

Tier 3: North Atlantic Training Center Orientation

1. Introduction

1.1 Introduction



Introduction

North Atlantic Training Centre (114 OreBody)
Overview

1.2 Underground Training and Development

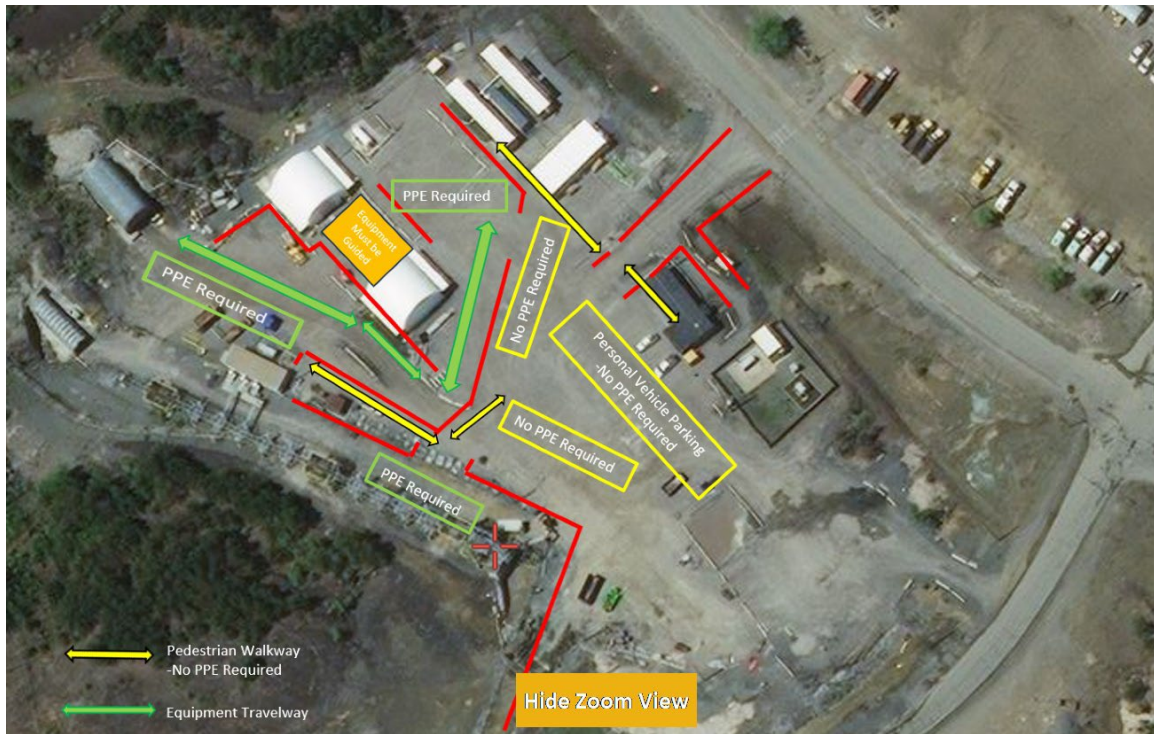
North Atlantic Training Centre (114 OreBody) - Overview

The 114 OreBody is part of the Copper Cliff North Mine boundary which has been in care and maintenance and transformed into the North Atlantic Training Centre (114 OreBody).



North Atlantic Training Centre (114 OreBody)
Traffic Management - Click Image for Zoom View

Zoom View (Slide Layer)



1.3 North Atlantic Training Centre (114 OreBody) - Overview

North Atlantic Training Centre (114 OreBody) - Overview

This North Atlantic Training Centre (114 OreBody) will provide new hires and current employees from across the operations opportunities to further develop their learning and development for both underground and surface training.



North Atlantic Training Centre (114 OreBody)

2. Plant Entry

2.1 *Plant Entry*



2.2 Approaching The 114OB

Plant Entry Requirements

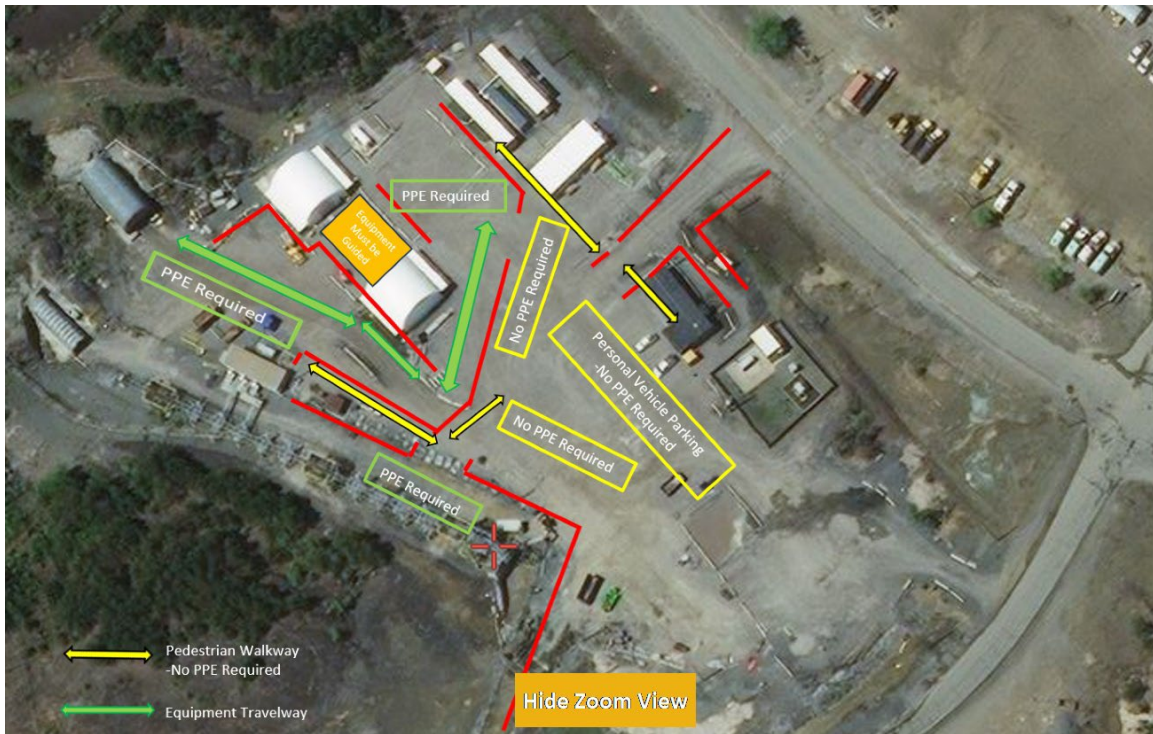
Approaching the North Atlantic Training Centre (114 OreBody)

The North Atlantic Training Centre (114 OreBody) is accessed from Regional Road 35 north of the city of Sudbury, or through Godfrey Drive in the town of Copper Cliff.

Gates are in place to control access to our property, to help account for personnel working on site and to control unauthorized access to our property.



Zoom view (Slide Layer)



2.3 Approaching The 114OB

Plant Entry Requirements

Approaching the North Atlantic Training Centre (114 OreBody)

All employees, contractors, delivery personnel and visitors who will require access to these gates, will need to obtain authorization prior to accessing this road.

Vehicles accessing our property are required to swipe their Vale Access Card on the readers upon entry and when exiting the property, all passengers will also be required to swipe their cards on the passenger readers when entering and exiting the property to ensure they are accounted for.



2.4 Parking

Plant Entry Requirements

Parking

As you are entering the North Atlantic Training Centre (114 OreBody) you will see the parking lot to the left of the entrance.



The Mobile Equipment Travel Route is located behind the cement barriers which divide the industrial equipment zone from the personal vehicle parking lot.



North Atlantic Training Centre (114 OreBody)
Traffic Management
[Click Image for Zoom View](#)

Zoom view (Slide Layer)



2.5 Sign-in Location

Plant Entry Requirements

Sign-in Location

The Tag-In and Sign-In Book is located in the Learning and Development Administration Trailer situated to the left of the entrance and in front of the parking lot.

The surface and underground sign-in book is located on the right, directly inside the Learning and Development Trailer.



2.6 Surface and Underground Sign-in

Plant Entry Requirements

Surface and Underground Sign-in

All visitors on Surface or Underground must sign in to the sign-in book when entering the North Atlantic Training Centre, and must sign out when leaving.

Smoking is only permitted in the designated smoking area(s).



Designated Smoking Area

2.7 Surface and Underground Sign-in

Plant Entry Requirements

Surface and Underground Sign-in

All employees coming to the North Atlantic Training Centre (114 OreBody) will be issued an identification tag and a Vale Access Card.

This tag will include your:

- Photograph
- Full Name
- Employee Number
- Phone Number



The Vale Access Card will eventually be required to gain access to all entrances at all Vale Operations.



2.8 Underground Tagging

Plant Entry Requirements

Underground Tagging Requirements

This tag is to be used on the Surface or Underground tag-in board.

- You are required to tag-in before going Underground or on Surface.
- Do not tag in until it is permitted to do so in the case of the board being blocked for blasting or clearing.
- Tag in to the correct area.
- Always remember to tag out when leaving.



Be Aware that Copper Cliff North Mine maintains their own underground tag in board for their work area.

3. Plant Hazards and Controls

3.1 Plant Hazards and Controls



✓ Plant Hazards & Controls

3.2 Site Specific Hazards

Hazards and Controls

Using the tools that you learned in Tier 1 Orientation, ensure you apply the necessary operation controls to mitigate risk associated with the identified hazards.



Be Aware

Be aware of your surroundings and the risks around you.



Follow Policies & Procedures

Our internal policies and procedures guide us in doing our work in a manner that reduces risk.

The following section lists identified hazards that may be encountered in the work you're doing. Knowing if these hazards apply to your work can be found through:

- Vale Contact Person
- PHA/PHR (or other Risk Assessment Tools)
- SLAM

3.3 Hazards and Controls

Hazards and Controls

At the North Atlantic Training Centre(114 OreBody) , workers need to be aware of site specific hazards and their related controls. These include but are not limited to:

- Weather Conditions/Slippery Conditions
- Portal Access and Ramp Procedures
- Old Work Areas
- Mobile equipment
- Ground Water Management
- Ventilation



3.4 Hazard - Weather Conditions/Slippery Conditions

Hazards and Controls

Hazard - Weather Conditions/Slippery Conditions

The North Atlantic Training Centre (114 OreBody) has both Surface and Underground working areas for training purposes. Weather creates a risk of an incident or injury occurring while performing everyday tasks.

The following hazards exist as a result:

- Extreme temperatures, both Cold and Hot.
- Slippery conditions during cold weather.



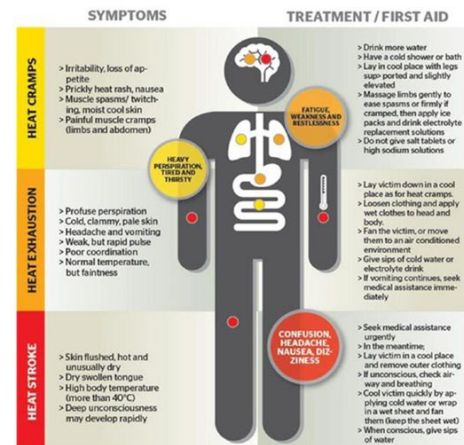
3.5 Controls - Weather Conditions/Slippery Conditions

Hazards and Controls

Controls - Weather Conditions/Slippery Conditions

To mitigate the risks to personnel from weather conditions or slippery conditions, the following controls have been implemented:

- Underground ventilation is heated during the Winter months and needed to prevent ice buildup on the ramps.
- Ice Cleats are mandatory PPE and are to be worn in the winter months.
- Being aware of "Heat Stress" conditions during the Summer months.



3.6 Hazard - Portal Access and Ramp Procedures

Hazards and Controls

Hazard - Portal Access and Ramp Procedures

At the North Atlantic Training Centre (114 OreBody) there is a Fresh Air Portal Main Ramp with an Exhaust Ramp Egress where you could possibly enter and exit from underground.

This high level of interaction between equipment and pedestrians presents the high risk hazard of pedestrian and vehicle collision.

There is also a risk, that in extreme cold weather, when vehicles are parked outside for more than 30 minutes, "Hoar Frost" develops on brake components as soon as the vehicles enter the ramp portals. When this occurs there are no brakes for a period of time.



3.7 Controls- Portal Access and Ramp Procedures

Hazards and Controls

Controls - Portal Access and Ramp Procedures

To mitigate the hazards of traveling underground, the following controls have been put in place:

- All required PPE must be worn and in good condition to increase your visibility.
- Always ensure your JAWS systems have been tested and are working correctly.
- To eliminate risk of hoar frost developing, drag the service brakes for a few minutes before and after entering the ramp. This will remove the moisture.



3.8 Hazard and Controls - Exploring

Hazards and Controls

Hazard - Exploring



The North Atlantic training Centre and (114 OreBody) "Railveyor" workings are connected, as these areas have been inactive for several years, access to old workings are prevalent.

Controls - Exploring



To mitigate this hazard be aware of the following controls:

- Multiple attention signs (regarding 114 OreBody) with signs stating that hazards are installed to prevent people from entering areas that are restricted.
- Vale Learning and Development operate and train throughout the mine site including on surface, 80L, 150L and 300L.
- The Refuge Stations have ventilation prints available as per legislation.
- Directional signs are maintained throughout the mine to identify locations and destinations (Escapeway, Refuge Station(s), etc.).

3.9 Hazard - Mobile Equipment

Hazards and Controls

Hazard – Mobile Equipment

Mobile equipment presents a high risk hazard of collision with vehicles or pedestrians.

The mobile equipment hazards include the following:

- Service vehicles such as boom trucks and other small mobile equipment are continuously operating throughout the mine.
- Larger pieces of equipment operating on different levels and traveling on ramps with less visibility.



North Atlantic Training Centre (114 OreBody)
Traffic Management - [Click Here for Zoom View](#)

Zoom View (Slide Layer)



3.10 Control - Mobile Equipment

Hazards and Controls

Controls – Mobile Equipment



To mitigate the risk of collision, North Atlantic Training Centre (114 OreBody) has implemented the following controls:

- 1 Ensure high visibility PPE is maintained to applicable standards.
- 2 PPE must be worn in areas identified with appropriate signage."
- 3 Pedestrians must have a functioning radio equipped with Jaws and a hard hat indicator clip.

3.11 Control - Mobile Equipment

Hazards and Controls

Controls – Mobile Equipment



To mitigate the risk of collision, North Atlantic Training Centre (114 OreBody) has implemented the following controls:

- 4 Speed limit underground is restricted to 25km/hr (maximum).
- 5 All equipment is to have the strobe light activated when the vehicle is left unattended underground.
- 6 Personal vehicles are not permitted to access the industrial areas of the property and must park in the Vale personal vehicle parking lot.

3.12 Control - Mobile Equipment

Hazards and Controls

Controls – Mobile Equipment

To mitigate the risk of collision, North Atlantic Training Centre (114 OreBody) has implemented the following controls:

- Headlights and vehicle blue flashing lights are to remain on at all times when operating mobile equipment.
- All employees driving underground must have a good working knowledge of the mine, and a working radio.



Radios at the North Atlantic Training Centre (114 OreBody) are set to different frequencies and do not work on the upper channels at Copper Cliff Mine – South Side.

3.13 Hazard - Managing Ground Water

Hazards and Controls

Hazard – Managing Ground Water

The North Atlantic Training Centre is internally connected to the Copper Cliff North Mine via a Drain hole from 300L (at the NATC 114 OreBody) to 800L (in the 1200B at CCM).

The hazard associated to ground water entering a mine is that water can become impounded, which can result in uncontrolled flows of material if and when it lets go.



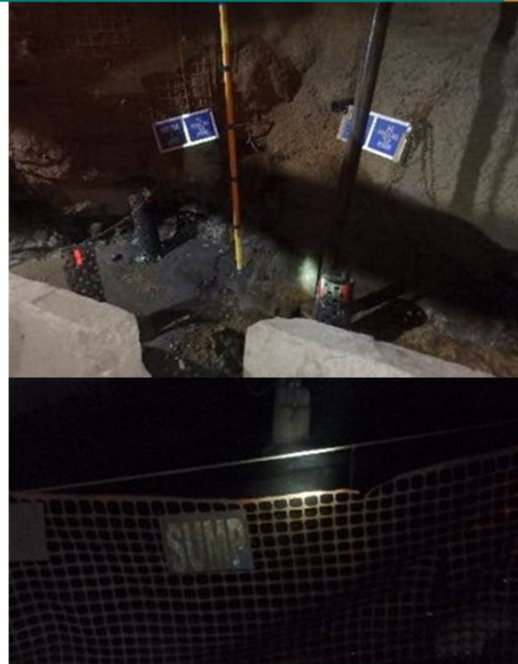
3.14 Controls - Managing Ground Water

Hazards and Controls

Controls – Managing Ground Water

To mitigate this hazard be aware of the following controls:

- Drain holes and sumps are inspected and maintained.
- Extra attention is made during spring run-off and storm situations.



3.15 Hazard and Controls - Exploring

Hazards and Controls

Hazard - Ventilation



The North Atlantic Training Centre (114 OreBody) has a small footprint. At times it would be easy to surpass the ventilation requirements for equipment use which presents the hazard of workers being exposed to contaminated air.

Controls - Ventilation



To mitigate the hazard of workers being exposed to contaminated air, the following controls have been implemented:

- Personnel from the Ventilation Department travel underground weekly to take readings and measurements of ventilation flows.
- Ventilation prints are posted in all refuge stations underground.
- Employees are required to report any damage or deficiencies to the ventilation system to ensure it is being maintained and repaired when necessary.

4. Accident/Incident Reporting

4.1 Accident/Incident Reporting



✓ Accident/Incident Reporting

4.2 Accident/Incident Reporting

Accident/Incident Reporting

An incident is an event that results in loss or harm to personnel in the form of (injury/illness), environment, asset, or equipment.



Iris

Even with "near misses", all workers, including Offsite Personnel are encouraged to initiate and/or participate.

The Intent is to prevent recurrences and reduce or eliminate any further injuries.

Iris is our platform for reporting of problems and events related to health and safety, environment, communities and operational occurrences.

4.3 Personal Injury

Accident/Incident Reporting

Personal Injury/Equipment Damage

All incidents, accidents or injuries must be immediately reported by contacting the supervisor to register the event.

In the case of personal injury, generally, contact your Supervisor and report immediately to First Aid.

In the event you cannot physically report to First Aid, contact first aid for emergency response.

North Atlantic Training Centre (114 OreBody) - Emergency Numbers

L&D Admin Trailer.....	705-682-8956	#1 First Aid (Smelter).....	705-682-6622
CCM First Aid (PSP).....	705-682-5264	150L Refuge.....	705-682-7020
E-House.....	705-682-5184	80L Refuge.....	705-692-2479



Who can report problems and events?

Events can be reported by any employee or contractor who has access to the Vale network.



Reporting Deadline

All events must be registered within 48 hours.

5. Emergency Preparedness

5.1 Emergency Preparedness



5.2 Emergency Preparedness

Emergency Preparedness

The Surface Tier 2 Orientation provided guidance on the application of Emergency Preparedness including activating an emergency and how to classify one.

The following is a general overview of how to respond to an emergency at the North Atlantic Training Centre (114 OreBody) .

It is necessary that you familiarize yourself with the fire procedure(s) that apply to your specific area(s) of work at the North Atlantic Training Centre (114 OreBody). Your Supervisor or plant contact should review this with you.

Be Aware that there are AEDs (Automated External Defibrillator) located inside the 150L Refuge Station and the North Atlantic Training Centre (114 OreBody)



5.3 Emergency Reporting

Emergency Preparedness

Emergency Reporting

To report any emergency , notify your supervisor or plant contact immediately or contact the PSP.

Listed here are the emergency contact numbers for the North Atlantic Training Centre (114 OreBody). as well as the radio channels in use.

Note: Common Radio Channel is #14 for the North Atlantic Training Centre (114 OreBody).

Contacting First Aid (PSP) on Channel #1.)

Emergency Numbers

L&D Admin Trailer.....705-682-8956
CCM First Aid (PSP).....705-682-5264
E-House.....705-682-5184
#1 First Aid (Smelter).....705-682-6622
150L Refuge.....705-682-7020
80L Refuge.....705-692-2479

Radio Channels:

Channel 1: First Aid - PSP
Channel 14: 114OB

5.4 Notification – Copper Cliff Mine

Surface Alarms - Emergency Notification

INVAC

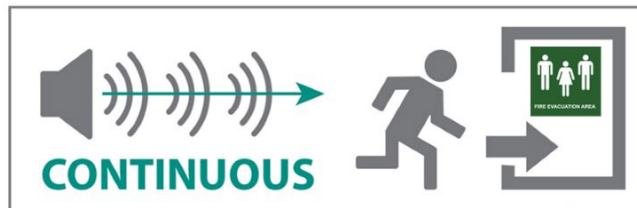
Surface Audible Alarm followed by PA announcement indicating INVAC.
All personnel are to immediately report indoors to the designated assembly areas.



Go to the nearest Safe Assembly Area.

OUTVAC

Surface Audible Alarm followed by PA announcement indicating OUTVAC.
All personnel are to leave the building by the closest route of exit and assemble together as a group in the designated Surface Fire Assembly area.



Leave the building by the nearest exit.

Alarm testing is conducted each Monday at 1:30 p.m.
Report any malfunctions immediately to your Supervisor
to ensure that it is corrected in a timely manner.

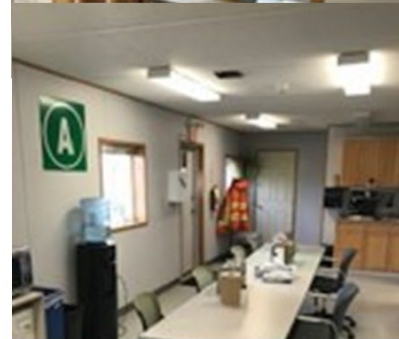
5.5 Invac - Surface Indoor Assembly Area

Emergency Preparedness

Invac - Surface Indoor Assembly Area

The invac assembly area for North Atlantic Training Centre (114 OreBody) is the Learning & Development Administration Trailer.

All workers, except specific, qualified personnel, will proceed immediately to the assembly areas to await further instructions. Do not leave the assembly area until instructed to do so, or until the all clear is given.



5.6 Outvac - Surface Evacuation Area

Emergency Preparedness

Outvac - Surface Evacuation Area

The evacuation area for North Atlantic Training (114 OreBody) Centre is located at the far East side of the Parking Lot.

All workers, except specific, qualified personnel, will proceed immediately to the evacuation area to await further instructions. Do not leave the evacuation area until instructed to do so, or until the all clear is given.



5.7 Underground Fire

Emergency Preparedness

Underground Fire

In the event of a fire underground, stench will be injected into the fresh air system, as well as a message broadcast on all channels "There is a fire underground. Report to the nearest refuge station."

Report to the **80L or 150L Refuge Station** and follow the underground fire procedure.



5.8 Other Mine Emergency

Emergency Preparedness

Other Mine Emergency

In the event there is a mine emergency that may effect personnel underground, other than an underground fire, the emergency will be broadcast on all channels.

Report to the **nearest refuge station**, ensure you are accounted for and wait for instructions. Do not clay the doors unless otherwise instructed.



5.9 Other Mine Emergency

Emergency Preparedness

Underground Evacuation

In the event there is a mine emergency that results in a decision to evacuate the mine, there will be a person in charge of the process. Do not take evacuation measures on your own.

- The main egress is via the portal.
- If the portal is not available the escapeway may be used.



6. Plant Exit

6.1 *Plant Exit*



6.2 Plant Exit

Plant Exit

Good work practices dictate that you close the loop on work you were doing to avoid creating risks or hazards for other work groups, cross shifts, or other work in the area. Here are some tasks to consider when getting ready to exit the plant to ensure your safety and that of those around you:

- ✓ **Housekeeping** - Is your worksite cleaned up after your job?
- ✓ **Personal Lock and Tag** - Has your personal protection been removed at the end of the shift?
- ✓ **Status Tagging** - Is there ongoing work that needs a status tag placed or is there equipment in Bad Order that needs to be identified?
- ✓ **End States** – Have you left the process in the proper state?
- ✓ **Waste Segregation** - Have you disposed of materials in the appropriate waste receptacles/bin/area?
- ✓ **Supervisor** – Do I need to let the Supervisor know that I'm clear of an area?
- ✓ **Vale Contact Person** - Do they need an end of shift report from me?
- ✓ **Permits** - Do I need to close or hand in any permits?
- ✓ **Tagging out** – Have I removed my tag from the tag-in board?
- ✓ **Sign out** at the L&D Administration Trailer.

7. Conclusion

7.1 Conclusion



✔ Conclusion

7.2 Conclusion

Conclusion

This concludes the material for Tier 3 North Atlantic Training Centre (114 OreBody) Site Specific Orientation. You should now have a working knowledge and understanding of:

- The Mining Plant Layout and Boundaries.
- Plant entry and tagging in and out requirements.
- The high level general hazards and controls with regards to:
 - ✓ Weather Conditions/Slippery Conditions.
 - ✓ Portal Access and Ramp Procedures.
 - ✓ Mobile equipment.
 - ✓ Ground Water Management.
 - ✓ Ventilation.



7.3 Conclusion

Conclusion

This concludes the material for Tier 3 North Atlantic Training Centre (114 OreBody) Site Specific Orientation. You should now have a working knowledge and understanding of:

This Orientation provided information to access the North Atlantic Training Centre (114 OreBody). In order to feel comfortable with the area, you should arrange a field visit with your Vale Contact Person or direct Supervisor to review hazards and controls specific to your work area(s).

Additionally, depending on the site or work you're doing, you may require task-specific information through either the local Learning & Development Group or your Vale Contact Person.

