

ACTIVITY HAZARDS ANALYSIS

Print Form

Overall Risk Assessment Code (RAC)
(Use highest code)

M

Date: Project:

Activity: Backhoe Operation

Activity Location:

Prepared By:

Risk Assessment Code Matrix

E = Extremely High Risk
H = High Risk
M = Moderate Risk
L = Low Risk

		Probability				
		Frequent	Likely	Occasional	Seldom	Unlikely
Severity	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L

Add Identified Hazards

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Backhoe Inspection (Outside Cab)	Loss of control, equipment malfunction. Running someone over. Caught in moving parts. Equipment malfunction or damage. Fire hazards, burns, splashed fluids, high pressured fluids. Equipment failure, uncorrected hazards. Slips, trips, and falls.	Examine: Tires and wheels for lug nuts, cracked wheels, cuts, tire pressure. If equipped with tracks, check tracks for tightness and rollers, idlers, and sprockets for damage. Clear area around backhoe of people and/or obstructions. Ensure all bolts, guards, covers, and mechanical components of backhoe are in place. Check engine compartment for dirt, debris, oily rags, tools, and leaks. Grasp engine covers firmly when removing. Avoid overreaching and get help if needed. Check all fluid levels and wear proper PPE i.e. safety goggles and gloves. Hydraulic oil, coolant, air leaks, rubbing lines, cracks, or loose fittings. Make sure fire extinguisher is secured in place and fully charged. Check machine for any damage, hydraulic cylinders and hoses for leaks and/or damage. Ladders, steps, and handholds for broken rungs, loose bolts, breaks, cracks, or missing parts. Report and repair any damages if possible. Do not use machine if safety defects are not corrected.	L

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	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Backhoe Inspection (Inside Cab)	Slips, falling while climbing up or down, clothing caught on control levers or other projections. struck by flying objects, jammed controls, control failure in an accident, poor visibility. Personal injury, missing or inoperative fire extinguisher. Equipment failure or rolling out of control. Thrown out of cab or against cab interior.	Wear snug fitting clothing and keep steps, mounting ladders, and shoes free from mud, dirt, snow, ice, grease, and oil. On track mounted backhoe, make sure cab is positioned correctly for mounting and walkways around engine and hydraulic enclosures are free from debris and slipping or stumbling hazards. Make sure grab rails or hand holds are provided and in good condition. Keep both hands free for climbing. Use hand holds and select firm footing. Avoid haste and projections. Inspect cab for housekeeping (extraneous materials) and damage. Make sure windows and mirrors are clean and in good repair. Check fire extinguisher if located at cab. Make sure starting fluid is not stored inside cab. Check seat belts to be sure they are in good condition. Always wear them when operating equipment. Check all instruments, gauges, and controls before starting engine to ensure they are not stuck or malfunctioning. All controls should be in neutral position and the parking brake set	L
X	Start Backhoe	Operating with safety or mechanical defects, struck by moving parts, or backing over person. Engine or auxiliary equipment malfunction. Poor visibility. Loss of control.	Check equipment for warning or out of service tags. Sound horn before starting or moving machine. Check backup alarm after starting. Be sure all persons and objects are clear before starting or moving. After starting engine, idle until normal operating temperature is reached and check gauges and warning lights again for normal readings. Check engine for smooth idle and unusual smoke or noise. Check lights and wipers. Check brakes (including swing brake) and steering. Don't operate machine with uncorrected safety defects.	L

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	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Backhoe Operation	Personal injury, falling hazard. Overturning and/or collision. Loss of control. Bystanders may not consider the swing radius at the rear of larger machines. Tipping and/or overturning. Fall of material, overturning machine. Electrocution. Property damage, fire or explosion, electrocution. Dropping material on hauler operator or bystanders, damaging hauler, excessive spillage. Backing over person. Cable damage, shock or burns. Loss of control. Loss of control, machine damage.	Allow no one to ride outside the cab for any reason. No one should ride with the operator unless safe seating is provided. Never use basket or other attachment as a staging platform for workers. Always keep machine under control. Use prudent operating speeds consistent with conditions. Never attempt to operate backhoe from outside operator's compartment. Be sure all persons and obstacles are clear before swinging or moving machine in any direction. Always have adequate clearance before swinging machine. Avoid fast swings, hoists, or sudden braking. Be sure of the working range and always lifting capacity of the machine. Move loads carefully. Be alert for trenches, open cuts, sump holes, coal rib, clearances, grades, etc. Keep machine as level as possible when operating. Observe highwall, pit, and/or travel conditions. Stay away from edge of banks, pits, and highwalls. Stay clear of overhangs and slide areas. Never undercut the machine. Know traffic patterns of the job location and obey flaggers, road signals, and signs. Always check for overhead power lines and be sure you have adequate clearance if working near overhead lines. Keep boom at least 10 feet from any energized power line. High voltages may dictate distances up to 35 feet. Learn beforehand as much about your work area as possible. Be sure of the location of gas lines, sewers, utility lines, buried cables or lines. Don't load a hauler until the driver is in a safe place. Load the hauler from the rear or side. Load hauler evenly to avoid overloading rear axles and causing spillage. Don't drop material into truck bed from unnecessary heights. Never swing bucket over hauler cab or workers. Never back up until you have checked to see that area is clear of personnel and/or obstructions. Use caution when working on, or crossing, sidehills, ridges, ditches, slopes, etc. Cross at an angle and at reduced speed. Except for short distances, position boom in direction of travel. Always face the direction of travel. Don't cross power and/or trailing cables unless suitable crossovers or cross-under are provided, or the cable is properly trenched. Always set swing brake and/or lock boom when traveling to or from a job site. Always always keep your machine under control and in safe operating condition.	M
X	Parking	Collision, personal injury, traffic obstruction. Struck by equipment. Struck by machine, material, or attachment. Run over or struck by machine. Engine damage. Trips, slips and falls, clothing caught on controls or projections. Hazards due to lack of communication.	Always park in designated parking area if provided or select a safe parking area. Don't park on haul roads or active work areas. If you must park in an emergency, pick the safest place and use warning signals, flares, or barriers. If necessary, to park on an incline, block against motion and/or turn toward embankment. Never leave the operators. cab with the engine running or with a load or bucket suspended. Place all controls in parking position. Set swing lock or brake and parking or traction brake or lock to prevent machine movement. Idle engine a short period before shutting down. Dismount machine. Pay attention to travel ways. Always inform appropriate personnel of any abnormal conditions, defects, changes made in machine and/or job procedure or condition.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Refueling	Collision, runaway equipment, traffic obstruction. Slips, trips and falls, clothing caught. Fuel on skin or in eyes. Fire or explosion hazard. Slips, trips, falls. Fuel spillage or discharge, fire hazard.	If refueling, park at fuel station and follow parking procedure (See Job Procedures 5. A-G). If necessary, to mount backhoe to refuel, use ladder, steps, rails, or hand holds (See Job Procedures 2. A-B). Wear safety glasses. Remove fuel cap slowly. Avoid fuel spillage at refueling station and on hot engine parts. Do not smoke at or near the refueling station. Keep refueling area free from extraneous material. Always replace fuel cap on backhoe and return fuel hose and nozzle to the rack.	L

Add Items			
	EQUIPMENT	TRAINING	INSPECTION
X	Backhoe	Backhoe Safety and Operation Training	Mechanical Inspection
X	Ear Protection		

Involved Personnel:

Acceptance Authority (digital signature):