

Learning together



Hello, welcome to this Site and Mine Haul Road Driver Awareness module for Voisey's Bay Operations. In this module, we will focus on the basic requirements for Light Vehicle Operators to follow to be safe and effective when operating their vehicles on site.

You must obtain a minimum score of 70% on the quiz to complete the module.

Please note: Some terms or terminology contained within this module may have been changed to reflect Vale's Diversity & Inclusion program and our commitment to valuing our diverse workforce and promoting an environment of respect and equal opportunities.

Revision Date: October 2024

	Welcome
=	Introduction and Objectives
=	General Vehicle Safety
	Haul Road Access Permit

=	Special Permissions and Restricted Areas
=	Hexagon Collision Avoidance system
=	Module Summary
?	Quiz
=	Conclusion

## Welcome

If you require a refresher on how to navigate online courses, click on the video link below. Otherwise, you can continue with the course.



00:14

Upon completion of each section of this module, you will be given an opportunity to submit questions to obtain clarification of any content you are not sure of.

You will also be required to complete a brief survey designed to support continual improvement to your Vale learning experience.

#### Got a Question?

Submit your question here using Valeforms, be sure to include your first name last name and contact information.

CLICK HERE!

# **Introduction and Objectives**



Introduction

Light vehicles are used daily on our property on area roads and on mine haulage roads and the Airstrip area. It is essential for vehicle operators to be aware of and follow the site procedures and rules that pertain to vehicle operation and traffic management.



Module Objectives

# Module Objectives

# After completing this module, you will be able to:

- Describe general vehicle safety requirements for light vehicles
- Describe the Mine Haul Road Driver's responsibilities and related rules to be permitted to drive a light vehicle on mine haulage roads
- Outline Special Permission Areas & Restricted Areas and the actions that must be taken to operate safely within them
- Describe the Hexagon Collision Avoidance System

### Desired Learning Outcomes

00:45

#### Desired Outcomes

With the support of the knowledge provided in this module and the related workplace actions that are implemented in conjunction with it, the following benefits will be realized:

• Elimination of unnecessary incidents involving light vehicles and other traffic or pedestrians on the property

 Continuation of our journey to "Zero Harm" to people, property and the environment

i Important Note: The content of this module is intended to lay some groundwork for safe and effective conduct for Light Vehicle Operators driving on the property. It is intended to be used in conjunction with other workplace measures, including traffic plans, designated travel routes, defined hazard zones, and coordination and involvement of other workplace personnel.

For more details on safe conduct refer to procedure PGS-005521, Mobile Equipment, Light Vehicle and Traffic Patterns.



PGS-005521 - 01 - PGS-005521\_R1 - Voisey's Bay - SW - Mobile Equipment, Light Vehicle and Traffic Patterns (SOP-SW34 & VNL-LABR-0000-72-PGS-0005).pdf



### Got a Question?

Submit your question here using Valeforms. Be sure to include your first name last name and contact information.

**CLICK HERE!** 

# **General Vehicle Safety**



Objectives

# Learning Objectives

### By the end of this section, you will be able to:

- Describe the various means and actions to take to ensure light vehicle safe operation
- List the responsibilities the Light Vehicle Operator has, to be in compliance with site Driving Permit requirements



Introduction

# Light Vehicle Operation-An Integral Part of our Business

Light vehicle operation is an integral part of our business, both leading and supporting many of the work activities that drive success.

However, most critical and catastrophic incidents (fatalities) within Vale are related to mobile equipment and light vehicle operation.

Thus, effectively managing the inherent risks of continual interaction between mobile equipment, light vehicles and the people working in and around them, is essential to attaining the goal of Zero Harm.

As a light vehicle operator, you have a key role to play in supporting this critical goal.

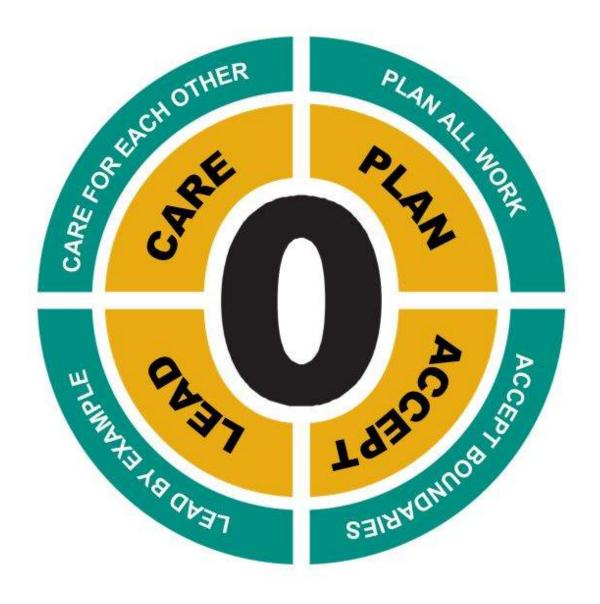


Zero Harm Advocate

# The Light Vehicle Operator-An Advocate for Zero Harm

A properly qualified and authorized Light Vehicle Operator will understand their role and the workplace rules and standards that need to be understood and followed for their actions to be effective. These conditions are the boundaries within which they may work. These boundaries provide a systematic way to approach the job and workplace with discipline and confidence.

This approach aligns with our **HomeSafe Distinctive Actions** in **Caring** for **each other** and the **workplace**, **Planning** the job with **safety front and centre**, advocating for us to both **expect** and **Accept Boundaries**, and **Leading by Example**.



HomeSafe Distinctive Actions

00:21

Golden Rules

### Golden Rules

The actions of the Light Vehicle Operator are also in direct alignment with our third **Golden Rule** of "**Mobile Equipment and Light Vehicles**", reinforcing the necessity of "**adhering to site pedestrian and vehicle traffic rules**".





 Never work under the influence of alcohol, drugs and substances that reduce fitness for work.



 Never perform work at height (≥1.8m) without proper training, authorization, and always use a safety harness secured to an appropriate anchor point.



Never operate motor vehicles or mobile equipment without proper training, authorization and safety devices. Respect the traffic plan.



4. Never perform maintenance or interventions on installations or equipment without confirming that all sources of energy have been blocked, identified and tested to be in a state of "zero energy".



Never place yourself under a suspended load or enter an isolated area. Only use certified lifting devices.



Never work in a confined space alone, without training, authorization, an entry permit and appropriate PPE.



Never enter into production areas, tailings areas, electrical rooms/ substations or any other restricted areas without authorization.



Never use improvised or faulty tools, machines, or equipment to execute work.



Never perform any work without understanding the risks and comply with all required controls.



10. Never use cell phones or any other device that can cause loss of focus in non-authorized operational areas, stairs and while crossing streets.



Note: We will review detailed Light Vehicle Operator responsibilities and actions as we progress through the module.

If you are ever in doubt about your role, don't hesitate to ask your supervisor!



Complete the content above before moving on.



00:09

Permits and Training

# **Permits and Training**

Permits and training are required for operating a light vehicle on site. Click on the flash cards below to learn more about the requirements for both a General Site Permit and Mine Haul Road Permit.

General Site Driver's Permit

- Driver's License
   verification (Provincial
   Class 5 or Site-Specific
   Class 5 Equivalency
   Driver License)
- Site Driver's Theory Light Vehicle
- Written test

Mine Haul Road Driver's Permit (mine access)

- General Site Driver's permit
- Site Driver's Theory –
   Mine Haul Road Permit
- Written test
- Practical Training
- Driver's Competency

aide off for Mina Hour



 Your supervisor is to submit the Voisey's Bay Permit Application Form(s).

- Additional training is required for underground vehicles such as Toyota personnel carriers.
- · All drivers must review the Site Traffic Plan



00:32

General Traffic Rules



Emergency Vehicle

### General Site-Wide Traffic Rules

These are general rules that apply when driving anywhere on site:

- The right-of-way is given to ambulances, fire trucks and other rescue vehicles when they are displaying flashing red lights.
- Respect all roadblocks or guards.
- All wildlife has right of way.
- · No distracted driving.
- No idling of vehicles unless specified by supervisor.
- Report all spills, regardless of size to your supervisor.



Safety Note: The minimum distance to be maintained when following behind any emergency vehicles when they are displaying flashing red lights is 150 meters.



### **Distracted Driving**

Distracted driving is a **dangerous behaviour** that can lead to **major incidents**. Distracted driving refers to the act of engaging in any activity that **diverts the driver's attention from the task of driving**. This can include texting, talking on the phone, eating or drinking, adjusting the radio or GPS, or even daydreaming.

It is important for all drivers to **remain focused on the road and avoid any distractions**that could compromise their safety. It only takes a split second of distraction to cause a

devastating crash, making it crucial that drivers stay attentive and alert while behind the wheel.

# THE THREE TYPES OF DISTRACTED DRIVING AND HOW TO AVOID THEM



Keep your eyes on the road.

Pull over to read directions.

Put your phone in "Do Not Disturb" mode.





Keep your phone out of reach.

Make all adjustments before driving.

Don't reach for items while driving.



Avoid phone calls, even hands-free.

Stay focused on the road.

Keep your emotions in check.

Infograph Credit: dmv.org

Distracted Driving Essentials



Complete the content above before moving on.



Responsibilities

# While operating a light vehicle under a General Site Permit, as an operator you have the following responsibilities:

Click on the check boxes as we review the list

To adhere to all traffic regulations as stipulated in the Traffic Management Plan (Note: All drivers must review the Site Traffic Plan prior to operating any vehicle on site)
Report unsafe conditions regarding roads, equipment and traffic
If you are uncomfortable with driving conditions, stop and contact your supervisor
You are required to complete a vehicle Pre-Op before operating any vehicle

# Signage

Another important basic rule is to Follow All Posted Road Signage like these ones.

(Click each image for an enlarged view)









Complete the content above before moving on.



00:10

Prior to Operation

Before operating a light vehicle anywhere on site, it is essential to conduct the following activities to ensure your vehicle is ready for use and the site conditions are acceptable.

Let's begin with the vehicle walk around.





## Take Control - Walk 360

Before you sit in the driver's seat it is essential that you complete a 360 walk around of your vehicle.

### Be sure of your surroundings and integrity of your vehicle.

Conduct a 360 walk around of your vehicle or equipment to identify hazards that may be in the area, and defects that may affect the safe operation of your vehicle.

A 360 walk around is a <b>mandatory safe driving routine</b> , conducted at all times, each a	nd
every day, by everyone operating light vehicles.	
	00:06
360 Interaction	
Let's now look at a typical 360 walk around and some	

of the items that are checked.

Click Here to Begin



360 Reminder

Remember, your 360 walk around is not only a vehicle inspection but also a worksite inspection! Be sure to check the area around your vehicle for any hazards that may be present.



Pre-Operation Inspection

### Pre-Operation Inspection

Completion of a **Pre-Operational Check** is mandatory before driving or operating a light vehicle onsite.

A Pre-Operational check is required on a light vehicle before first use each shift.

Any **deficiencies found** on a light vehicle shall be **reported** to your **Supervisor immediately**.

Completed inspection checklists must be submitted daily to your Supervisor.

Part of your Pre-Operational inspection also includes ensuring that there are **approved equipment breakdown warning devices on board**. (cones, triangles etc.)



### PRE-OPERATIONAL EQUIPMENT CHECKLIST

### **PICKUP TRUCK**

DATE:	TIME:	SHIFT:
QUIPMENT:	OPERATOR:	
		ING (if applicable):
o/No Go applies to only che "NO GO" - Do Not Operat "GO" - Safe To Operate Needs Attention - Include	e Contact Supervisor	
WALK AROUND (Ground	d Level)	Check box if OK
Headlights, Lights		Check Ground Under Truck (Leaks)
Windows		Mast and Flags
Mirrors		Strobe Lights
*Tires and Wheel	Nuts*	Damage Damage
*Wipers*		☐ Block Heater Cable/Plug
CAB CHECKS		
Check for Lock out	Tags	*2 way radio*
Engage Park Brake	MET-0-76-24	*First Aid Kit*
*Check Horn Oper		Brake Test
*Check Seat Bealt	s* <u> </u>	*Back-up Alarm*
82-26 1/32 X50 65 55	100 St (1005017240)	Once Engine is Started Check
Check Indicator an		Pressure Gauges and Temperatures
*Fire Extinguisher	•	☐ Fuel Level ☐ Diesel Exhaust Fluid Level
UNDERHOOD CHECKS		
V-belt	4	Engine Oil Level
Transmission Fluid	Level	Power Steering Fluid
Coolant Level		Windsheild Washer Fluid Level
eling Time:		Amount of Fuel: (Liters)
mments:		
AC.		
Pre-Op Checklist		



### "No Go" Rules

In addition to the pre-operational inspection, if any of the following systems are not operational or do not pass the inspection, the equipment must not be used, and the supervisor notified.

Click each checkbox as we review the list.

Service Brakes (air systems, slack adjusters, fluid levels etc.)

	Parking Brakes	
	Steering System (including fluid level)	
	Lights (headlights, beacon lights, signal lights and taillights)	
	Lug nuts, rims & tires	
	Back-up alarm	
	Mirrors	
	Horn	
	Fire protection	
	Seatbelts (Only seats with working seatbelts may have occupants)	
	First Aid Kit (must be present and stocked)	
	Two Way Radio	
	Windshield Wipers (must be in good condition and washer fluid topped up)	
<b>&gt;</b> •	c	00:35
Notes		

### Important Notes:

All light vehicles:

- Must be equipped with clearly visible equipment numbers on the rear and sides of the equipment
- Must be fitted with a working revolving light and "buggy whip" and running lights and beacons shall be switched on whenever the vehicle is in operation
- Carry approved warning devices (e.g. reflective triangles) in the event of a breakdown
- Must have the Hexagon Collision Avoidance
   System installed and functional (more details on this system later in the module)
- Ensure fire extinguishers are securely mounted

A Reminder on Fire Extinguishers





# If pin is in the up position as shown the extinguisher needs to be replaced.

Fire Extinguisher Indicator Pin

### CONTINUE

And now a note on light vehicle housekeeping.

00:29

Housekeeping



### Light Vehicle Housekeeping

The following items are key to maintaining light vehicles in proper operating condition:

- Keys are to be left in vehicles at all times
- Never store objects in the driver's foot space because during heavy braking or turning these items can move and reduce your ability to use the foot pedals
- No loose objects on the dashboard or center console
- No Smoking allowed in or around any vehicle
- Use the cup holders designed for travel mugs
- Do not leave any food (even unopened) in a vehicle

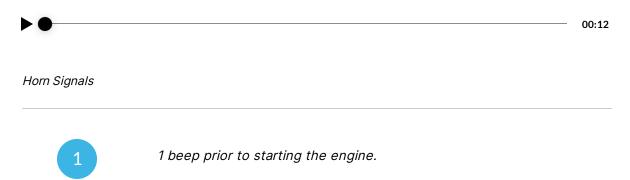




Complete the content above before moving on.

## Prior to Moving Light Vehicles

Horn signals are required before initial movement of equipment or light vehicles:



- 2 beeps for forward movement.
- 3 beeps for reversing.

# Fueling to Go

In order to move your vehicle, you may need to refuel. Review the interaction below to learn more about safe refueling.

# **Safe Refueling**



To refuel light vehicles, proceed to the fuel station and follow these instructions.



When approaching the filling station you will find a PIN pad. Enter the correct PIN number for either Projects or Operations depending upon which group you are working under. (You will find the PIN numbers written near the PIN Pad)

00:05



Use this interface to select Pump #1 or #2. When pump is chosen select -OK



Return nozzle to proper location after fueling and pump will automatically shut off.



In the event of an emergency, you can use the emergency stop button to stop the fuel flow.



SatStat Fuel Station

# Temporary (Portable) Fuel Stations

Portable filling stations are commonly used in mining operations to provide a **safe and efficient**way to refuel heavy machinery and equipment. These stations are designed to be **easily**transported and can be **set up quickly** at remote mining sites, making them an essential tool for mining companies.

# Why Use Portable Fuel Stations

One of the primary reasons why portable filling stations are used is **to improve safety**. By having a designated area to refuel machinery, the risk of spills and incidents is greatly reduced. These stations are also equipped with safety features such as **fire suppression systems and spill containment mechanisms**, which further enhance their safety benefits.

Another reason why portable filling stations are used in mining is to increase productivity. Heavy machinery and equipment require a significant amount of fuel, and having a reliable source of fuel readily available can help to minimize downtime and keep operations running smoothly.



SatStat Procedure

Let's now look at the steps to use a SatStat Fuel Station. Scroll down to view the sequence of steps.

# Step 1

Always ensure to wear site standard PPE, park the vehicle, ensure park brake is activated and shut off the engine.



# Step 2

Install wheel chocks and spill tray and remove diesel fuel tank cap.



Step 3

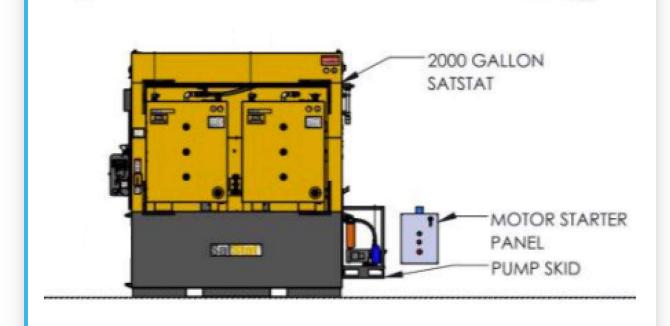
Run out hose and place nozzle in diesel fuel tank.





# Step 4

Turn on the pump by pressing the start button on the pump starter panel.



# Step 5

When finished refueling, press the stop button on the pump starter panel and return hose and nozzle to the appropriate placement.



# Step 6

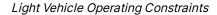
Remove spill tray and re-install fuel cap before leaving the area.



 $\Box$ 

Complete the content above before moving on.

Now that we have reviewed some of the preparatory steps to operating a light vehicle, let's have a look at some of the factors to consider when operating it.



One of the key considerations when operating a light vehicle on site is being able to see and be seen by other equipment. One factor to consider is vehicle blind spots.

All vehicles have some limitations in visibility to the operator, some more than others.

For a light vehicle (pick-up truck) there are some common limits based on the position of the driver and the size of the vehicle.

Let's look at this in more detail.

# Reminder of Blind Spots on Light Vehicles



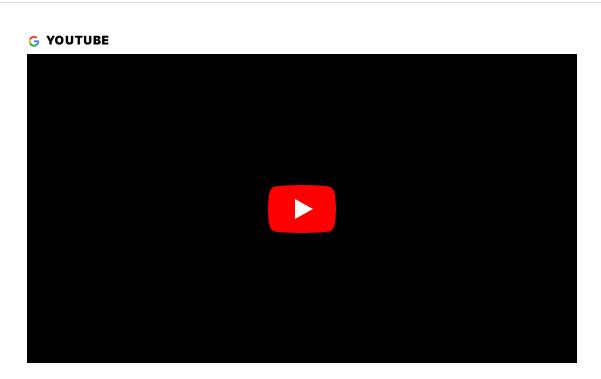
Anything hiding in this area?



Could be...

While light vehicles have some limited blind spots, heavy equipment often has a much larger area of obstructed view. Let's look at a few examples of near misses involving light vehicles and haulage equipment.

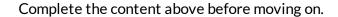
Click play on the video below.



# **Blind Spots**

"Blind Spots" examines the impact of day to day behaviors in the workplace, with a particular focus on "complacency". Through a series of interview with Teck employees from Coal Mountain and Elkview coal sites, this video explores two stories that demonstrate the importance of awareness, and its tenuous relationship with complacency and our personal "blind spots".

#### **VIEW ON YOUTUBE >**





Now that we have seen some of the operating risks associated with light and heavy vehicles, let's look at some of the controls in place to help us all get HomeSafe.

<b>&gt;</b> •	00:09
Controls	
Click each tab to learn more.	

## **Speed Limits**

You must follow the speed limit. Here are some speed limit rules. The maximum speed limits are as follows:

- **20 km/h** around the Camp (all site buildings and accommodations)
- 30 km/h everywhere within the Mine Haul Roads except for the road to the Head Water Pond Dump which is 40 km/h
- 40 km/h on the road wrapping around the camp on the north/east side
- 60 km/h on the Port Road

Security personnel monitor the site for speeding and other traffic actions.

The acceptable speed of travel will depend on road, traffic and weather conditions.



## **Speeding Infractions**

Speeding infractions will be investigated and could result in discipline, up to and possibly including termination of employment.



## Parking Light Vehicles on Site

• Reverse vehicles into the designated parking areas; remember to sound horn three times.

- When parking vehicles side-by-side, ensure there is **enough room between vehicles** for personnel to enter and exit each vehicle safely
- Park so either vehicle can leave / return at any time without posing a danger to other personnel and vehicles
- If parking near a large vehicle, the light vehicle must be parked within view of the large vehicle's cab
- Do not park within 20 m of parked and unoccupied mining equipment. If there is an operator in the large vehicle, then positive radio communication must be made before parking



Reverse vehicles into the designated parking areas



Complete the content above before moving on.

# If you are involved in an incident, you need to know what to do.

Let's look at the reporting protocol and the use of radios for communications.

00:33

Incident Response

# Reenactment of incident between haul truck and pickup truck



Haul Truck proceeded through stop sign while pickup truck was in its blind spot.

Incident

# Incident Response

If you are involved in an incident or near miss, take these steps:

- Assess the scene and determine if it is safe to conduct an initial response,
  - Ensure no potential for further harm to people, the environment, and or property,
- Determine if injuries have occurred and if first aid or medical treatment is required,
- **Determine if emergency response is required** and initiate if necessary. Contact supervisors.
- **Secure the scene** to preserve evidence and standby if required to render assistance or provide additional information.



# Radio Operations

Here are a few considerations when working with radios. Click on each tab to learn more.

It is important to **know the radio channel** for the area you are working in.

Signs are posted where there are particular areas that require all equipment to be on a specific channel. Where safe to do so, channel switching should be done while the equipment or vehicle is parked.

Becoming familiar with these channel numbers reduces distracted driving. Be concise and clear and use the radio only when necessary for work-related communication.

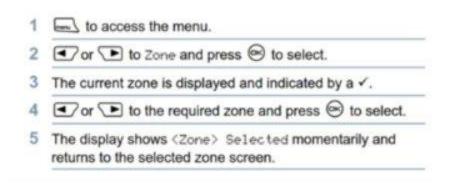
**Note**: Sonim phones will not work everywhere on site and a **regular VHF radio is required** for surface travel communication.

(An example of channels is shown below-**Note:** these zones and channels are subject to change over time)

Zone 1	Zone 2	Zone 3	
1 - Emergency	1 - Emergency	1 - Emergency	
2 – ERT Private	2 – Work 2 (VBME warehouse)	2 - Work 17 (Master Drilling)	
3 - Security	3 - Security	3 - Work 18 (VBME Permit Office)	
4 - SH&E	4 – Work 4 (Reid Brook)	4 - Work 19 (Commissioning Test1)	
5 - Mine	5 - Mine	5 - Work 20 (Commissioning Test2)	
6 - Site Services	6 - Work 6 (Eastern Deeps)	6 - Work 21 (Portable Crusher)	
7 - Mill	7 - Work 7 (VBME TSI)	7 - Work 22 (Unaan CC0050)	
8 - Exploration	8 - Work 8 (Emish)	8 - Work 23 (CC0050 reserved)	
9 - Warehouse	9 - Work 9	9 - Work 24 (CC0050 reserved)	
10 - Mill Maintenance	10 - Work 10 (Grey Rock)	10 - Work 25 (Foraco)	
11 – Not Available	11 - Work11 (Headwater Pond)	11 - Work 26 (Grey Rock Port Blasting)	
12 - TSI	12 - TSI	12 – Work 27	
13 - Mine Maintenance	13 - Work 13 (Liannu)	13 - Work 28	
14 - Port	14 - Work 14 (Grey Rock)	14 - Work 29 (VBME Commissioning)	
15 - Capital Projects	15 - Work 15 (Ship Loader Ops)	15 - Work 30 (Surface IPT)	
16 – Not Available	16 – Not Available	16 – Not Available	

A zone is a group of channels. Your radio supports up to **250 zones** with a maximum of **16 channels** per zone.

To use it, press the programmed zone button and proceed to step 3, OR you can follow the procedure shown below.



USE THE CORRECT CHANNEL

SELECTING A ZONE

SELECTING A RADIO CHANNEL

Selecting a radio channel, subscriber ID or Group ID.

Once the required zone is displayed, turn the programmed channel selector knob to select the channel.





#### Notes:

- Some older type radios may exist familiarize yourself with the model in your possession.
- It is a good idea to practice using the radio on various channels prior to driving your vehicle.



Complete the content above before moving on.

Let's now focus on some of the other general safety rules to follow when operating light vehicles on site.

Click on each tab below to learn more.

#### **Passing Slow Moving Vehicles and Equipment**

When you encounter slower moving vehicles or heavy equipment on the road, it's important to take caution and pass them safely.

Here are some steps to ensure a safe passing:

- 1. **Slow down**: Reduce your speed and give yourself enough time to assess the situation and plan your next move.
- 2. **Check the road ahead**: Look out for any obstacles or other vehicles that may be obstructing your path.
- 3. **Signal**: Use your turn signal to indicate your intention to pass the slower moving vehicle or equipment.
- 4. **Check for clearance**: Make sure there's enough space to pass safely. Check for oncoming traffic and ensure that there's no vehicle in your blind spot.
- 5. **Pass with care**: Move into the passing lane, accelerate gradually, and pass the slower moving vehicle or equipment smoothly. Do not swerve or make sudden movements.
- 6. **Return to your lane**: Once you've passed the slower moving vehicle or equipment, signal and move back into your lane with enough clearance.

#### Remember to:

- Always be patient and cautious when passing slower moving heavy equipment. Keep a safe distance, maintain a steady speed, and avoid any sudden movements that may cause an incident
- Respect the speed limit. If you need to speed in order to overtake, then the vehicle you are passing is not slow moving.

#### Important Notes:

Permission to overtake must be via positive radio communication. Hand signals or marker lights cannot be used to give permission to overtake!

Only request permission to pass in a safe location. Passing on blind hills, turns, or at intersections should be avoided. Only pass where it is permitted.

When passing multiple slow-moving vehicles in a line, you must obtain permission from each vehicle in line separately, using asset # (not name).

Warning: Passing haul trucks is strictly prohibited.



### Right of Way and Signs

As mentioned earlier, the right-of-way is given to **ambulances**, **fire trucks** and other **rescue vehicles** when they are displaying **flashing red lights**.

**Reminder:** The minimum safe following distance behind emergency equipment is **150 meters** when their lights are flashing.

#### Outside the mine haul road:

Surface and Underground Haul Trucks **must stop at stop signs** and obey all other posted traffic signage.

#### On the mine haul road:

Surface and Underground Haul Trucks do not stop at stop signs\* and may proceed through them. You, as a light vehicle driver, must give them the right of way.

\*Note: Underground Haul Trucks leaving the Reid Brook Portal Road must stop at the intersection between the portal road and the main haul road.



Sign only in the Open Pit

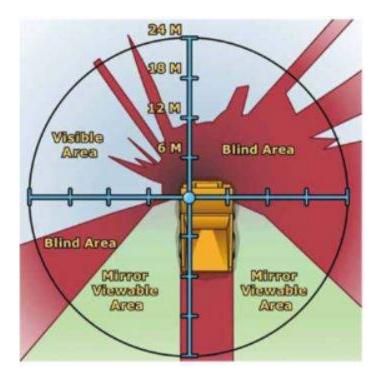


Reid Brook Portal Road and mine haul road intersection

## **Before Approaching Operating Equipment**

**Before approaching** any operating equipment, as the driver of the light vehicle, you **must do the following**:

- Make **positive radio contact** and receive confirmation from the operator.
- Obtain **permission from the operator by positive radio communication before** entering the **50-meter working radius** of the equipment.
- Ensure (visually confirm) the Operator of the heavy equipment has placed all operating equipment attachments on the ground.
- If approaching on foot eye contact must be made in addition to positive radio contact.
- Once clear of the operating area, advise the heavy equipment operator you are clear.



## **Heavy Equipment 50 Meter Working Radius**

Heavy equipment needs a large working radius as shown in the images below.

#### 50 Meter working radius, Safe limits of approach

#### Light Vehicle Operator Responsibilities:

**Before approaching** within **50 meters** of "operating equipment" except where there is physical separation such as a berm or ditch and there is no potential for inadvertent contact (i.e -swing path, equipment backing onto road, etc), all light vehicle operators **must Stop and make positive radio contact with the mobile equipment operator**.

The light vehicle operator must obtain verbal permission from the heavy equipment operator before entering the 50-meter working radius, and visually ensure all operating equipment **raised** attachment(s) are to the ground and it is safe to proceed.

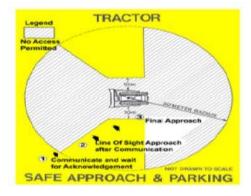
#### Heavy Equipment Operator Responsibilities:

The Operator of the heavy equipment must:

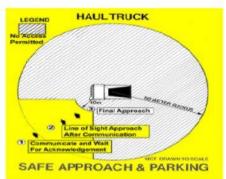
- Verbally acknowledge presence of approaching equipment via two-way radio.
- Park in a safe location.
- Lower all raised attachments to the ground.

- Engage the Parking Brake.
- Give verbal permission to approach via two-way radio.

**Note:** In addition to making radio contact, if a pedestrian needs to approach the equipment the heavy equipment operator must make eye contact with the pedestrian before giving permission to approach. The pedestrian must also give radio confirmation when clear of the working radius.









#### **Equipment Breakdown**

In the event of light vehicle or equipment breakdown within a work area or on a roadway:

- Attempt to park away from the roadway in a low-traffic area, or on the shoulder of the road if that is not possible.
- Switch on the **4-way flashers**.
- Place approved warning devices (pylons, cones or reflective triangles).
- If on the shoulder of a roadway, devices should be placed 10 meters behind and in front of the equipment.



Note: As mentioned previously, there are special rules that apply for driving on haulage roads that restrict passing of haulage trucks. We will cover this in the next section.

Let's now look at a few examples of approaching heavy equipment.

## Approaching Heavy Equipment

#### **EXAMPLE 1**

#### EXAMPLE 2

Excavators are working within the **50-Meter working radius** of the Mine Haul Road at locations 1 & 2. However, the working area is **separated by a berm or ditch** and the **swing path cannot reach** onto the roadway. There is no potential for contact with traffic on the Haul Road.

In this case, positive radio contact is not required prior to driving a light vehicle past these work areas on the Mine Haul Road.



EXAMPLE 1 EXAMPLE 2

A Loader or Excavator is fixing a berm on GPS Hill within the **50 Meter radius of other vehicles** or equipment on the roadway. The Loader or Excavator has the **potential to back onto the road quickly** and the **swing path of its implement is onto the haul road**.

In this case, positive two-way radio communication is required between the equipment operators prior to passing the work area.



Complete the content above before moving on.

Now that you understand some of the basics about general vehicle safety and safe practices, let's see what you remember.



you have t	rating a light vehicle under a General Site Permit, as an operator the following responsibilities: that apply)
	To adhere to all traffic regulations as stipulated by the Traffic Plan.
	Report all spills regardless of the size (fuel, oil antifreeze, etc.).
	Report unsafe conditions regarding roads, equipment and traffic.
	Act as a signaler for heavy equipment.

	Stop and contact your supervisor if you are uncomfortable with driving conditions.
	SUBMIT
What is a	360?
	e correct response)
	A walk-around the vehicle or equipment to identify hazards that may be in the area.
	A mandatory safe driving routine.
	Conducted at all times, each and every day, by everyone.
$\bigcirc$	All of the above.
	SUBMIT

	te for Zero Harr standards.	n by understand	ling and follo	wing workplace
$\bigcirc$	True			
$\bigcirc$	False			
		SUBMIT		

Make positive radio contact and wait for

(Select the correct response)

	acknowledgement from the heavy equipment operator.
$\bigcirc$	Approach as long as you can see the operator.
$\bigcirc$	Do not approach within 150 meters unless authorized by the operator.
$\bigcirc$	All of the above
	SUBMIT
When mus	st a pre-operation inspection be completed?
	e correct response)

At the beginning of each shift.

Sometime during the shift.

Prior to first use every shift.

	Not required.
	SUBMIT
True or Fa	
If the pin is it is ready	s in the up position on the top of a fire extinguisher, it means that
————	TOT USE.
$\bigcirc$	True
$\bigcirc$	False
	SUBMIT
True or Fa	lse:

True			
False			
	SUBM	MIT	

Unlike hea spots.	vy equipment, ligh	nt vehicles do	n't have any	significant blin
	True			
$\bigcirc$	False			

If you are involved in a traffic incident, you need to know how to respond. Sort the cards below into either the correct or incorrect response piles.

**Correct Response** 

Assess the scene and determine if it is safe to conduct an initial response

Determine if injuries have occurred and if first aid/medical help is needed

Ensure no potential for further harm to people, the environment, and or property

Determine if emergency response is required and initiate if necessary

Secure the scene to preserve evidence

**Contact supervision** 

**Incorrect Response** 

Leave the scene immediately to find help

If the damage is minor don't bother reporting it

Traffic incidents don't require any supervisor notification

If you are involved in a near miss you don't need to report it

When passing slow moving heavy equipment what should you do? (Select all that apply)

Slow down

Check the road ahead

	Signal your intent to pass	
	Pass with care	
	SUBMIT	
True or Fa	se: age road area, haulage trucks have the right of way.	
	age road area, haulage trucks have the right of way.	
	age road area, haulage trucks have the right of way.  True	

uipment for light vehicles? elect the correct response)		
	Within 75 meters of the equipment	
	Within 25 meters of the equipment	
	Within 100 meters of the equipment	
$\bigcirc$	Within 50 meters of the equipment	
	SUBMIT	

Which vehicles operating on site have the "right of way" at intersections and when vehicles are in proximity?

(Select the correct response)

Emergency vehicles responding to an emergency.
Heavy haulers.
Wheeled mining and support equipment.
There is no ranking of right of way.
SUBMIT

## CONTINUE

#### Got a Question?

Submit your question here using Valeforms, be sure to include your first name last name and contact information.

**CLICK HERE** 

## **Haul Road Access Permit**



# Learning Objectives

# By the end of this section, you will be able to:

- Describe the roles and responsibilities of the Light Vehicle Driver to ensure safe and effective light vehicle operation.
- Describe the traffic rules that apply to vehicle operations in the Haul Road Area.



## Introduction

When operating light vehicles in open pit mines, it's essential to be aware of the potential hazards that exist. These hazards can include loose gravel or rocks that can cause loss of control or damage to the vehicle. Additionally, steep inclines and declines can be dangerous, particularly if the driver is not experienced or the vehicle is not properly equipped for the terrain.



## Open Pit Hazards

Other hazards include blind corners, which can be especially dangerous if a larger vehicle or piece of equipment is coming in the opposite direction. Drivers must also be aware of potential collisions with larger equipment and be prepared to **yield the right of way** when necessary.

It's crucial for light vehicle operators to **stay alert and focused**, and to adhere to all **safety protocols and procedures**. This includes wearing appropriate safety gear, such as hard hats and seat belts, and following speed limits and traffic patterns.

By staying aware of the potential hazards and taking the necessary precautions, operators can safely navigate open pit mines and **avoid incidents** that could result in **injury or damage** to equipment.



Operating a Light Vehicle in an Open Pit



Remember your personal safety – Your effectiveness in role starts with looking out for yourself. Be sure you know your surroundings and are aware of other activities in the area!



Complete the content above before moving on.



00:17

Operator Responsibilities

# Light Vehicle Operator Responsibilities

Your responsibilities operating a light vehicle in the Haul Road Area are no different than under a General Site Permit. (The items listed below)

- To adhere to all traffic regulations as stipulated by the Traffic Plan.
- Report unsafe conditions regarding roads, equipment and traffic.
- If you are uncomfortable with driving conditions, stop and contact your supervisor.
- Report all spills (oil, fuel, etc.) regardless of the size.

**Note:** When it comes to reporting unsafe conditions, Mine Operations are responsible for the upkeep and maintenance of haul roads within the Mining Area boundaries.





Pit Road

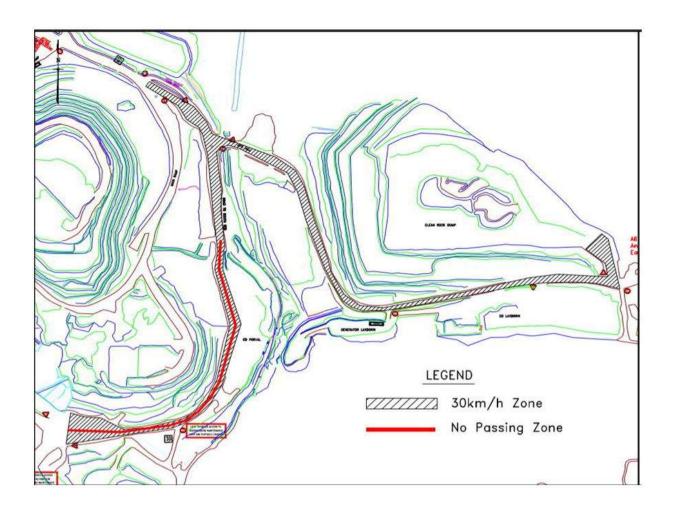
#### Traffic Rules

The Traffic Rules for mine haul roads do differ from the rules governing the other site routes.

The **following rules apply** anytime a Light Vehicle Operator is **driving on mine haul roads**:

- You must have a working 4-wheel drive and it must be engaged at all times.
- **Do not enter a mine haul road without a working two-way VHF radio** and stay on **Channel 5** while travelling haul roads.

- **No passing** of any moving **Haul Trucks**. You must also obtain **positive radio permission** to pass **parked haul trucks**.
- No vehicle may stop on the side of a haul road unless authorized by the Mine Supervisor.
  - If authorized, you must place triangles in front and back of the vehicle.
  - Call supervisor for triangles if none in vehicle.
- Maximum speed limit is 30 km/h on mine haul roads unless otherwise posted.



00:13

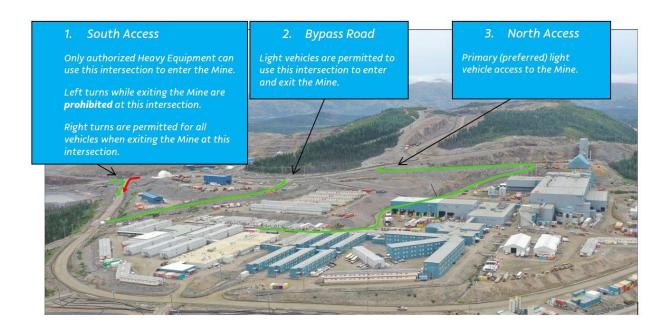
#### Speed Limits



Note: As mentioned, speed limits vary around the site. Areas not included on this map typically have a speed limit of 40 km/h. As always, be prepared to adjust your speed in accordance with signage.

00:12

#### Haul Road Entry



Roadway Access Levels

## Mine Haul Road Entry Requirements

Light vehicles do not have to announce entry via radio when entering the mine haul road.

On the map to the left, you will see the access routes marked according to allowed use.

Click on the map to see a zoomed in version.



## Mine Right of Way

Let's now take a little closer look at the rules governing vehicle right of way.

PRIORITY

MINING AREA RIGHT OF WAY PRIORITIES HEAD WATER POND RD GENERAL
GUIDELINES FOR
WORKING AROUND
MOBILE EQUIPMENT

The Right of Way Priority is the order in which vehicles or mobile equipment may proceed. i.e. "who goes first".



RIGHT OF WAY
PRIORITY

MINING AREA RIGHT OF WAY PRIORITIES HEAD WATER POND RD GENERAL
GUIDELINES FOR
WORKING AROUND
MOBILE EQUIPMENT

Below are the general rights of way for various vehicles on the Mine property.

- 1. All emergency and other authorized vehicles responding to a Code 1 with red flashing lights switched on.
- 2. Haul trucks:
  - 777 and similar such as 775, 773, 771.
  - Articulated trucks.
  - Underground haul trucks.
  - Signage must be in place to govern the interaction between haul trucks.
  - Note: this does not include Concentrate Haulers or Tandems.
- 3. All other authorized mobile equipment and light vehicles must follow traffic signs.

Notes:

- Haul truck yield signs apply only to interactions between haul trucks. Haul truck yield signs mean yielding to haul trucks coming from either direction- i.e., you are the last to go.
- Whether the haul truck is loaded or unloaded makes no difference for right of way.
- A haul truck going straight has priority over the truck turning left or right.

#### Road Signs

Haul truck yield signs are much larger than light vehicle road signs and have the initials "HT" included in the symbol. You may find signage for both vehicle classes on the same post. Light vehicles are to obey the smaller signs.



Other authorized mobile equipment and light vehicles



RIGHT OF WAY PRIORITY

MINING AREA RIGHT OF WAY PRIORITIES HEAD WATER POND RD GENERAL
GUIDELINES FOR
WORKING AROUND
MOBILE EQUIPMENT

When using the Light Vehicle Lane, you must come to a complete stop at all posted stop signs making sure all travel ways are clear before proceeding to your intended destination.

Head Water Pond Rd is a single lane haulage route. If this haulage route is active, ask permission from the Pit Supervisor before using it.

To control 2-way traffic when haulage is active, radio calls are to be made at km marking signs using Mine channel 5.

**Note:** There is a sign at km 1 to indicate activity status. There is also a secondary access route from the Airstrip at point A, which also has an activity status sign.

All km signage is posted. You must announce your location at km signs as follows: "Light vehicle 2 km East"



RIGHT OF WAY

MINING AREA RIGHT OF WAY PRIORITIES HEAD WATER POND

GENERAL
GUIDELINES FOR
WORKING AROUND
MOBILE EQUIPMENT

Here are some general guidelines when working around mobile equipment of any kind. Workers in the vicinity of mobile equipment **Do Not generally enjoy the right of way.** In fact, they need to **go out of their way, to ensure they remain in a safe location** with respect to the activity involving mobile equipment.

They should at minimum, know and practice the following:

- Know what equipment is working in their area.
- Be aware of where the **operator's "blind spots"** are.
- Know and stay clear of the **Hazard Zones**, **Swing Zones** or **Fall Zones**.
- Only approach mobile equipment in a safe manner and only once it is shut down.
- If they must approach operating equipment, they are to do so when in **full view of the**Operator and only when the Operator has acknowledged their presence and ok'd their approach using positive radio and visual communication.



Portal Area Traffic Control

#### Detail View of Traffic Control

The marked-up map on the right show some of the typical traffic control requirements for light vehicles and haulage vehicles near the open pit and underground mine portal road. Click on the image to see a zoomed in view.



Portal Area Road Controls

Outside Mine Haul Road Area

#### Mining Equipment Outside Mine Haul Road Area

If mobile equipment is leaving the mine haul road area, they must follow all Site Wide Safety Rules and all posted traffic signs.

777 Haul trucks require an Escort Vehicle to go anywhere outside Mine Haul Road Permit boundaries or roads leading to Light Vehicle or Heavy-Duty shops.

## Outside the open pit area:

All Haul Trucks **must stop at stop signs** and **obey all other posted traffic signage** and will require an escort vehicle at times.





00:46

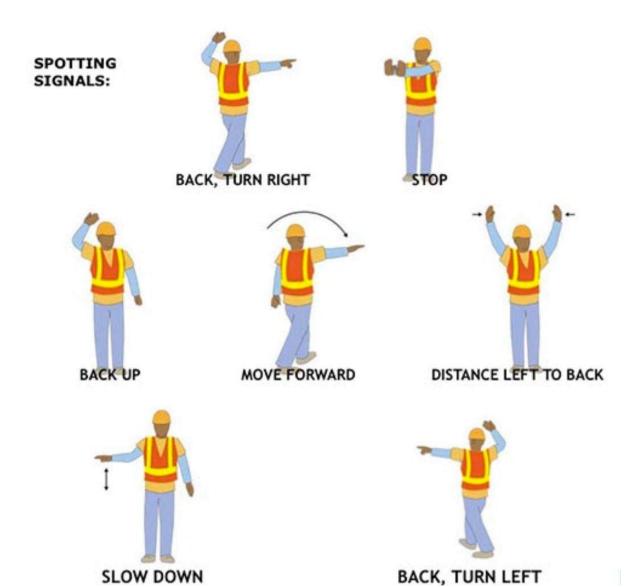
Signaling

## Signaling

Equipment Operators shall use a Signal Person (Spotter) to help direct their movements when their visibility is obstructed or when working in congested areas.

The following are general responsibilities of the Equipment Operator and Spotter:

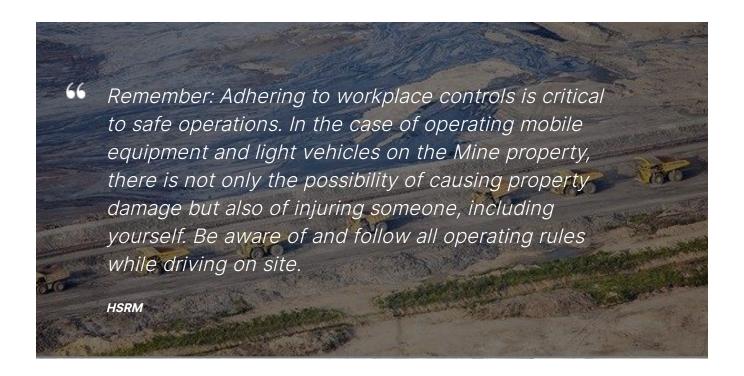
- The designated Spotter must remain visible to the Operator and at a safe distance to allow for sufficient stopping time in an emergency.
- The Spotter must have unobstructed view of the area obstacles.
- The Spotter should avoid walking backwards whenever possible.
- The Operator must maintain visual contact with the Spotter while being directed into the designated location.
- It is the responsibility of both the Operator and Spotter to agree upon a clear set of hand signals.



Typical Spotter Hand Signals

(i)

Note: Being a Spotter requires training and authorization. If in doubt about your role or training requirements, please contact your supervisor.



Complete the content above before moving on.

Now that you understand some of the basics about the Haul Road Driver's responsibilities and traffic rules, let's see what you remember.



osted? Select the	e correct response)
	50 km/h
$\bigcirc$	20 km/h
$\bigcirc$	30 km/h
$\bigcirc$	None of the above
	SUBMIT

### True or False:

You Must have a working 4-wheel drive and it must be engaged at all times when driving on mine haulage roads.

	True	
	False	
	SUBMIT	
rue or Fa		d to page a glow maying boul
s a Light	lse: Vehicle Driver, you are authorized mine haulage road.	d to pass a slow-moving haul
s a Light	Vehicle Driver, you are authorized mine haulage road.	d to pass a slow-moving haul
s a Light	Vehicle Driver, you are authorized	d to pass a slow-moving haul

True
False
SUBMIT

## True or False:

Outside the mine haulage roads, all Haul Trucks must stop at stop signs and obey all other posted traffic signage and will require an escort vehicle at times.

)		True
/		Huc

False

#### SUBMIT

)	At all times while the equipment is moving
)	They don't require signalers since they have the right of way at all times
	When their visibility is obstructed or when working in congested areas
)	None of the above

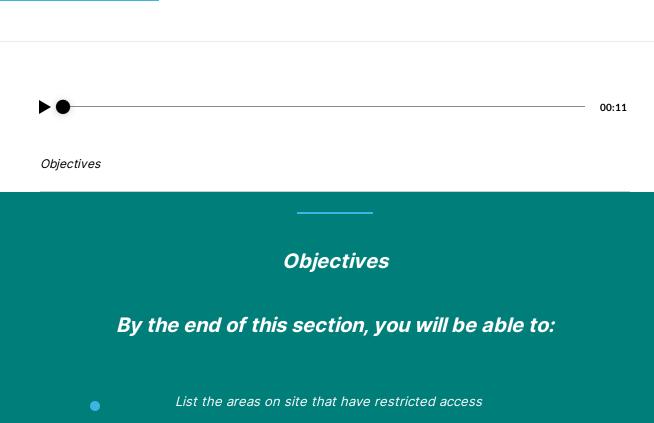
## CONTINUE

#### Got a Question?

Submit your question here using Valeforms, be sure to include your first name last name and contact information.

CLICK HERE

# **Special Permissions and Restricted Areas**



- Describe some of the protocols for Mine and Non-Mine personnel to follow in order to access restricted areas



Introduction

## Introduction

There are a number of locations on site that are considered "Restricted Areas" due to the activities or hazards associated with them. These include the following:



Let's look in more detail at some of the protocols and actions required when attempting to access these areas.

#### Airstrip & Apron \_

A general driving permit allows access to the road next to the runway, providing all posted restrictions are obeyed. The following general conditions apply:

All vehicles must come to a complete stop at the stop sign to check if the Airstrip is active or non-active.

There are **two protocols** in response to the Airstrip status:

#### Airstrip Non-active

• Vehicles are clear to proceed down the **road next to the runway** without making radio contact with the airstrip dispatcher

#### Airstrip Active

• Contact the airstrip on **channel 6** and request permission for light vehicle / heavy equipment to enter the airstrip / apron area

- Do not proceed until the dispatcher has given verbal consent
- Advise the dispatcher when you are clear of the airstrip / apron area on channel 6

Note: All vehicles must stay off the entire length of the runway and use the shoulder at all times



#### Port \_

A general driving permit allows access to the Port area as well. These general rules apply:

All vehicles must stop at the restricted area access sign to check if the Port is active or non-active.

There are **two protocols** in response to the **Port status**:

#### Port Non-Active

Vehicles are clear to proceed to the dock area without making radio contact.

#### **Port Active**

Vehicle operators must make radio contact with the Port Supervisor to obtain permission to enter this dock area: Use **Channel 14**.

Wait for confirmation and direction before you enter. The **Supervisor/Operator will then direct** you as to what entrance you should use to enter the Port Area.

Once given access to the Port Area proceed to the **Port Office**:

- Obtain a Temporary Restricted Area Pass.
- Complete all area entry information in the **Logbook**.
- When leaving the area **return all passes to the cabinet** and complete the Logbook.
- The Temporary Restricted Area Pass must be on your person at all times.

#### Safety Notes:

Follow all directions as posted on the **Restricted Area Entrance Sign**. When the Port is non-active the Stop sign will be removed. (image below shows Port active status)





#### **Crusher Area**

All personnel will call TSI on Zone 3 Channel 21 and ask TSI Loader Operator for permission to enter and inform the TSI Loader Operator when they are leaving the area.

Note: Area signage will indicate whether the Crusher is Active or Non-Active.







#### Other Restricted Areas

As mentioned previously, there are some other areas that require permission before entering:

- **Dyno Nobel Explosives Plant** -to contact, use radio mine channel 5
- Entry into the **Incinerator Grounds**-use TSI channel 12
- C&D Landfill (dump 4)-Use telephone-call 922-4300. Someone will be dispatched to meet you at the gate.



00:48

#### Blasting Protocol

In addition to the above listed higher risk location protocols, there is also an access protocol restricting specific location access during blasting activities.

Details of this are provided below.



Blast Clock Sign

## **Blasting Protocol**

The following steps are taken each and every time a blast is planned:

- Blast announcements are **posted and emailed** 24 hours prior to detonation
- Radio announcements are an All Call on All Channels and the all-clear is given by Security
- Blast dates and times are indicated on the Blast Clock Sign, located at the entrance to the mine as well as on digital screens throughout the mine on the day of the blast

Note: Pre-blast announcements are made by Security before "shooting" the blast at the following intervals:

• 1 hour

- 30-minutes
- 2-minutes



Important Reminder: Before entering the haul road, always confirm if a blast is scheduled that day, and at what time.

Understand the evacuation zone and evacuate the area at least 30 minutes prior to the blast.



Complete the content above before moving on.

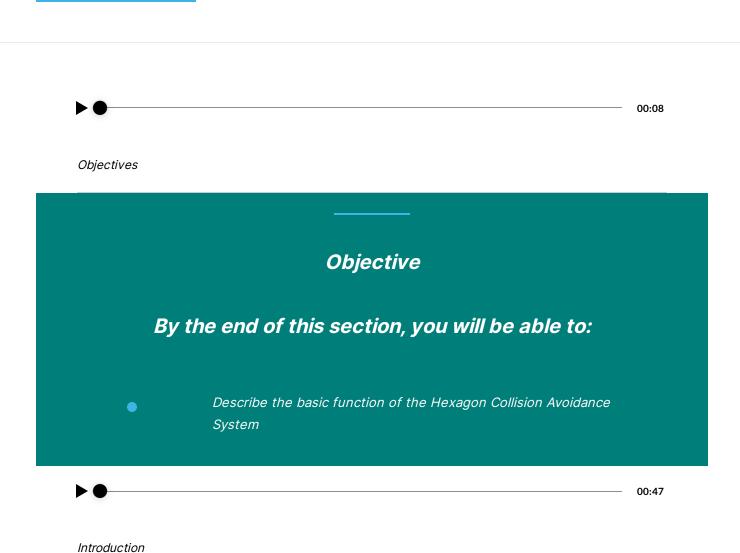
Now that you understand more about restricted area access requirements, let's see what you remember.



#### True or False:

As a Light Vehicle Operator, you are allowed to drive on the Airstrip surface as long as it is not in use.

# **Hexagon Collision Avoidance system**



## Introduction

The Hexagon Collision Avoidance System is designed to enhance the safety of heavy equipment and light vehicle operators and pedestrians in mining, construction, and other industrial settings. The system utilizes advanced technology such as GPS, radio transmitters, and digital displays to detect and display potential collisions and provide visual and audible warnings to operators.

The basic function of the system is to monitor the surrounding environment of the equipment and alert operators of the presence of other vehicles and pedestrians in the area including in their blind spots. This allows operators to take necessary precautions to avoid incidents and prevent injuries.

Let's look in more detail at the Hexagon System in action. Click on the play button on the video below to learn more.

•

00:2

Summary

As you have just seen, the Hexagon System provides numerous advantages in monitoring individual vehicle movements and multi vehicle interactions. It can provide a

much better situational awareness of driving conditions in areas that are otherwise limited in visibility and between vehicles that have significant blind spots.

Overall, the Hexagon Collision Avoidance System is a critical safety feature that helps to protect workers and minimize the risk of incidents in hazardous work environments.



Complete the content above before moving on.

Now that you understand more about the Hexagon Collision Avoidance System, let's see what you remember.



True or False:

The Hexagon Collision Avoidance System can monitor vehicles for overspeed conditions over the entire site.

True

# **Module Summary**



This concludes the final content section of this module. You should now have a good understanding of:

- · Vehicle general safety requirements,
- · Responsibilities of the Light Vehicle Driver,
- Site and Mine Haul Road Permit operating requirements,
- Protocols governing Restricted Area access,
- Features of the Hexagon Collision Avoidance System.

Feel free to revisit any of the sections by using the menu, which will now be unrestricted for any content you have already visited.

# If you are otherwise ready, you may now continue on to the final quiz.

#### Got a Question?

Submit your question here using Valeforms, be sure to include your first name last name and contact information.

CLICK HERE!

# Conclusion



Conclusion

## Congratulations.

You have successfully completed this module on Site and Mine Haul Road Driver awareness.

Having completed this module, you should now be able to:

- Describe general vehicle safety requirements for light vehicles.
- Describe the **Mine Haul Road Driver's responsibilities** and related **rules** to be followed in order to **drive a light vehicle on mine haulage roads.**
- Outline Special Permission Areas and Restricted Areas and the actions that must be taken to operate safely within and around them.
- Describe the Hexagon Collision Avoidance System.



Remember to always consult with your supervisor if you have any questions about your workplace training and boundaries. And as always, for the most current information on requirements for driving on site, refer to the latest version of procedure PGS-005521.

#### Online Training Survey

Submit your evaluation here using Valeforms, all submissions are anonymous. Thankyou.

CLICK HERE!



# Thank you for completing the Vale Online Module Training.

Complete Your Module Validation

**PLEASE CLICK HERE**