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Physical Demands Analysis

Asphalt Plant Worker

Prepared for:
Alberta Construction Association

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|-------------------|----------------------|-----------------------------|------------------------------|------------------------------|---------------|
| Job Title: | Asphalt Plant Worker | Assessment Location: | Spyhill Plant Calgary, AB | Data Collection Date: | July 22, 2020 |
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| Completed By: | Joanna Taets Von Amerongen, BKin | Submitted on: | October 13, 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: 6 days/week, 10 hours/day Break Schedule: Total of 1 hour break per day / 2-15 minute breaks with 1-30 minute lunch break. Shift Rotation: N/A On call is required: Yes Overtime required: Yes; dependant on volume and plant activity. |
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| Education / Experience: | Education required: Not applicable Hours required for position: Not applicable Tickets that may be required (not limited to): Confined Space Entry and Monitor, Arial Work Platform, Fall Protection End-User, RSTS with WHMIS 2015 |
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| Labour Provider: | N/A |
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| Job Overview: | As an Asphalt Plant Worker, the worker is required to complete daily checks on equipment and machines, lubricate and clean various equipment and machinery, clean around the plant to ensure minimal hazards, complete repairs as required. | | |
| | % of shift | Job Task | Task Description |
| | 2% | Supervisor Check In | • Communicate with supervisor regarding plans for the day, any specific tasks that are required to be completed. |
| | 2% | Individual Field Level Risk Assessment (IFLRA) | • Identifying hazards, exposures, plans for hazards and exposures, personal protective equipment (PPE) required. |
| | 5% | Visual Checks | • Complete visual check of site to see what else is required for the day. |
| | 5% | Daily Lubrication Checks | • Checking various equipment on site and ensure lubricated adequately including: exhaust fan, asphalt pump, thrust rollers, oil drive chain on drum, etc. |

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| | 91% | Various Cleaning/Maintenance | <ul style="list-style-type: none"> Completing various cleaning and maintenance tasks listed on the Asphalt Plant Daily Maintenance Checklist (see below for pictures). |
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| Equipment/ Tools: | <ul style="list-style-type: none"> Shovels (5 lbs.) Brooms (5 lbs.) Scrapers (4 lbs.) Wheelbarrow Various hand tools (wrenches) |
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| Exposures / Environment: | <ul style="list-style-type: none"> Asphalt fumes Welding fumes Oil fumes Heat Wind Cold |
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| Personal Protective Equipment Required: | <ul style="list-style-type: none"> Hard hat Steel toed boots Gloves Foam safety eyewear (spoggle) Hearing protection Safety vest or high visibility stripes Coveralls |
| 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 | | | *Up to 50 lbs. | | | Lifting debris from site, wooden planks, sheets of steel, various pieces for equipment/repairs, oils, lubricants, fluids, etc. for maintenance of equipment/machines. |
| Knee to Waist Level Lifting | | | *Up to 50 lbs. | | | Lifting wheelbarrow with debris from site, wooden planks, sheets of steel, various pieces for equipment/repairs, oils, lubricants, fluids, etc. for maintenance of equipment/machines. |
| Waist to Waist Level Lifting | | | *Up to 50 lbs. | | | Lifting wooden planks, sheets of steel, various pieces for equipment/repairs, oils, lubricants, fluids, etc. for maintenance of equipment/machines. |
| Waist to Chest Level Lifting | | | *Up to 50 lbs. | | | Lifting wooden planks, sheets of steel, various pieces for equipment/repairs, oils, lubricants, fluids, etc. for maintenance of equipment/machines. |
| Waist to Shoulder Level Lifting | | | *Up to 50 lbs. | | | Lifting wooden planks, sheets of steel, various pieces for equipment/repairs, oils, lubricants, fluids, etc. for maintenance of equipment/machines. |
| Waist to Overhead Level Lifting | | | *Up to 50 lbs. | | | Lifting wheelbarrow to empty debris onto ground, wooden planks, sheets of steel, various pieces for equipment/repairs, oils, lubricants, fluids, etc. for maintenance of equipment/machines. |
| Front Carry | | | *Up to 50 lbs. | | | Carrying wooden planks, sheets of steel, racks, various pieces for equipment, etc. |
| Right / Left-handed Carry (Dominant Hand) | | | *Up to 50 lbs. | Up to 15 lbs. | | Carrying shovel, broom, oil jugs, grease gun, various pieces for equipment, etc. |
| Shoulder Carry | | | | | | Not required |

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| Static Pushing/Pulling (Force) | | Heavy NOC Level | | | | Adjusting windshield washer jug. |
| Dynamic Pushing/Pulling (Force) | | | | Heavy NOC Level | | Scraping asphalt tar, sweeping/shovelling debris, pushing/pulling various levers on equipment, pushing wheelbarrow with debris, cleaning equipment with broom, shovel, scrape as required. |

*Anything greater than 50 lbs., it is recommended the worker use assistive equipment or use a 2 person lifting method.

| Job Demand | Frequency | | | | | Details/Measurements |
|----------------------------------|-----------|---|---|---|---|---|
| | N/R | R | O | F | C | |
| Upper Extremity Work: | | | | | | |
| Hand Gripping | | | | | X | Gripping locks and levers on site, various equipment, shovelling, sweeping, scraping, lubricating and filling fluids, gripping wooden planks, sheets of steel, shelving, windshield washer jugs, etc. |
| Pinch Gripping | | X | | | | Attaching/detaching chains, using radio with coworkers. |
| Upper Extremity Coordination | | | | | X | Manipulating locks and levers on site, various equipment, shovelling, sweeping, scraping, various cleaning, lubricating and filling fluids, lifting/adjusting wooden planks, sheets of steel, shelving, windshield washer jugs, etc. |
| Reaching Forward | | | | X | | Manipulating locks and levers on site, various equipment, shovelling, sweeping, scraping, various cleaning, lubricating and filling fluids, lifting/adjusting wooden planks, sheets of steel, shelving, windshield washer jugs, etc. |
| Overhead Shoulder Level Reaching | | | X | | | Completing daily check on higher level equipment, cleaning and maintaining (filling fluids/lubricating) higher level equipment (e.g. gravity lift). |
| Below Shoulder Level Reaching | | | | X | | Reaching various equipment components, shovelling, sweeping, scraping, various cleaning at or below shoulder height, lubricating and filling fluids, lifting/adjusting wooden planks, sheets of steel, shelving, windshield washer jugs, etc. |
| Throwing | | X | | | | Moving debris onto machine or in wheelbarrow with shovel. |

| Job Demand | Frequency | | | | | Details/Measurements |
|---------------------------|-----------|---|---|---|---|--|
| | N/R | R | O | F | C | |
| Positional Work: | | | | | | |
| Trunk Flexion (Bending) | | | | X | | Cleaning various equipment and pieces of machinery, during shovelling, sweeping and scraping tasks for lower level surfaces, checking and maintaining fluids/lubricants. |
| Trunk Rotation (Twisting) | | | X | | | Accessing confined spaces on plant site, cleaning and maintaining tighter areas of equipment/machinery, placing debris in wheelbarrow. |
| Kneeling | | | X | | | Completing daily check of machinery and equipment, accessing lower level spaces on plant site, cleaning and maintaining lower and more confined areas of equipment/machinery. |
| Crawling | | X | | | | Accessing underneath equipment. |
| Crouching | | | X | | | Completing daily check of machinery and equipment, accessing lower level spaces on plant site, cleaning and maintaining lower and more confined areas of equipment/machinery. |
| Squatting | X | | | | | Not required |
| Neck Flexion | | | | X | | Checking surroundings on plant site, completing daily check of machinery and equipment, viewing lower level machinery and equipment, while cleaning equipment and machinery, removing debris, filling fluids and lubricating, etc. |
| Neck Extension | | | X | | | Checking higher level surroundings on plant site, completing daily check of higher level machinery and equipment, viewing higher level machinery and equipment, while cleaning higher level equipment and machinery, removing debris, filling fluids and lubricating, etc. |
| Neck Rotation | | | X | | | Checking surroundings on plant site, while travelling across the plant, communicating with coworkers, viewing work in confined spaces where the body cannot easily access, etc. |

| Job Demand | Frequency | | | | | Details/Measurements |
|--------------|-----------|---|---|---|---|---|
| | N/R | R | O | F | C | |
| Static Work: | | | | | | |
| Sitting | | X | | | | During breaks, while driving waste truck. |

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| Static Standing | | | | X | | IFLRA, site review with supervisor, cleaning or completing maintenance on equipment and machinery, documenting on checklists what has been completed, communicating with coworkers on status of plant. |
| Balancing | | | X | | | On equipment and machinery, various steps in plant that access high parts of equipment and machinery. |

| Job Demand | Frequency | | | | | Details/Measurements |
|--------------------------|-----------|---|---|---|---|-----------------------------------|
| | N/R | R | O | F | C | |
| Ambulation: | | | | | | |
| Walking: Level Surfaces | | | | | X | Throughout the plant site. |
| Walking: Uneven Surfaces | | X | | | | Unloading wheelbarrow, on gravel. |
| Walking: Slopes | X | | | | | Not required |
| Jumping | X | | | | | Not required |
| Running | X | | | | | Not required |

| Job Demand | Frequency | | | | | Details/Measurements |
|------------|-----------|---|---|---|---|---|
| | N/R | R | O | F | C | |
| Climbing: | | | | | | |
| Stairs | | X | | | | Climbing stairs to access higher level parts of equipment and machinery. |
| Ladder | | X | | | | Climbing ladders to access higher level parts of equipment and machinery. |
| Other | | X | | | | Climbing onto equipment and machinery to access components. |

PHOTOS OF TASKS AND WORK ENVIRONMENT

Figure 1: Scraping asphalt tar from equipment to prevent build up.



Figure 2: Cleaning debris from underneath equipment.



Figure 3: Cleaning underneath equipment in a side laying position.

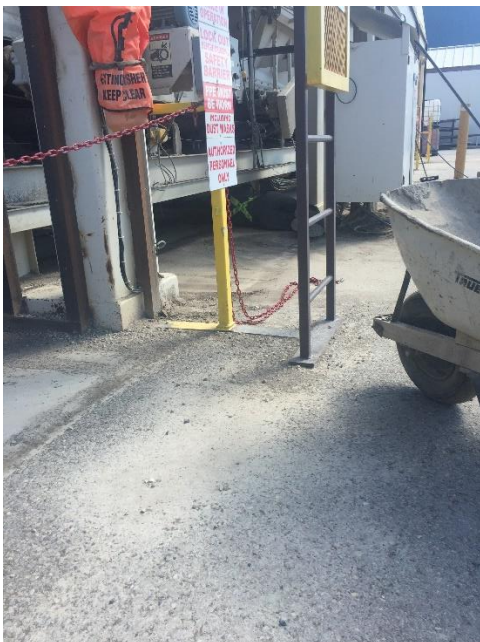


Figure 4: Forward bending with trunk rotation to access confined space of equipment.



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

Physical Demands Analysis
Job Title: Asphalt Plant Worker
Date Prepared: August 18, 2020
Prepared for: Alberta Construction Association



Sincerely,

Joanna Taets Von Amerongen, BKin
Kinesiologist

SITE SPECIFIC JOB DEMAND ADDITIONS:

| Job Demand | Frequency | | | | | Details/Measurements |
|---------------------------|-----------|---|---|---|---|----------------------|
| | N/R | R | O | F | C | |
| Site Specific Job Demand: | | | | | | |
| Writing | | X | | | | Filling out IFLRA. |

Validation Agreement

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|------------------------------|----------------------|
| Job Title: | Asphalt Plant Worker |
| Data Collection Date: | July 22, 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.

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| Completed by: | Joanna Taets Von Amerongen, BKin | Lifemark Clinician Name |
| Approved by: | Matt Cooper, Paul Parson | Management Representative |
| Approved by: | | Worker Representative |
| Approved by: | | Labour Provider Representative |