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Physical Demands Analysis

Heavy Equipment Operator

Prepared for:
Alberta Construction Association

Job Title:	Heavy Equipment Operator	Assessment Location:	Edmonton, AB	Data Collection Date:	August 19, 2020
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Completed By:	Joanna Taets Von Amerongen, BKin	Submitted on:	November 11, 2020
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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: 5 days/week, 9 hours/day; may vary depending on volume Break Schedule: Total of 1 hour break per day / 2-15 minute coffee breaks, 1-30 minute lunch break Shift Rotation: Not applicable On call is required: No Overtime required: Yes; depending on volume (longer days/Saturday)
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Education / Experience:	Education required: Not applicable Hours required for position: Not applicable Tickets that may be required (not limited to): Ground Disturbance, First Aid, WHMIS, Construction Safety Training Systems (CSTS) and Basic Safety Orientation (BSO).
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Labour Provider:	N/A
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Job Overview:	As a Heavy Equipment Operator, the worker is required to operate the equipment to assist with demolition of the site.		
	% of shift	Job Task	Task Description
	1%	Field Level Risk Assessment (IFLRA)	<ul style="list-style-type: none">Identifying hazards, exposures, plans for hazards and exposures, personal protective equipment (PPE) required.
	6-8%	Equipment and Safety Check	<ul style="list-style-type: none">Checking equipment to ensure fluids are adequate, controls are working, no mechanical failures or changes in equipment from last shift.Reporting any issues to the shop as necessary.
	93-96%	Operating Equipment	<ul style="list-style-type: none">Operating equipment using various controls to break concrete/asphalt, moving various materials on site, etc.

	2%	Equipment Maintenance	<ul style="list-style-type: none"> Greasing the joints of the equipment (at the end of the shift) and filling fluids, shoveling tracks as required throughout shift.
	5%	Post Shift Check	<ul style="list-style-type: none"> Checking equipment to ensure fluids are adequate, controls are working, no mechanical failures or changes in equipment from last shift. Reporting any issues to the shop as necessary.

Equipment/ Tools:	<ul style="list-style-type: none"> Equipment Grease gun (5 lbs.) Track shovel (4 lbs.) Sledge Hammer (10 lbs.) Hand tools Fluids (up to 12 lbs.) Hose for attachments (35 lbs.)
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Exposures / Environment:	<ul style="list-style-type: none"> Heat/Cold Dust Wind Noise exposure Silica dust
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Personal Protective Equipment Required:	<ul style="list-style-type: none"> Hard hat Steel toed boots Gloves Safety glasses Safety vest or high visibility stripes Long pants
Personal Protective Equipment as Required:	<ul style="list-style-type: none"> Masks worn within 6 feet due to COVID

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		L				Lifting grease gun (5 lbs.) to grease joints, various fluids (up to 12 lbs.).
Knee to Waist Level Lifting		L				Lifting grease gun (5 lbs.) to grease joints, various fluids (up to 12 lbs.).
Waist to Waist Level Lifting		L				Lifting grease gun (5 lbs.) to grease joints, various fluids (up to 12 lbs.).
Waist to Chest Level Lifting		M				Lifting grease gun (5 lbs.) to grease joints, change attachments (35 lbs.).
Waist to Shoulder Level Lifting		L				Lifting various fluids (12 lbs.) to equipment hood as required.
Waist to Overhead Level Lifting		L				Lifting various fluids (12 lbs.) to equipment hood as required.
Front Carry		L				Carrying log book, various fluids (12 lbs.) for equipment.
Right / Left-handed Carry (Dominant Hand)		M				Carrying hose (35 lbs.), log book, grease gun (5 lbs.), various fluids (12 lbs.) for equipment.
Shoulder Carry	X					Not required
Static Pushing/Pulling (Force)	X					Not required
Dynamic Pushing/Pulling (Force)			M		Lim	Pushing/pulling controls in equipment (2.5 lbs.), wrench to take hose off equipment, opening cab door to equipment, pushing equipment hood (41 lbs.) to complete maintenance.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Upper Extremity Work:						
Hand Gripping					X	Entering/exiting cab, gripping the hand controls/levers in equipment, refilling fluids, lifting equipment hood, completing pre/post equipment and safety check.
Pinch Gripping			X			Operating buttons in cab of equipment, during pre/post equipment and safety check.
Upper Extremity Coordination					X	Entering/exiting cab, operating the hand controls/levers in equipment, refilling fluids, lifting equipment hood, completing pre/post equipment and safety check.
Reaching Forward					X	Entering/exiting cab, gripping the hand controls/levers in equipment, refilling fluids, lifting equipment hood, completing pre/post equipment and safety check, lifting windshield open.
Overhead Shoulder Level Reaching		X				During pre/post equipment and safety check, lifting windshield open.
Below Shoulder Level Reaching						Entering/exiting cab, reaching the hand controls/levers in equipment, refilling fluids, lifting equipment hood, completing pre/post shift equipment and safety check.
Throwing	X					Not required

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Positional Work:						
Trunk Flexion (Bending)			X			During equipment and safety checks (pre/post shift), checking attachments, shoveling tracks.
Trunk Rotation (Twisting)			X			Checking surroundings on site, checking attachments, communicating with crew.
Kneeling			X			To grease joints on equipment, during equipment and safety check (pre/post shift).
Crawling		X				Grabbing rebar under belly of equipment
Crouching			X			To grease joints on equipment, during equipment and safety check (pre/post shift), shoveling tracks.
Squatting			X			Shoveling tracks.
Neck Flexion					X	Completing pre/post shift equipment and safety check, checking surroundings on site and blind spots of equipment, looking at work being completed, communicating with crew.

Neck Extension			X			Completing pre/post shift equipment and safety check, checking surroundings on site and blind spots of equipment.
Neck Rotation				X		Completing pre/post shift equipment and safety check, checking surroundings on site and blind spots of equipment, communicating with crew.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Static Work:						
Sitting					X	While operating equipment.
Static Standing			X			During pre/post shift equipment and safety check, communicating with crew outside of equipment.
Balancing			X			On site, during pre/post shift equipment and safety check, entering and exiting cab of equipment.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Ambulation:						
Walking: Level Surfaces			X			During pre/post equipment and safety check, communicating with crew and reviewing progress on site.
Walking: Uneven Surfaces		X				During pre/post equipment and safety check, and reviewing progress on site (dependent on site).
Walking: Slopes		X				Dependent on site.
Jumping	X					Not required
Running	X					Not required

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Climbing:						
Stairs	X					Not required
Ladder	X					Not required
Other			X			Entering and exiting cab of equipment, accessing equipment hood to fill fluids and complete maintenance as required.

PHOTOS OF TASKS AND WORK ENVIRONMENT

Figure 1: Worker operating equipment.



Figure 2: Front view of equipment cab.



Figure 3: Worker operating equipment to move around site.



Figure 4: Worker greasing joints on attachment.



Figure 5: Worker accessing equipment hood.



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,

Joanna Taets Von Amerongen, BKin
Kinesiologist

SPECIFIC JOB DEMAND ADDITIONS:

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Site Specific Job Demand:						
Vibration				X		While operating equipment on site.
Wrist Flexion/Extension					X	Operating controls on equipment.
Foot Flexion/Extension			X			While operating equipment's foot pedals.

Validation Agreement

Job Title:	Heavy Equipment Operator
Data Collection Date:	August 19, 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:	Joanna Taets Von Amerongen, BKin	Lifemark Clinician Name
Approved by:	Corinne Visser, HSE Advisor	Management Representative
Approved by:		Worker Representative
Approved by:		Labour Provider Representative