Thompson: Tailings Operations Procedure

1. Tailings Operations Procedure

1.1 Tailings Operations Procedure



1.2 Purpose

Purpose

To establish a tailings orientation for new employees, visitors, and contractors. This tailings-specific orientation is intended to complement the Surface Orientation.

Potential Hazards

		Erg	one	omic / MSD Tox	Toxicological				Environmental	
E	н	M	1 L	Risk for Injury	E	н	M	L	Risk for Injury	
			X	Awkward / Sustained Postures				X	Chemicals – General	
			X	Forceful Exertions				X	Chemicals – Acids	
			X	Repetitive Motions				X	Chemicals – Bases	
			X	Vibration				X	Chemicals - Gases : H2S	
			X	Skin Compression				X	Chemicals – Gases : CL2	
			X	Sharp Points / Edges				X	Chemicals – Gases : SO2	
		7	X	Pinch Points				X	Chemicals - Gases : Other	
			X	Material Falling				X	Biological Pathogens	
			X	Surfaces causing falls				X	Electrical	
			X	Working at Heights		X			Extreme Heat:	
			X	Moving machinery		X			Extreme Cold:	
		1	X	Noise				X	Combustibles / Flammables	
		X		Other: Driving on Narrow Roads / Variable Road Conditions						

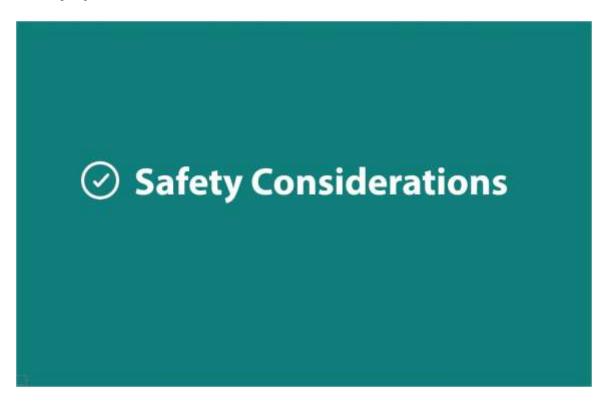
1.3 Definitions



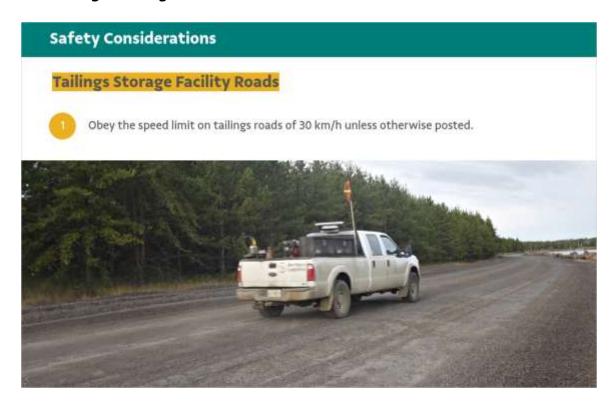
1.4 References



1.5 Safety Considerations



1.6 Tailings Management Area Roads



1.7 Tailings Management Area Roads



1.8 Tailings Management Area Roads

Safety Considerations



Always take care and watch roads for signs of subsidence (severe cracks, furrows, sink holes, etc).

- a. Many of the tailings roads are built over previously deposited tailings. Mine waste overburden is transported by truck out to the tailings area and piled on top of the tailings to create a drivable road surface on which the tailings pipeline can lay. There is always a risk that the tailings material can settle once the fill is placed over it and road subsidence can occur over short periods of time.
- b. If subsidence is noted, reverse off the road to land and contact the Mill Shift Supervisor for an assessment. If required, a hazard alert will be issued, and barricades placed until repairs can be performed.



1.9 Tailings Management Area Roads

Watch for sharp angles of large waste rocks on roads that could puncture tires or damage vehicles. Drive with caution and stay alert for road hazards such as wildlife, washed out roads, potholes, heavy equipment, and snow cover. Road conditions change from time to time and from season to season. In winter, Vale's transportation group is mandated to maintain access around the basin. However, storms can roll in and severe wind can cause drifting. Continued assessment of safe road passage is required for all work. Where there is doubt regarding passibility of roads, do not proceed. Do not drive through flooded roads due to high water levels or beaver activity as the stability of the road may be compromised by the water.

1.10 Tailings Management Area Roads

Safety Considerations

- Be careful when driving on snow- and ice-covered roads. When driving on narrow one lane roads, try to keep to the center of road way to avoid slipping off road. Along select sections of roadways, there are orange colored delineators to indicate the edge of the road.
- Always stay in sight or out of range of machinery working in tailings area.
- When crossing the railway crossing north of Railway Dam, look both ways at the stop sign to ensure that a train is not approaching.



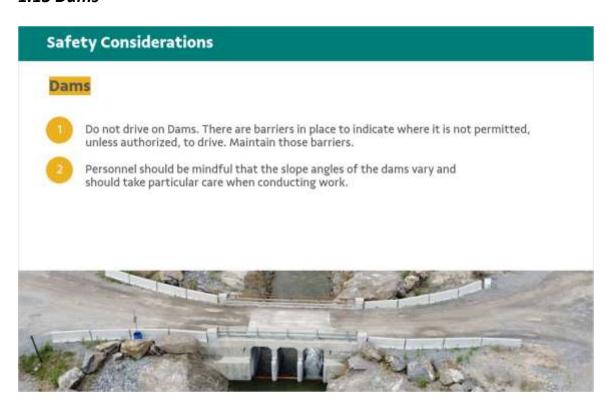
1.11 Noise



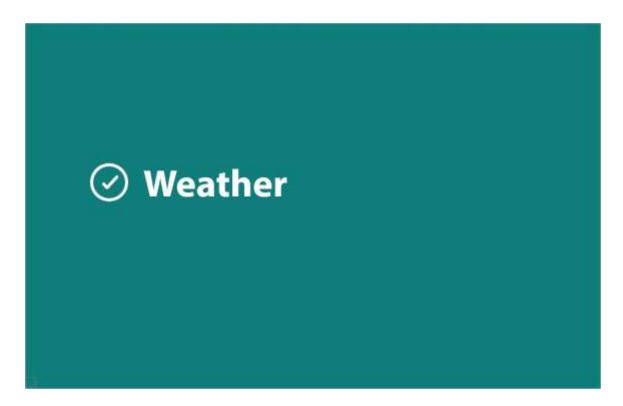
1.12 Weather



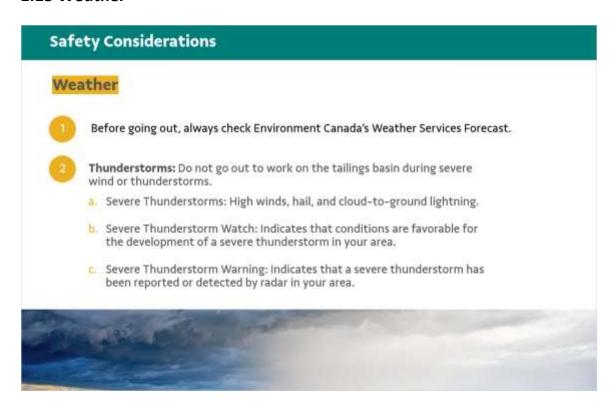
1.13 Dams



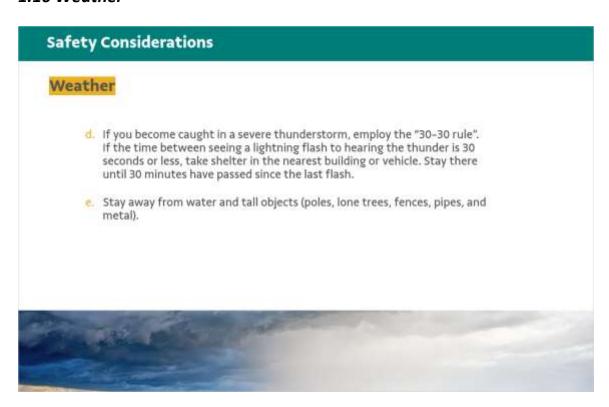
1.14 Weather



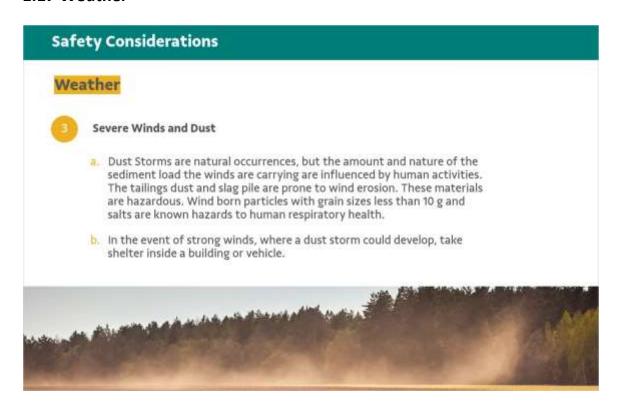
1.15 Weather



1.16 Weather



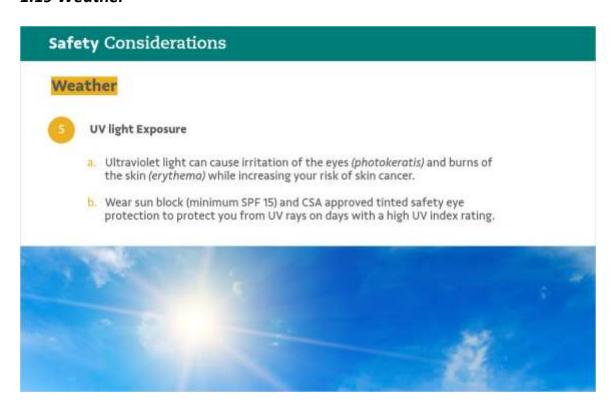
1.17 Weather



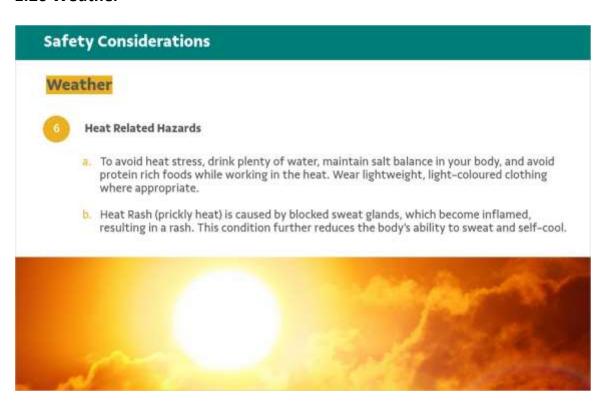
1.18 Weather



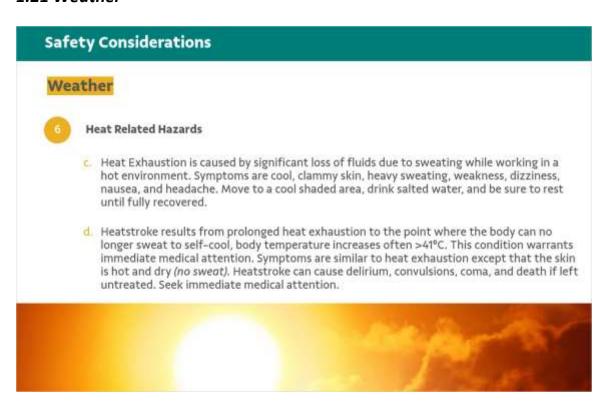
1.19 Weather



1.20 Weather



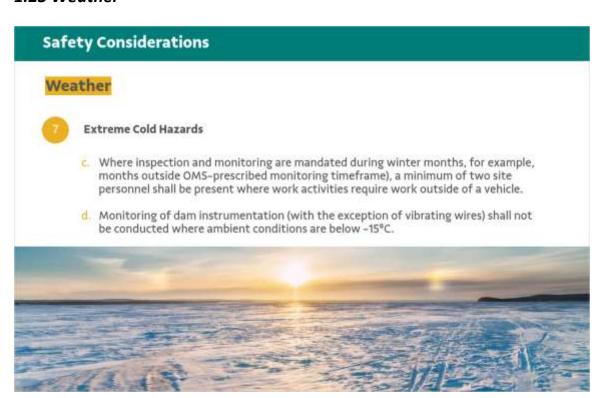
1.21 Weather



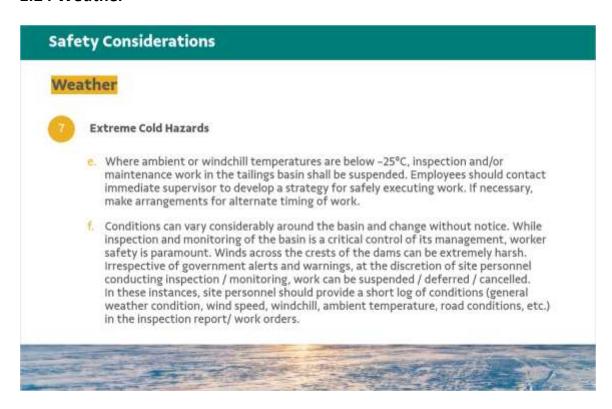
1.22 Safety Considerations



1.23 Weather



1.24 Weather



1.25 Wild Life



1.26 Wild Life

Safety Considerations

Wildlife



Large wildlife: wolves, coyotes, moose, or bears

- Sound the horn when arriving to areas where there is no one else present to help ward off any wildlife that may be in the area.
- Scan area for large wildlife before exiting vehicle and continue to watch for them when outside of vehicle.
- c. If any large wildlife is sighted, retreat slowly to the truck and wait until it leaves the area.



1.27 Wildlife

Safety Considerations

Wildlife



Large wildlife: wolves, coyotes, moose, or bears

- Report any bear sightings to the Environmental Coordinator and the Tailings Coordinator (or designate).
- e) If repeated bear sightings are noted, a hazard alert will be issued.



1.28 Wildlife

Safety Considerations

Wildlife



Insects: Mosquitoes, black flies, and horse flies

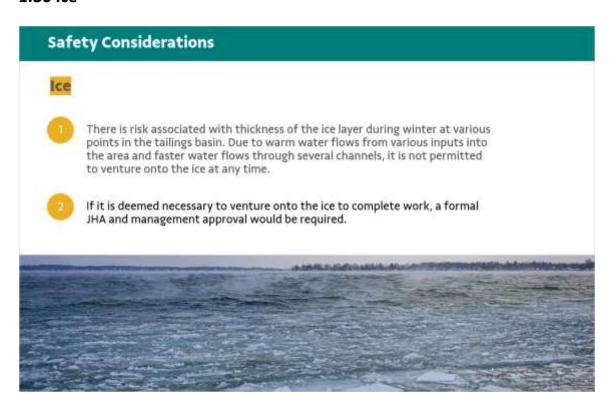
- Wear bug repellent in the summer.
- b. Both black fly and mosquito bites can cause allergic reactions. Report possible reaction symptoms such as unusual swelling of the bite sites and/or dizziness to First Aid.



1.29 Ice, Water and Deposited Tailings



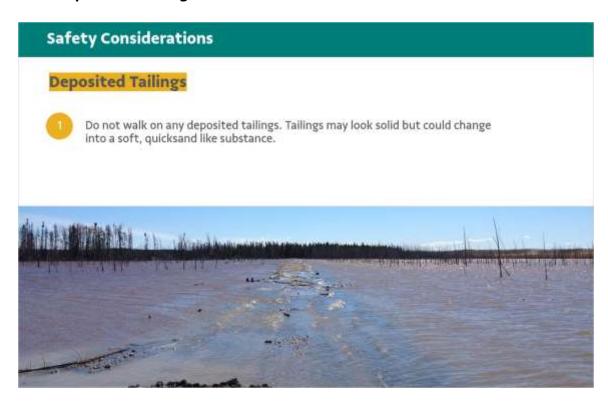
1.30 Ice



1.31 *Water*

Safety Considerations Water Be aware of the many waterways in the tailings basin. Some areas have fast moving or deep water. Wear a life jacket when working by open water. If it is necessary to enter the water, always wear a life jacket and always have a spotter on shore.

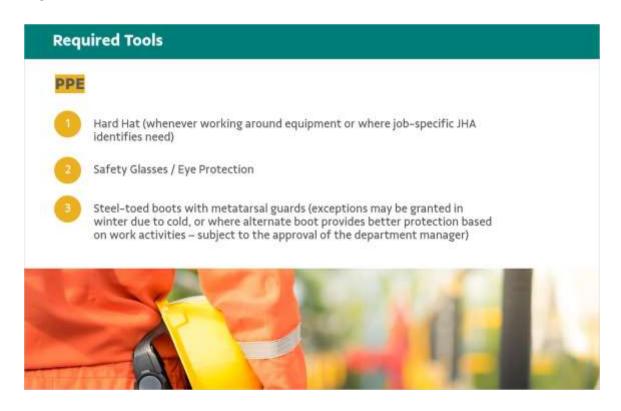
1.32 Deposited Tailings



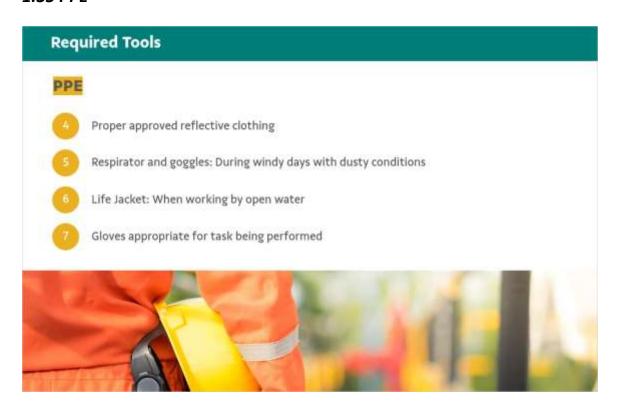
1.33 Plant Entry/Exit and Emergency Procedure



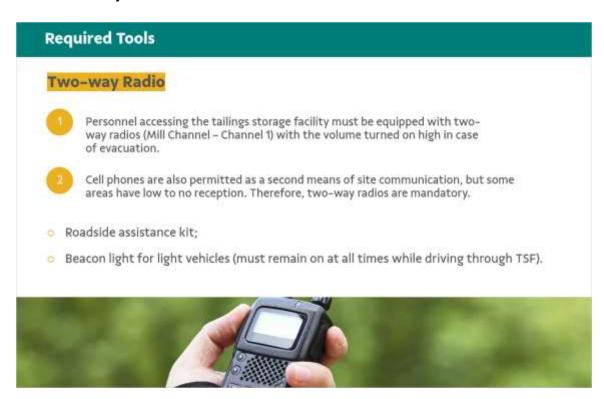
1.34 PPE



1.35 PPE



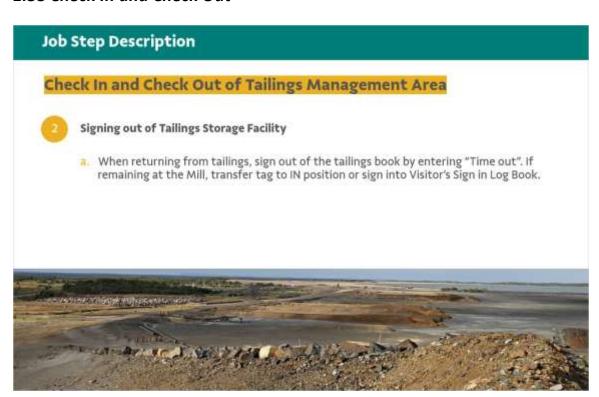
1.36 Two-way Radio



1.37 Check In and Check Out

Check In and Check Out of Tailings Storage Facility Signing into Tailings Storage Facility a. Sign the Mill Tailings Visitor's Log book located at the concentrator shift office. (Door 2) I. Enter Date, Name, Company (enter cell phone number if carrying one), Time In, and Area/person visited. b. Personnel, working alone at the tailings management area, will comply with their departments working alone policy or SPI 34–49.

1.38 Check In and Check Out



1.39 Plant wide Level II Alarm

Plant wide Level II Alarm In the event of a plant wide emergency the Mill Operations Supervisor will identify people working in the Tailings area using the Tailings Area log book and will be contacted via radio / cell phone. All personnel working in the tailings area will monitor radio and phones and await further instruction.