noise Pinch points
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Personal Protective Equipment Required:	<ul style="list-style-type: none"> Hard hat Steel toed boots Gloves Foam safety eyewear (fectoggle) Safety vest or high visibility stripes Long sleeves and pants Ear protection
Personal Protective Equipment as Required:	<ul style="list-style-type: none"> Faceshield Coveralls Respirator

NOC STRENGTH LEVEL KEY	
Strength Level	Definition
Limited (Lim)	Up to 5 kg (11 pounds)
Light (L)	5 kg to 10 kg (11 – 22 pounds)
Medium (M)	10 kg to 20 kg (22 – 44 pounds)
Heavy (H)	Greater than 20 kg (44 pounds plus)

**Strength Level Key based on the National Occupational Classification*

FREQUENCY KEY		
Frequency	% of Workday	Hours – Based on 8 hour Workday
Not Required (N/R)	0%	0
Rarely (R)	1 – 5%	<25 min/day
Occasionally (O)	6 – 33%	25 min to 2 hours 40 min/day
Frequently (F)	34 – 66%	2 hours 41 min to 5 hours 17 min/day
Constantly (C)	67 – 100%	5 hours 18 min to 8 hours/day

**Frequency Key based on WCB Alberta Recommendations*

Job Demand	Frequency / NOC Strength Level					Details/ Measurements
	N/R	R	O	F	C	
Material Handling:						
Floor to Waist Level Lifting		H		L		Lifting tools, blocks, pallets, chains, etc.
Knee to Waist Level Lifting		H		L		Lifting tools, blocks, pallets, chains, etc.
Waist to Waist Level Lifting			H	L		Screen changes. Various tools.
Waist to Chest Level Lifting		M				Lifting rollers.
Waist to Shoulder Level Lifting		M				Lifting rollers.
Waist to Overhead Level Lifting		H				Belt maintenance.
Front Carry		H		L		Changing loader teeth. Carrying various equipment, rollers, tools, etc.
Right / Left-handed Carry (Dominant Hand)				Lim		Shovels, rakes, tools.
Shoulder Carry				Lim		Shovels, rakes.
Static Pushing/Pulling (Force)	X					

Dynamic Pushing/Pulling (Force)				M		Raking material from under conveyer, pushing conveyer.
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Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Upper Extremity Work:						
Hand Gripping				X		Tools
Pinch Gripping	X					
Upper Extremity Coordination				X		Manipulating tools and equipment.
Reaching Forward			X			For some maintenance tasks as well as raking under conveyer.
Overhead Shoulder Level Reaching		X				For some maintenance tasks such as roller work.
Below Shoulder Level Reaching				X		For some maintenance tasks as well as raking under conveyer.
Throwing	X					

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Positional Work:						
Trunk Flexion (Bending)				X		Raking, shovelling, general maintenance, etc.
Trunk Rotation (Twisting)				X		Shovelling, raking.
Kneeling			X			Raking, maintenance on screens.
Crawling		X				Checking screens.
Crouching		X				Checking screens.
Squatting		X				Checking screens.
Neck Flexion				X		General daily movement requirements.
Neck Extension				X		General daily movement requirements.
Neck Rotation				X		General daily movement requirements.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Static Work:						
Sitting			X			60 min. during breaks.
Static Standing		X				
Balancing		X				Ladders

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Ambulation:						
Walking: Level Surfaces				X		
Walking: Uneven Surfaces			X			

Walking: Slopes	X					
Jumping	X					
Running	X					

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Climbing:						
Stairs		X				Stairs into office, into equipment.
Ladder		X				Climbing ladder to screen.
Other						

PHOTOS OF TASKS AND WORK ENVIRONMENT

Figure 1: Raking debris from under conveyer.



Figure 2: Screens which need to be checked and changed.



Figure 3: Conveyers and rollers which need to be maintained.



Figure 4: Cone head which requires regular maintenance and cleaning.



Physical Demands Analysis
Job Title: Crush Plant Operator
Date Prepared: November 26, 2020
Prepared for: Alberta Construction Association



If you have any questions, and/or would like to discuss this assessment and report further, I can be reached at (780) 429-4761.

Sincerely,

Ryan Pauls MSc, CEP
Clinical Exercise Physiologist

Validation Agreement

Job Title:	Crush Plant Operator
Data Collection Date:	November 2, 2020

We the undersigned have reviewed the Physical Demands Analysis for this position and agree that the physical demands documented in this report are representative of the true demands of the tasks associated with the job title as assessed on the date listed above.

Completed by:	Ryan Pauls MSc, CEP Clinical Exercise Physiologist	Lifemark Clinician Name and Credentials
Approved by:		Management Representative
Approved by:		Worker Representative
Approved by:		Labour Provider Representative