



**Skilled
Trades**
Ontario

**Métiers
spécialisés**
Ontario

Apprenticeship
Training Standard
Logbook

Surface Blaster

278B

2014

Apprenticeship Training Standard

The Apprenticeship Training Standard or herein after referred to as “Logbook” is a document issued to Apprentices who sign a Registered Training Agreement in the Province of Ontario as an official record of training. It is to be used by the Apprentice and Sponsor/trainer to guide the process of skills development in a particular trade.

Training As An Apprentice

- ✓ Ensure you, your sponsor, and your witness sign a Training Agreement with the Ministry of Labour, Immigration, Training and Skills Development. Once it is registered, you will receive a copy of the registered Training Agreement for your records.
- ✓ Notify the local Service Delivery Office **immediately** if any changes to contact information or training agreement, especially if you change sponsors.
- ✓ Review the Logbook regularly with your trainer and sponsor to discuss your progress, ask questions, seek feedback and have the trainer **sign-off on competencies**
- ✓ Keep an accurate record of the hours you work.
- ✓ Attend classroom training when it is offered.
- ✓ Apply for the financial incentives for which you are eligible.



Completing Your Logbook

- ✓ **Complete the Sponsor Record Form** – A form must be completed for each Sponsor/Trainer used during your apprenticeship.
- ✓ **Confirm Skill Sign-off is Complete**
 - **You and your trainer** sign-off each required skill to confirm that you have demonstrated competency in that skill.
 - Shaded boxes in your Logbook mean the skills are optional and do not have to be confirmed by your trainer or sponsor. However, you are encouraged to complete them as part of your training.
- ✓ **Confirm Skill Set Sign-off is Complete**
 - After you and your trainer have signed-off all the required skills in a skill set, your sponsor signs the signature box on the form in **Appendix C – “Skill Set Completion for Sponsors”** to confirm your completion of all competencies within each skill set.

This document is the property of the apprentice named inside and represents the official record of your training. For information about completing your apprenticeship, see inside of back cover.



Apprentice Name: _____

Address: _____

Phone Number: _____

Email Address: _____

Trade: _____

Training Agreement # (for Compulsory and Non-Compulsory trades):

STO Account No. (for Compulsory trades only):

This document is the property of the Apprentice named herein and represents the official record of their training.

If you have questions about the use of this Logbook or about your Apprenticeship program, contact your local Service Delivery Office (see Appendix D in this book) or the Employment Ontario hotline at: 1-800-387-5656.

Apprenticeship Pathway to a Certificate of Qualification

Phase 1: Registration

Submit Application for Apprenticeship Training through the on-line portal or to local Service Delivery Office

For on-line portal, please follow instructions for registration. You will need to create a *My Ontario* account to access online services.

Training agreement signed and registered by both apprentice and sponsor

Access your Apprenticeship Training Standard Logbook**
skilledtradesontario.ca/about-trades/trades-information

** This is the official record of your training progress. You are responsible for keeping it up-to-date.

Complete on-the-job training

Demonstrate and receive sign-off on the competencies/skills in your Apprenticeship Training Standard Logbook

Complete in-school training

Attend and complete the in-class training set out in the Curriculum Training Standard

Apprentices eligible to apply for apprenticeship incentive grants (Red Seal trades) and loans.

Review and finalize your logbook with your sponsor

Submit proof of apprenticeship completion
via email, in-person or digital portal

Your Apprenticeship Training Standard Logbook details completion requirements. Submit the following:

- completed Apprenticeship Training Standard Logbook with signatures
- proof of hours

Certificate of Apprenticeship is issued

Trades without examination

CofA is the final step of the program

Trades with examination
(compulsory and non-compulsory trades)*

Provisional Certificate of Qualification issued for a 12 month term

To prepare for the CofQ examination download the Provincial and/or Red Seal Exam preparation guides.

Make payment for your Certificate of Qualification examination

Call to make a payment
(647-847-3000 or 1-855-299-0028)

Schedule a date to write your Examination

To schedule your examination, contact your local Service Delivery Office.

Pass Certificate of Qualification examination

Apprentices eligible to apply for Apprenticeship Completion Grant (Red Seal trades) or Apprentice Completion Bonus (non-Red Seal)

Certificate of Qualification is issued

Upon completion, Sponsors may be eligible for Apprenticeship grants, incentives, bonuses or tax credits

Phase 2: Apprenticeship

Phase 3: Certification

* For a list of trades subject to a certification examination, visit: skilledtradesontario.ca

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Please Note: This Standard has been revised to reflect the visual identity of Skilled Trades Ontario (STO) which replaced the Ontario College of Trades on January 1, 2022. The content of this Standard may refer to the former organization; however, all trade specific information or content remains relevant and accurate based on the original date of publishing.

Please refer to STO's website: skilledtradesontario.ca for the most accurate and up to date information. For information about BOSTA and its regulations, please visit [Building Opportunities in the Skilled Trades Act, 2021 \(BOSTA\)](#).

Any updates to this publication are available on-line; to download this document in PDF format, please follow the link: [Skilled Trades Ontario.ca](https://skilledtradesontario.ca).

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Maintained with transfer to Skilled Trades Ontario 2014 (V100)

Foreword: Purpose, Terms and Conditions of the registered Training Agreement

Purpose:

- Prior to starting official apprenticeship activities, the apprentice, sponsor and a witness are required to sign a Training Agreement.
- The Training Agreement that you have signed is an important legal document that outlines your responsibilities as an apprentice and the responsibilities of your sponsor.
- Once registered, this training agreement (or contract) marks the start of your formal agreement between the apprentice, the sponsor and the Ministry.
- For compulsory trades, the apprenticeship registration document must be accessible when working.

The Apprentice agrees:

- **To inform the local Service Delivery Office of any change to your contact information or change in sponsor within 7 days;**
- To follow the Sponsor's and Trainer's lawful instructions and make every effort to acquire the skills identified in the Logbook for the Trade which is part of the apprenticeship program established by Skilled Trades Ontario for the trade;
- To obtain written verification from the Sponsor and the Trainer(s) that the requirements in the Logbook for the trade have been met.
- When you receive an "Offer of Classroom Training", confirm your attendance by following the instructions in the offer. Failure to do so may result in losing your opportunity to attend school which delays the completion of your apprenticeship.

The Sponsor agrees:

- To ensure that the Apprentice is provided with the training required as part of the apprenticeship program established by Skilled Trades Ontario for this trade;
- To review the progress of training with the Apprentice, and with the Trainer(s) where the Sponsor and the Trainer are not the same party.
- Release your apprentice from work to attend in-school training without penalty to the apprentice.
- To maintain the journeyperson/apprentice ratio for your trade, if applicable.
- To monitor their apprentice(s) progress
- To ensure that the Trainer(s) verifies, in writing, when each skill identified in the Logbook for the trade has been successfully completed by the Apprentice;
- To contact the Ministry should any changes in your capacity to train, your contact information, or your apprentice's status in the program change.

Trade Specific Resources and Links

Trade Specific Resource	Link
Red Seal Program	red-seal.ca
Apprenticeship in Ontario	ontario.ca/page/apprenticeship-ontario
Employment Ontario	employmentontario.ca
Service Canada	servicecanada.gc.ca
<i>Building Opportunities in the Skilled Trades Act, 2021</i>	Building Opportunities in the Skilled Trades Act, 2021, S.O. 2021, c. 28 - Bill 288 (ontario.ca)
Ministry of Labour, Immigration, Training and Skills Development	Ministry of Labour, Immigration, Training and Skills Development ontario.ca
Exam Preparation Guide	Exam Resources – Skilled Trades Ontario
Skills Zone (Ontario Skills Passport)	http://www.skillszone.ca/

**Please note, all website addresses are current at time of printing*

Methodology-Standard Development

A standard is developed with a broad group of trade representatives who form the initial working group. This includes subject matter experts/ tradespeople/ instructors and employers from a cross section of the sector/industry, with varying years of work experience in the field. The working group reviews, develops and recommends revision to the content of the standard. Their role also involves harmonizing and updating other supporting content for the product.

An essential part of the standard development is the validation process. This is the opportunity to have a broader representation of the sector provide feedback on the content of draft standard. This process is conducted in various ways and may include sending out a survey or the draft document (or both) directly to the sector. The comments received are reviewed by the working group and revisions are made as required based on a consensus model.

Introduction to the Logbook

This “on-the job” Logbook is the training standard for Surface Blaster 278B and was developed by Skilled Trades Ontario in consultation with representatives from industry. It identifies all the skills associated with and required to learn the trade.

The Logbook is divided into skill sets, which are further divided into skills. These skill sets and skills are written in statements that describe what the Apprentice must perform and to what standard, in order to be considered competent in that skill.

The successful performance of these skills is tracked in the Logbook. Once achieved, this skills’ sign-off, along with the completion of in-school program requirements or equivalent, is how the apprenticeship program is completed and apprentices receive a Certificate of Apprenticeship.

The Sponsor/trainer and Apprentice are required to sign-off and date each skill after the Apprentice has demonstrated proficiency in these skills. However, if a skill is shaded, it is optional and does not need to be signed-off, though it has been defined as a part of the scope of practice for the trade.

All practices described in this standard must be performed by the apprentice according to the specific criteria identified. In general, the standard of performance for this trade is to be performed according to all applicable jurisdictional codes and standards and all health and safety standards must be respected and observed.

All skills within the Apprenticeship Training Standard are to be performed, as applicable, according to and in compliance with the following:

- Occupational Health and Safety Legislation and Regulations;
- Other applicable legislation, regulation, codes and standards;
- Industry best practices;
- Company policies and procedures.

The information presented in this standard is, to the best of our knowledge, current at time of printing and is intended for general application. Please refer to the Skilled Trades Ontario website for the most accurate and up-to-date information: skilledtradesontario.ca

Roles and Responsibilities

Under the [Building Opportunities in the Skilled Trades Act, 2021 \(BOSTA\)](#)

Skilled Trades Ontario (STO) is responsible for:

- Establishing and maintaining qualifications;
- Establishing Apprenticeship Programs and other training programs including training Standards, curriculum standards and certifying examinations;
- Issuing certificates for the purposes of this Act such as Certificates of Qualification;
- Maintaining a Public Registry for compulsory trades skilledtradesontario.ca/public-register/;
- Determining whether the experience and qualifications obtained by applicants for a certificate of qualification who do not complete an apprenticeship are equivalent to those received through completing an apprenticeship (Trade Equivalency Assessments)
- Promoting the skilled trades and conducting research.
- Conducting research and evaluate whether a trade should be prescribed as a trade for the purposes of this Act and to make recommendations on these matters to the Minister.

Ministry of Labour, Immigration, Training and Skills Development (MLITSD)

is responsible for:

- Classifying trades as compulsory trades;
- Prescribing scopes of practice for trades;
- Approving which persons may provide in-class training for apprenticeship programs (TDAs);
- Registering Training Agreements;
- Providing those who successfully complete an apprenticeship program with a certificate of apprenticeship (CofA);
- Administering examinations, including certifying examinations;
- Promoting the skilled trades and conducting research;
- Exercising such other powers and perform such other duties and functions as are provided for in this Act or the regulations.

For any matter related to your registered Training Agreement or completing your apprenticeship, you must contact your local Service Delivery Office.

Roles and Responsibilities of the Apprentice

An Apprentice is an individual who has entered into a registered Training Agreement (refer to Foreword: *“Purpose, Terms and Conditions of TA” page 1*) with a Sponsor to receive training in a trade as part of an apprenticeship program established by Skilled Trades Ontario. As an Apprentice, you have certain roles and responsibilities to follow throughout your apprenticeship training:

1. As an Apprentice, you signed the Training Agreement and have entered into a contract with the Ministry of Labour, Immigration, Training and Skills Development and your Sponsor.
2. If you are registered as an Apprentice in a compulsory trade, your name will automatically appear in the Skilled Trades Ontario Public Register.
3. You are responsible for informing the staff at your local Service Delivery Office regarding changes to the following:
 - Your Sponsor’s address;
 - Your name and address; and/or,
 - Your Sponsor, including starting employment with a new Sponsor
4. As an Apprentice, you are responsible for completing skills or skill sets in this Logbook (as detailed in the *“Eligibility for Apprenticeship Program Completion”* section of this document) and ensuring that they are dated and signed by both you and your Trainer.
5. Once you have demonstrated competency in all the mandatory skills and received a sign off on each skill by your sponsor/trainer, you must have the Skill Set Completion Form completed and signed by your current Sponsor.
6. Submit your Logbook to your local Service Delivery Office.
7. Present your Apprentice Completion Form (Please refer to Appendix B), along with your authorized Logbook to your local Service Delivery Office.

Roles and Responsibilities of Sponsors and Trainers

Sponsors are responsible for ensuring all terms are met as per the registered Training Agreement. They are named on the registered Training Agreement as the entity responsible for ensuring Apprentices receive the training required as part of an apprenticeship program. As a signatory to this agreement, they are designated as the 'Signing Authority' for the Apprentice's Skill Set Completion Form and are required to attest to successful achievement by signing the appropriate box at the completion of each skill set. Some sponsors may also act as the Trainer.

A **Trainer** is an individual who oversees the performance of a task and sets the workplace expectations and practices for the Apprentice.

In compulsory trades, a Trainer must hold a valid Certificate of Qualification and be registered with Skilled Trades Ontario.

In non-compulsory trades, a Trainer is an individual who holds one of the following:

- A Certificate of Qualification;
- A Certificate of Apprenticeship in the trade; or,
- Has completed both the workplace-based training (competencies and/or hours as applicable) and classroom training components of the trade's apprenticeship program; or,
- Has workplace experience equivalent to the apprenticeship program) and has the skills outlined in the Logbook.

Competency means being able to perform to the required standard (please refer to *"Introduction to the Logbook"*). Trainers/Sponsors and Apprentices are required to sign-off and date the skills in the Logbook following each successful acquisition. The Logbook forms a record of this achievement.

The Trainer must provide their signature based on their assessment and professional judgment that the apprentice is competent in the skills described above. The Trainer's signature is not a general warranty or guarantee of the apprentice's future conduct.

Sponsors participating in this training program will be designated as the Signing Authority and are required to attest to successful achievement by signing the appropriate box included at the end of each skill set.

Health and Safety

Safe working procedures and conditions, accident prevention and the preservation of health are of primary importance for apprenticeship programs in Ontario. These responsibilities are shared and require the joint efforts of government, sponsors, employers, supervisors, workers, apprentices and the public to achieve the goal of making Ontario's workplaces safe and healthy.

The [Occupational Health and Safety Act](#) (OHSA) provides us with the legal framework and the tools to do this. It sets out the rights and duties of all parties in the workplace, placing ultimate responsibility on the employer for the health and safety of workers (in this case apprentices) by ensuring procedures, controls, and training are established for dealing with workplace hazards. Therefore, it is imperative that all parties become aware of circumstances that may lead to injury, illness or harm. Safe learning experiences and environments can be created by controlling the variables and behaviours that may contribute to or cause an accident injury or illness.

A sponsor who is not the employer is reminded that the employer has legal responsibilities respecting health and safety over the apprentice who is their worker. The sponsor should encourage safe work habits and adherence to the employer's occupational health and safety requirements for the workplace.

It is generally recognized that a positive attitude about safety in partnership with health and safety competency contributes to an accident-free environment. Everyone will benefit as a result of a healthy attitude towards the prevention of accidents.

Workers and apprentices can be exposed to a multitude of hazards and, therefore, should be familiar with the Occupational Health and Safety Act and regulations.

The Internal Responsibility System:

One of the primary purposes of the Occupational Health and Safety Act (OHSA) is to facilitate a strong Internal Responsibility System (IRS) in the workplace. To this end, the OHSA lays out the duties of employers, supervisors, workers, apprentices, constructors and workplace owners.

Workplace parties' compliance with their respective statutory duties is essential to the establishment of a strong IRS in the workplace.

Simply put, the IRS means that everyone in the workplace has a role to play in keeping workplaces safe and healthy. Workers and apprentices in the workplace who see a health and safety problem such as a hazard or contravention of the OHSA in the workplace have a statutory duty to report the situation to the employer or a supervisor. Employers and supervisors are, in turn, required to address those situations and acquaint workers with any hazard in the work that they do.

The IRS helps support a safe and healthy workplace. In addition to the workplace parties' compliance with their legal duties, the IRS is further supported by well-defined health and safety policies and programs, including the design, control, monitoring and supervision of the work being performed.

Roles and Responsibilities under the Occupational Health and Safety Act

Employer's Responsibilities include but are not limited to the following:

- Instruct, inform and supervise workers and apprentices to protect their health and safety.
- Appoint competent persons as supervisors.
- Inform a worker, apprentice, or a person in authority, about any hazard in the workplace and train them in the handling, storage, use, disposal and transport of any equipment, substances, tools, material, etc.
- Take every precaution reasonable in the circumstances for the protection of a worker/apprentice.
- In workplaces in which more than five workers are regularly employed, prepare and post a written occupational health and safety policy and set up and maintain a program to implement it.
- Prepare and post policies with respect to workplace violence and workplace harassment and develop programs supporting workplace harassment and workplace violence policies.
- Ensure knowledge of applicable legislative, regulatory, codes and standards so requirements to be followed are clear to all workers/apprentices.

Trainer/Supervisor Responsibilities include but are not limited to the following:

- Ensure that a worker or apprentice works in compliance with the Act and regulations.
- Ensure that any equipment, protective device or clothing required by the employer is used or worn by the worker or apprentice.
- Advise a worker/apprentice of any potential or actual health or safety dangers known by the supervisor.
- Take every precaution reasonable in the circumstances for the protection of workers.

Worker/Apprentice Responsibilities include but are not limited to the following:

- Work in compliance with the Act and regulations.
- Use or wear any equipment, protective devices or clothing required by the employer.
- Report to the employer or supervisor any known missing or defective equipment or protective device that may endanger the worker or another worker.
- Report any hazard or contravention of the Act or regulations to the employer or supervisor.
- Not remove or make ineffective any protective device required by the employer or by the regulations.
- Not use or operate any equipment or work in a way that may endanger any worker.

The Three Rights of Workers/Apprentices

The OHSA gives workers and apprentices three important rights:

1. The right to know about hazards in their work and get information, supervision and instruction to protect their health and safety on the job.
2. The right to participate in identifying and solving workplace health and safety problems either through a health and safety representative or a worker member of a joint health and safety committee.
3. The right to refuse work that they believe is dangerous to their health and safety or that of any other worker in the workplace.

Ministry of Labour, Immigration, Training and Skills Development

The Ministry of Labour, Immigration, Training and Skills Development conducts periodic inspections of workplaces to ensure that safety acts and regulations are being followed. Please direct any questions to the Occupational Health and Safety Contact Centre at 1-877-202-0008.

Apprenticeship Program Summary/Guidelines

Scope of Practice

The Scope of Practice for the trade of Surface Blaster is set out in section 131 of Ontario Regulation 875/21 under BOSTA and reads as follows:

131. The scope of practice for the trade of surface blaster includes assessing the pre-blast area and site, controlling the blast area, designing and implementing the blast, loading blast holes, hooking up and initiating shot and assessing blast results.

*While the Logbook draws on the scope of practice regulation (Section 131 of Ontario Regulation 875/21 under BOSTA). The Logbook does not purport to add to or modify the scope of practice as provided in regulation. *

Program Guidelines

On-the-Job Training Duration

Industry has identified 2240 hours as the benchmark necessary for any Apprentice to become competent in the skills required. There may be circumstances in which the duration varies from this guideline.

In-Class Training Duration

Industry has identified 360 hours of in-school training as the duration necessary for an Apprentice to complete the in-school curriculum for this program.

Total Training Hours

2600 hours

Journeyman to Apprentice Ratio

Industry Recommended Ratios: While some of the trades regulated under BOSTA are subject to Journeyman to Apprentice ratios set out in regulation, this trade is not one of them. Instead, **industry has recommended a Journeyman to Apprentice ratio guideline of 1 Journeyman (or individual who is deemed equivalent to a journeyman) to 1 Apprentice** as the ratio necessary for an Apprentice to be properly trained on the job in this program.

Program Requirements

Compulsory and Non-compulsory Classification

Regulations under the *Building Opportunities in the Skilled Trades Act, 2021*, classify each trade as either “compulsory” or non-compulsory.” This trade is non-compulsory.

It is the responsibility of an Apprentice to maintain a training record in the form of a Logbook. The Sponsor and Trainer are required to sign-off when competencies in the trade are achieved.

Skills for Success Summary

Skills for Success are needed in a quickly changing world for work, learning and life. They are foundational for building other skills and important for effective social interaction.

Everyone benefits from having these skills as they help individuals get a job, progress at their current job and change jobs. They also help individuals become active members of their community and succeed in learning.

Through extensive research and consultations, the Government of Canada launched the new Skills for Success model renewing the previous Essential Skills framework to better reflect the needs of the current and future labour market.

The occupational specific Essential Skills profiles are available online. These will be updated over time to align with the new Skills for Success model found here: [Skills for Success model](#)

Standard of Performance

In general, the standard of performance for the trade of Surface Blaster are to be performed, as applicable, according to and in compliance with the following:

Industry Safety Standards which are based upon:

- Occupational Health and Safety Legislation and Regulations;
- Jurisdictional legislation and regulations, codes and standards (municipal bylaws etc.)
- Company policies and procedures
- All applicable manufacturers specifications and engineering specifications

Training the Apprentice - Tips for Apprentices, Sponsors and Trainers

Tips for Apprentices

Remember, it takes time to learn. The following is a list of additional tips and tools to help make the most of your apprenticeship training:

- Practice safe work procedures early to create good habits;
- Use your Logbook as a journal to keep track of the skills you have achieved;
- Review your training plan with your Training Consultant, Trainer, or Sponsor;
- Discuss your training needs with your Trainer and/or Sponsor;
- Listen to the suggestions of your Trainer;
- Ask your Trainer questions if you are unsure of any skill you need to perform or any tools or equipment you need to use to perform your duties;
- Show enthusiasm and develop good work habits; and,
- Upon demonstration of competency, ensure that you and your Trainer sign-off the individual skills.

To get the most from this mentoring experience, request exposure to the full scope of the trade; meet regularly with your Sponsor/Trainer to discuss your progress, ask questions and seek feedback.

Tips for Sponsors

- Select Trainers with good communication skills and who work well with others;
- Ensure that the Apprentice always works under the direction of or has access to a qualified Trainer;
- Encourage Trainers to take upgrading courses (e.g. Train the Trainer, Mentor, Coach, etc.);
- Set out clear expectations and involve both the Apprentice and Trainer in developing the training plan
- Encourage safe work habits;
- Allow time for the Trainer to train and demonstrate skills to the Apprentice;
- Provide opportunities and time for the Apprentice to learn the trade;
- Ensure that the Apprentice receives the varied on-the-job trade training experience outlined in this document;
- Recognize good performance;
- Observe frequently;
- Provide constructive feedback and conduct regular performance reviews involving the Apprentice and Trainer;
- Use the Logbook as a monitoring tool and a part of regular performance evaluations; and,
- Complete the Skill Set Completion Form once the Apprentice has demonstrated competency in the skills.

- The detailed content listed for each skill is not intended to represent an inclusive list; rather, it is included to illustrate the intended direction for the skill acquisition.

Tips for Trainers

Trainers are responsible for ensuring the Apprentice is developing the skills outlined in this document. Here is a list of tips and tools to help Trainers in their supervision of Apprentices:

- Demonstrate model safe work habits;
- Provide opportunities and time for the Apprentice to learn the trade;
- Treat Apprentices fairly and with respect;
- Review the Logbook with the Apprentice and develop a training plan;
- Set out clear expectations and recognize good performance;
- Expose Apprentices to the full scope of the trade by providing training on the skills outlined in this document;
- Encourage and respond to all questions;
- Be patient;
- Explain, show and demonstrate the skill;
- **Meet regularly with the Apprentice to discuss the apprentice's progress**
- Provide continuous feedback;
- Sign-off skills when your Apprentice demonstrates competency, and,
- Use the Logbook as a guide to evaluate competence in each skill area. By using the Logbook, Trainers will be able to guide the process to and assist Apprentices to develop skills outlined in this document.

The best mentoring experience is when an Apprentice is given as much training/exposure to the full scope of the trade as possible. If this is not possible, help them to determine other ways this may be possible.

Notice of Collection of Personal Information

1. At any time during your apprenticeship training, you may be required to show this Logbook to the local Service Delivery Office. You will be required to submit the signed Apprenticeship Completion form to the Service Delivery Office in order to complete your program. The Service Delivery Office will use your personal information to administer and finance Ontario's apprenticeship training system, including confirming your completion and issuing your Certificate of Apprenticeship.
2. The Service Delivery Office will disclose information about your program completion and your Certificate of Apprenticeship to Skilled Trades Ontario, as it is necessary for Skilled Trades Ontario to carry out its responsibilities.
3. Your personal information is collected, used and disclosed by the Ministry of Labour, Immigration, Training and Skills Development under the authority of the *Building Opportunities in the Skilled Trades Act, 2021 (BOSTA)*.
4. Questions about the collection, use and disclosure of your personal information by the Ministry may be addressed to the:

Manager, Employment Ontario Contact Centre
Ministry of Labour, Immigration, Training and Skills Development
33 Bloor St. E, 2nd floor, Toronto, Ontario M7A 2S3
Toll-free: 1-800-387-5656; Toronto: 416-326-5656
TTY: 1-866-533-6339 or 416-325-4084

List of Trainers

Trainer's Name (Please Print)	Trainer's Signature	Date of start with Trainer (day/month/year)

U8030.0 Protect Self and Others**General Performance Objective**

Protect self and others by: identifying, interpreting and complying with federal, provincial and municipal legislation and regulations; wearing and maintaining appropriate eye, face, head, hearing, hand and foot protection; selecting and maintaining appropriate fall protection; mounting and dismounting equipment using 3-point contact method; directing all onsite personal; directing all onsite equipment; handling all explosives; storing and securing all explosives as required; disposing of surplus, expired or unused explosive products; and transporting explosives.

Skills

8030.01 Identify, interpret and comply with federal, provincial and municipal legislation and regulations, including Canada Explosive Act (CEA), Transportation of Dangerous Goods Act (TDGA), the Ontario Health and Safety Act (OHSA), Dangerous Goods Transportation Act (DGTA), during all work operations, to ensure safety of self and others according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** In this trade a trainer must be competent in the skill, but it is not mandatory to be a member of Skilled Trades Ontario or have a Certificate of Qualification (CofQ).**

8030.02 Wear and maintain appropriate eye protection, ensuring correct fit during all work operations, to protect self from eye injury according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8030.03 **Wear and maintain appropriate face protection**, ensuring correct fit during all work operations to protect self from face injury according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8030.04 **Wear and maintain appropriate head protection**, ensuring correct fit during all work operations to protect self from head injury according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8030.05 **Wear and maintain appropriate hearing protection**, ensuring correct fit during work operations where daily noise exposure exceeds regulated limits, to protect against hearing loss according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8030.06 **Wear and maintain appropriate hand protection**, ensuring correct during work operations to protect self from hand injury according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8030.07 **Wear and maintain appropriate foot protection**, ensuring correct fit during all work operations to protect self from foot injury according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8030.08 **Select and maintain appropriate fall protection**, ensuring correct fit, during all work operations, to protect self from injury according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8030.09 Mount and dismount equipment using 3-point contact method, to prevent personal injury according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8030.10 Direct all onsite personnel, during all job operations, to protect self and others from injury according to owner/operator manuals, government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8030.11 Direct all onsite equipment, during all job operations, to protect self and others from injury according to owner/operator manuals, government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8030.12 **Handle all explosives**, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8030.13 **Store and secure all explosives as required**, in an approved and/or licensed container according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8030.14 **Dispose of surplus, expired or unused explosive products**, using approved methods, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8030.15 **Transport explosives**, in a carrier, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

U8031.0 **Communicate in Work Place**

General Performance Objective

Communicate in workplace by: determining the chain of command; identifying all authorized personnel and established contacts; complying with job instructions; performing job tasks as a team; maintaining records; and using approved hand signals or other means of communication.

Skills

8031.01 **Determine chain of command**, including the blaster-in-charge, in order to confirm job responsibilities according to project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** In this trade a trainer must be competent in the skill, but it is not mandatory to be a member of Skilled Trades Ontario or have a Certificate of Qualification (CofQ).**

8031.02 Identify all authorized personnel and established contacts, with respect to the project, by communicating effectively with contractors and others according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8031.03 Comply with job instructions, to create a safe working environment for blasting operations with co-workers and others by following contract specifications, drawings, supervisor guidelines and government legislative requirements according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8031.04 Perform job tasks as a team, by communicating and interacting with co-workers or other personnel according to government regulations, project specifications, company policy and job specific procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

- 8031.05** **Maintain records**, including daily diary, blast reports, bills of lading, accident reports, incident reports, production reports, inventory, blaster's log and maintenance records, where applicable, at all times according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

- 8031.06** **Use approved hand signals or other means of communication**, when communicating with equipment operators, to ensure a clear understanding of the directions according to Infrastructure Health and Safety Association (IHSA) requirements, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

U8032.0 Assess Blasting Area and Site**General Performance Objective**

Assess blasting area and site by: establishing blast site perimeter; establishing blast area perimeter; determining geological features of rock; identifying hazards above and below ground; identifying local environmental conditions; determining personnel requirements; determining signage and barrier requirements; verifying pre-blast survey report; determining monitoring requirements; checking for miss holes; review project requirements; confirming locates; ensuring required permits are in place; and ensuring blast notifications are issued.

Skills

8032.01 Establish blast site perimeter, according to the location where explosives are handled for the loading of a blast, in order to restrict unauthorized personnel from entering the site according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** In this trade a trainer must be competent in the skill, but it is not mandatory to be a member of Skilled Trades Ontario or have a Certificate of Qualification (CofQ).**

8032.02 Establish blast area perimeter, according to the type of blast, local site conditions, potential fly rock range and safe starting point to ensure safe blast operations using maps, measuring devices and electronic tools according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

- 8032.03 Determine geological features of rock**, by referencing blast history, observing rock outcrops, drill cuttings and/or obtaining drilling records and/or geo- technical reports from appropriate sources, in order to achieve safe blast with desired fragmentation according to project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

- 8032.04 Identify hazards above and below ground**, including all utilities, infrastructure and radio frequency transmissions, by observation and reference to drawings and specifications, in order to prevent injury and property damage using appropriate documentation tools and methods according to project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

- 8032.05 Identify local environmental conditions**, such as locating water sources, wildlife habitats, protected vegetation, by referring to project specifications for environmental restrictions in order to minimize local environmental impact according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8032.06 Determine personnel requirements, according to job schedule and size of project, in order to ensure safe and productive operations according to company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8032.07 Determine signage and barrier requirements, according to number of accesses leading to the site, to establish the blast area and to warn of potential hazards according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8032.08 Verify pre-blast survey report, by checking with management, to ensure that pre- blast survey has been completed, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8032.09 Determine monitoring requirements, to correctly and accurately assess environmental impact such as water tables, noise, vibration and dust according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8032.10 Check for miss holes, from previous blasting operations, by visual inspection of blast site, to identify potential hazards according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8032.11 Review project requirements, to comply with special provisions, including blasting hours, explosive products and blast design for the project according to government regulations, project specifications/provisions and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8032.12 Confirm locates, by contacting contractors or utilities and, if required, arranging for day lighting visual inspection within blast site, to prevent damage to utilities or property according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8032.13 Ensure required permits are in place, including magazine permits, hot-load letters, utility company permits, and blasting permits, before the project commences, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8032.14 Ensure blast notifications are issued, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

U8033.0 Control Blast Area**General Performance Objective**

Control blast site by: posting area, site warning signs and barriers; communicating with other crews and contractors in the blast area; instructing and posting guards; notifying adjacent utility owners, property owners and residents of impending blast; and removing non-essential personnel and equipment.

Skills

- 8033.01 Post area, site warning signs and barriers**, before loading commences, according to the number of accesses to the site and area in order to prevent unauthorized persons from entering the blast area and according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** In this trade a trainer must be competent in the skill, but it is not mandatory to be a member of Skilled Trades Ontario or have a Certificate of Qualification (CofQ).**

- 8033.02 Communicate with other work crews and contractors in the blast area**, before explosives arrive at the site, in order to carry out blasting operations according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8033.03 Instruct and post guards, before blast initiation, to prevent unauthorized persons from entering the blast area and to explain potential fly-rock hazards in order to prevent injury according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8033.04 Notify adjacent utility owners, property owners and residents of impending blast, before blast initiation, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

U8033.05 Remove non-essential personnel and equipment, prior to initiation, in order to prevent injury and property damage according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

U8034.0 Develop / Implement Blast Design**General Performance Objective**

Develop/implement blast design by: reviewing historical blasting information; reading and interpreting plans, grade sheets, and limits of excavation; designing pre-blast plan; verifying blast design; verifying blast perimeters; checking for potential fly rock hazards; determining type of explosive products; and calculating powder factor.

Skills

8034.01 Review historical blasting information, if available, before designing blast, in order to achieve desired excavation results using references such as other previous blasters and blast reports, according to company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** In this trade a trainer must be competent in the skill, but it is not mandatory to be a member of Skilled Trades Ontario or have a Certificate of Qualification (CofQ).**

8034.02 Read and interpret plans, grade sheets, and limits of excavation, before designing blast, in order to achieve desired excavation results according to project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8034.03 Design pre-blast plan, according to site conditions, fly rock, air blast and vibration limitations, direction of blast, initiation sequencing, explosive products and accessories, and fragmentation requirements, in order to maximize blasting results according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8034.04 Verify blast design, if provided by alternate sources, in order to confirm the design will achieve desired results according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8034.05 Verify blast perimeters, in the field, to ensure that drilling, loading of explosives and initiation of the blast has been carried out as per design according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8034.06 **Determine type of explosive products**, by assessing site conditions including water, seams, rock formations and environmental impact in order to conduct blasting operations, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8034.07 **Calculate powder factor**, based on blast design, in order to confirm that blast results will be achieved according to the design and according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

U8035.0 Load Blast Holes**General Performance Objective**

Load blast holes by: obtaining drill log and verifying drilling before loading; checking for lightning and potential extraneous currents; identifying climatic conditions; checking for ground water; dewatering holes; verifying selection of product and blasting accessories; verifying product condition and date code; laying out boosters; priming holes; verifying primary location; verifying detonator; loading explosives; monitoring column rise; stemming hole; returning excess explosive products and accessories; shunting leg wires; and securing and protecting non-electric detonating lead-in lines.

Skills

- 8035.01 Obtain drill log and verify drilling before loading**, by inspecting drill holes for depth diameter and deviation, verifying pattern dimensions, to ensure drilling has been conducted according to the design, government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** In this trade a trainer must be competent in the skill, but it is not mandatory to be a member of Skilled Trades Ontario or have a Certificate of Qualification (CofQ).**

- 8035.02 Check for lightning and potential extraneous currents**, by conducting a visual inspection of potential extraneous current sources, obtaining weather forecast information, using lightning detector and/or an AM radio receiver (off station), to determine potential hazard for premature detonation according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8035.03 Identify climatic conditions, including wind, temperature, and inversion effects, by visual observation and weather forecast information, in order to change explosive accessories and explosive loading practices, to conduct blast operations according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8035.04 Check for ground water, by inspecting drill holes, in order to select appropriate products and loading practices according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8035.05 Dewater holes, by using pumps, blowpipes and/or other approved equipment, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8035.06 **Verify selection of product and blasting accessories**, including detonators, cast primers, detonating cord and surface connectors, by inspecting products and shipping documents, in order to ensure correct explosive products and accessories are delivered according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8035.07 **Verify product condition and date code**, from packaging and compare to manufacturer's recommended shelf life, by conducting a visual examination of explosives and explosive accessories, to ensure optimum product performance according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8035.08 **Lay out boosters**, detonators and other explosive products, to prepare for loading according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8035.09 **Prime holes**, by lowering primers and/or detonators to desired depth in the holes, in order to ensure proper initiation of the explosive columns according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8035.10 **Verify primer location**, by checking shock tube or leg wire length, in order to ensure explosive column is primed at desired location according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8035.11 **Verify detonators**, by using appropriate testing methods and devices in order to ensure detonator continuity and the delay period according to manufacturer specifications, government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8035.12 Load explosives, by filling the remainder of the drill hole to desired collar in order to complete the loading procedure according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8035.13 Monitor column rise, for slumping and sagging of explosive column in order to prevent overload or underload into seams, vents and voids using appropriate measuring device according to project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8035.14 Stem hole, by filling collar area with appropriate size and type of stemming material, in order to minimize noise, overpressure, fly rock and rifling according to project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8035.15 **Return excess explosive products and accessories**, after loading is completed and place them in approved explosive storage in order to prepare for hookup according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8035.16 **Shunt leg wires**, until ready for hook up by closing detonator circuit, in order to prevent premature detonation from extraneous currents according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8035.17 **Secure and protect non-electric detonating lead-in lines until ready for hook up**, using appropriate methods, according to manufacturing specifications, government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

U8036.0 Maintain Accessories**General Performance Objective**

Maintain accessories by: verifying blasting machine condition; verifying seismograph condition; verifying matting equipment condition; testing warning devices; verifying lead line or harness wires continuity and condition; testing lightning detector; and verifying tools and equipment condition.

Skills

- 8036.01 Verify blasting machine condition**, visually, for corrosion or damage, battery condition, charge/discharge time and change batteries or send machine to authorized service facility for repairs as required, to ensure proper machine operating condition in accordance with manufacturer specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** In this trade a trainer must be competent in the skill, but it is not mandatory to be a member of Skilled Trades Ontario or have a Certificate of Qualification (CofQ).**

- 8036.02 Verify seismograph condition**, visually, for items such as calibration date, correct printer, pen, paper operation, correct sensors, cable, microphone and battery condition, to ensure accurate recording of blast vibration and over pressure measurement, in accordance with manufacturer specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

- 8036.03** **Verify matting equipment condition**, including blasting mats, approved lifting hooks and cables, holes in the blasting mats, mat cables and clamps, and debris wedged in the blasting mats, by using adequate lifting equipment, to ensure safe operation according to government regulation, manufacturer specifications, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

- 8036.04** **Test warning devices**, prior to blast initiation to ensure they are in good operating conditions and producing audible sound, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

- 8036.05** **Verify lead line or harness wires continuity and condition**, visually and physically, measuring resistance with an approved device such as blasting galvanometer, scanner or logger, to identify discontinuities and or current leakage according to manufacturer specifications, government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8036.06 **Test lightning detector**, for proper operation and battery level, and send to authorized service centre for repairs if required, to ensure operation in accordance with manufacturer specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8036.07 **Verify tools and equipment condition**, prior to loading, such as loading poles, blasting galvanometer, non-electric initiation devices and splicing kits, dewatering equipment and powder punches, according to manufacturer specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

U8037.0 Control Fly Rock

General Performance Objective

Control fly rock by: checking for potential fly rock hazards; adjusting loading of individual holes; verifying timing; selecting appropriate matting materials; and directing the placement of selected matting.

Skills

- 8037.01 Check for potential fly rock hazards**, by continuous visual inspection of burden and spacing, rock face, overburden, loading irregularities, rock geology and direction of blast initiation, in order to make necessary loading adjustments according to project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** In this trade a trainer must be competent in the skill, but it is not mandatory to be a member of Skilled Trades Ontario or have a Certificate of Qualification (CofQ).**

- 8037.02 Adjust loading of individual holes**, based on hazards identified in the assessment, including decking, increasing the collar, adjusting type and size of explosives, and changing the size and type of stemming materials, in order to control the energy of the charge according to project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8037.03 **Verify timing**, by visual inspection or use of appropriate devices, to ensure proper sequencing of blast holes according to design specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8037.04 **Select appropriate matting materials**, such as rubber tire, sand, earth or geo- textile, according to hazard assessment and site conditions, in order to control fly rock according to government regulation, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8037.05 **Direct the placement of selected matting**, after loading and confirmation of tie-in of blast using appropriate communication signals such as hand signals or electronic means, in order to control fly rock according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

U8038.0 Hook Up and Initiate Blast

General Performance Objective

Hook up and initiate blast by: clearing blast site; verifying initiation design; checking leg wire, harness wire, shock-tube, or detonator cord condition; connecting detonators; walking the blast; running out lead line; clearing blast area; positioning required number of guards; initiating warning signal; verifying lead line procedure; verifying shock tube lead-in line procedure; verifying lead line procedure; communicating with guards; sounding final warning; connecting blasting machine; conducting test blasts; disconnecting lead-in line from blasting machine; conducting post blast site inspection; and sounding all clear signal and communicating area status with guards.

Skills

8038.01 Clear blast site, by removing all unnecessary items and hazards such as excess personnel, explosive products and accessories, empty boxes, hole plugs, tools, equipment and sharp objects, to protect the integrity of the surface initiation system according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** In this trade a trainer must be competent in the skill, but it is not mandatory to be a member of Skilled Trades Ontario or have a Certificate of Qualification (CofQ).**

8038.02 Verify initiation design, before commencing final hook up, in order to ensure correct detonation sequence according to blast design, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.03 Check leg wire, harness wire, shock-tube, or detonating cord condition, by visual and physical inspection, to ensure no breaks, irregularities or open circuits are present according to manufacturer specifications, government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.04 Connect detonators, after blasthole loading and stemming is completed, using required tools, according to blast design sequence, manufacturer specifications, government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.05 Walk the blast, after hook up, in order to perform final visual inspection of hook up according to government regulation, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.06 **Run out lead line**, testing, repairing or replacing as required, using approved tools and equipment, to ensure lead line is prepared for final hook up, according to government regulation, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.07 **Clear blast area**, by moving personnel and equipment to safe distance outside blast area, to protect personnel and equipment, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.08 **Position required number of guards**, providing them with instructions regarding their roles and responsibilities, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.09 **Initiate warning signal**, after receiving visual and/or auditory communication from guards, that blast area is cleared and secured of unauthorized personnel and equipment, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.10 **Verify lead line procedure**, is completed in an electric blast by ensuring lead line is shunted, connecting lead line to circuits, testing for continuity using an approved and appropriate blasting device, and tying lead in line to blast machine, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.11 **Verify shock tube lead-in line procedure**, is completed in a non-electric blast by ensuring lead-in line is connected to point of initiation and lead-in line is connected to initiator according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.12 **Verify buswire procedure**, is completed in an electronic blast by testing and programming according to manufacturer specifications, government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.13 **Communicate with guards**, by visual and/or electronic communication devices to confirm blast area is secured, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.14 **Sound final warning**, after final communication with guards, to signal pending blast according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.15 Connect blasting machine, after guards confirmed, sound final warning and fire blast according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.16 Conduct test blasts, by implementing approved blast design in order to confirm the blast design produces desired results according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.17 Disconnect lead-in line from blasting machine, after initiation of blast, follow manufacturer's specifications for the initiation system used in blast according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.18 **Conduct post blast site inspection**, ensure the blast area is safe to re-enter according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8038.19 **Sound all clear signal and communicate area status with and relieve guards**, after confirming blast area is safe and secured, to allow normal operations to resume according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

U8039.0 Assess Blast Results**General Performance Objective**

Assess blast results by: waiting appropriate time before entering blast site; assessing test blast results; inspecting blast results; evaluating blast data from monitoring equipment; reporting all incidents; implementing procedures to address misfires and cutoffs; and rectifying other problems/malfunctions.

Skills

8039.01 Wait appropriate time before entering blast site, according to atmospheric conditions, government regulations, project specifications or company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** In this trade a trainer must be competent in the skill, but it is not mandatory to be a member of Skilled Trades Ontario or have a Certificate of Qualification (CofQ).**

8039.02 Assess test blast results, by visual inspection of the fragmentation, heave, fly rock, blast monitoring records, over break, under break, grades and limits, in order to determine if any adjustments to approved blast design are necessary according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8039.03 **Inspect blast results**, visually and physically, in order to evaluate blast performance, identify misfires or other unsafe conditions according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8039.04 **Evaluate blast data from monitoring equipment**, by reviewing data such as seismic and overpressure readings, modifying blast design as required, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8039.05 **Report all incidents**, such as fly rock, injuries, blasting complaints, vibrations and overpressure exceedances to supervisor, according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8039.06 **Implement procedures to address misfires and cut-offs**, in order to ensure safety of people and property in the blast area according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

8039.07 **Rectify other problems/malfunctions**, such as vibration and overpressure damage, fly rock, and poor blast results by adjusting blast design, matting procedures, expanding blast area and repairing or replacing faulty equipment, in order to achieve desired results in future operations according to government regulations, project specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

Trade Related Glossary

This glossary was developed for the exclusive purpose of providing consistent training in this trade.

acceptor	A charge of explosives or blasting agent receiving an impulse from an exploding donor charge.
airblast	The airborne shock wave or acoustic transient generated by an explosion synonymous with overpressure.
air deck	A section of unloaded blasthole which can be positioned anywhere in the hole. This technique is typically used to improve distribution of explosive energies and to reduce quantity of explosives.
air overpressure	Refer to Airblast above. Also referred to as overpressure.
"Always and Never"	List of precautions (IME Safety Library Publication No. 4) printed by the Institute of Makers of Explosives pertaining to the transportation, storage, handling and use of explosive materials. Formerly titled "Do's AND Don'ts".
Ammonium Nitrate	The ammonium salt of nitric acid represented by the formula NH_4NO_3 .
ampere	unit of electrical current produced by 1 volt acting through a resistance of 1 ohm.
anfo	An explosive material consisting of ammonium nitrate and fuel oil.
artificial Barricade	An artificial mound or revetted wall of earth of minimum thickness of three feet.
authorized person	An individual approved or assigned by management to perform a specific duty or duties or to be at a specific location or locations.
authority having jurisdiction	The governmental agency, office, or individual responsible for approving equipment, an installation, or a procedure.
available energy	The energy from an explosive material that is capable of performing useful work.

backbreak	Rock broken beyond the limits of the last row of holes in a blast. Synonymous with “overbreak”.
ballistic mortar	A laboratory instrument used for measuring the relative power or strength of an explosive material.
barricaded	The effective screening of a building containing explosive materials from a magazine or other building, railway, or highway by a natural or an artificial barrier. A straight line from the top of any sidewall of the building containing explosive materials to the eave line of any magazine or other building or to a point twelve feet above the center of a railway or highway shall pass through such barrier.
base charge	The main explosive charge in the base of a detonator.
bench	A horizontal ledge from which holes are drilled vertically down into the material to be blasted: benching is a process of excavating where a highwall is worked in steps or lifts.
bench height	The vertical distance from the top of a bench to the floor or to the top of the next lower bench.
black powder	A deflagrating or low explosive compound of an intimate mixture of sulfur, charcoal, and an alkali nitrate, usually potassium or sodium nitrate.
blast, (blasting)	The firing of explosive materials for such purposes as breaking rock or other material, moving material, or generating seismic waves.
blast area	The area of a blast within the influence of flyrock, gases, and concussion.
blast design	A formal document which establishes and details all relevant parameters required for the Blaster to load and fire the blast.
Blaster	A qualified person in charge of, and responsible for, the loading and firing of a blast. Synonymous with “shot firer”.
blasthole	See “drill hole” and borehole.
blast parameters	All parameters used to design and define the blast such as blast pattern, blasthole diameter, blasthole depth, explosive product and blast timing.

blast pattern	The plan of the drill holes as laid out for blasting: an expression of the burden distance and the spacing distance and their relationship to each other. Synonymous with “drill pattern”.
blast proposal	A proposal which formally establishes conditions associated with the blasting operation. May include components such as project description, safety considerations, (such as loading restrictions, guard locations, limits of blast area, limits of blast site) blast designs, personnel qualifications and site restrictions.
blast site	The area where explosive material is handled during loading of blastholes, including 15.2m in all directions from the perimeter formed by loaded holes. A minimum 9.2m may replace the 15.2m requirement if the perimeter of loaded holes is marked and separated from the non-blast site by a barrier.
blast timing	See “delay sequence”.
blasting accessories	Non-explosive devices and materials used in blasting, such as, but not limited to, cap crimpers, tamping bags, blasting machines, blasting galvanometers, and cartridge punches.
blasting agent	Any material or mixture, consisting of a fuel and oxidizer, intended for blasting, not otherwise classified as an explosive and in which none of the ingredients are classified as an explosive, provided that the finished product, as mixed and packaged for use or shipment, cannot be detonated by means of a No. 8 test blasting cap when unconfined.
blasting cap	A detonator which is initiated with a safety fuse. Synonymous with “fuse cap”, also see “detonator”.
blasting crew	A group of persons who assist the blaster in loading, tying-in, and firing a blast.
Blasting Galvanometer	An electrical resistance instrument designed specifically for testing electric detonators and circuits containing them. It is used to check electrical continuity. Other acceptable instruments for this purpose are Blasting Ohmmeters and Blasters' Multimeters.
blasting log	A written record of information about a specific blast as may be required by law or regulation.

blasting machine	An electrical or electromechanical device which provides electrical energy for the purpose of energizing detonators in an electric blasting circuit. Also used in reference to certain nonelectric systems. (Sometimes called exploder or battery.)
blasting machine CD type	See Capacitor-Discharge blasting machine.
blasting machine generator type	A hand operated electromechanical device which provides an output current to energize electric detonators.
blasting mat	A mat of woven steel wire, rope, scrap tires, or other suitable material or construction to cover blastholes for the purpose of preventing flying rock missiles.
blasting permit	A permit issued by an issuing authority to formally authorize the use of explosives for a specific jurisdiction, area or application.
blasting rheostat	A graduated electrical resistance device used to simulate electric detonator resistances for the testing of generator type blasting machines.
blasting vibrations	The energy from a blast that manifests itself in vibrations which are transmitted through the earth away from the immediate blast area.
blockholing	The breaking of boulders by loading and firing small explosive charges in small- diameter drilled holes.
booster	An explosive charge, usually of high detonation velocity and detonation pressure, designed to be used in the explosive initiation sequence between an initiator or primer and the main charge.
bootleg	The part of a drilled blasthole that remains when the force of the explosion does not break the rock completely to the bottom of the hole. Synonymous with "socket".
borehole	A hole drilled in the material to be blasted, for the purpose of containing an explosive charge, also called "blasthole" or "drill hole".
breakage	A term used to describe the size distribution of the rock fragments created by a blast.

bridgewire	A resistance wire connecting the ends of the leg wires inside an electric detonator and which is imbedded in the ignition charge of the detonator.
brisance	The shattering power of an explosive material as distinguished from its total work capacity.
British table of distances	A quantity distance table, prepared and approved by IME, for storage of explosive materials to determine safe distances from inhabited buildings, public highways, passenger railways, and other stored explosive materials.
bulk mix	A mass of explosive material prepared for use in bulk form without packaging.
bulk mix delivery equipment	Equipment (usually a motor vehicle with or without a mechanical delivery device) that transports explosive materials in bulk form for mixing or loading directly into blastholes, or both.
bulk strength	The strength per unit volume of an explosive calculated from its weight strength and density.
bulldoze	Synonymous with “mudcapping” and “plaster”.
burden	The distance from the borehole and the nearest free face or the distance between boreholes measured perpendicular to the spacing. Also, the total amount of material to be blasted by a given hole usually measured in cubic yards or tons.
bus wire	Expendable heavy gage bare copper wire used to connect detonators or series of detonators in parallel.
calibration date	The date on which a piece of equipment (such as a seismograph) that requires calibration is formally calibrated by a recognized calibration facility to an established standard.
cap sensitive explosive material	An explosive material which will detonate with an IME No. 8 test detonator when the material is unconfined.
Capacitor Discharge blasting machine	A blasting machine in which electrical energy, stored on a capacitor, is discharged into a blasting circuit containing electric detonators.

carton	A lightweight inner container for explosive materials, usually encased in a substantial shipping container called a case.
cartridge	An individual closed shell, bag, or tube of circular cross section containing explosive material.
cartridge count (stick count)	The number of cartridges in a standard case. A standard case typically contains about 50 pounds of explosive material.
cartridge punch	A wooden, plastic, or non-sparking metallic device used to punch an opening in an explosive to accept a detonator or a section of detonating cord. Synonymous with “powder punch”.
cartridge strength	Synonymous with “bulk strength”.
case	An outer substantial shipping container meeting Transport Canada specifications for explosive materials.
case insert	A set of printed, precautionary instructions, including the Manufacturer’s "Instructions and Warnings" which is included in a case of explosive materials.
case liner	A separate barrier inside a shipping case, used to prevent the escape of explosive materials. A liner may also restrict fumes from escaping from the case and protect the explosive materials from moisture.
cast, extruded, or pressed booster	A cast, extruded or pressed solid high explosive. (See “booster”)
certified blaster	A blaster certified by a governmental agency to prepare, execute, and supervise blasting.
cfm	An abbreviation for “cubic feet per minute”, a measure of the volume of flow. Usually refers to air flow in mining usage.
circuit	A completed path for conveying electrical current. See series circuit, parallel circuit, and series in parallel circuit. (Some nonelectric systems also use the word circuit.)
collar	The uncharged portion of the blast hole at the top.
column charge	A charge of explosives in a blasthole in the form of a long continuous unbroken column.

column depth/ column height	The length of each portion of a blasthole filled with explosive materials.
commercial	Explosives designed, produced, and used for commercial or industrial explosives applications rather than for military purposes.
confined detonation velocity	The detonation velocity of an explosive material in a substantial container or a borehole.
connecting wire	Wire used to extend the firing line or leg wires in an electric blasting circuit.
continuity check	(circuit continuity check) - A determination made by instrumentation where possible, and visually in all cases, to show that an initiation system is continuous and contains no breaks or improper connections that could cause stoppage or failure of the initiation process.
contour blasting	A blasting technique used to produce smooth walls and reduce overbreak in underground blasting. The cushion holes have light, well distributed charges and are fired on the last delay period in the round.
core load	The explosive core of detonating cord, expressed as the weight in grains of explosive per metre.
coupling	The degree to which an explosive fills the cross-section of a borehole; bulk-loaded explosives are completely coupled; untamped cartridges are decoupled.
coyote shooting	A method of blasting using a number of relatively large concentrated charges of explosives placed in one or more small tunnels driven in a rock formation.
crimp	The folded ends of paper explosive cartridges; the circumferential depression at the open end of a fuse cap or igniter cord connector which serves to secure the fuse; or the circumferential depression in the blasting cap shell that secures a sealing plug or sleeve into electric or nonelectric detonators.
crimping	The act of securing a fuse cap or igniter cord connector to a section of a safety fuse by compressing the metal shell of the cap against the fuse by means of a cap crimper.

critical diameter	The minimum diameter for propagation of a detonation wave at a stable velocity. Critical diameter is affected by conditions of confinement, temperature and pressure on the explosive.
crystallization	A change in the physical properties of explosive materials and blasting agents in response to changes in temperature and component evaporation. Crystallization may result in changes to the properties of the explosive product or blasting agent.
current leakage	Portion of the firing current bypassing part of the blasting circuit through unintended paths.
cushion blasting	A blasting technique used to produce competent slopes or smooth walls. The cushion holes, fired after the main charge, have a reduced spacing and employ decoupled charges.
cutoff	A break in a path of detonation or initiation caused by extraneous interference, such as flyrock or shifting ground.
date-shift code	A code, required by Federal regulation (ERD), applied by manufacturers to the outside shipping containers, and, in many instances, to the immediate containers of explosive materials to aid in their identification and tracing.
daylighting	The act of exposing a buried service to confirm its location and prevent damage as a result of excavation operations. Excavation techniques for daylighting are typically limited to non-destructive / non-invasive methods including hand digging and hydro-vacuum equipment.
decibel	A unit of air overpressure commonly used to measure air blast.
deck	An explosive charge that is separated from other charges in the blasthole by stemming or an air cushion.
deck loading (decking)	A method of loading blastholes in which the explosive charges, called decks or deck charges, in the same hole are separated by stemming or an air cushion.

decoupling	The use of cartridged explosive products significantly smaller in diameter than the diameter of the blasthole. Decoupling or the use of decoupling charges is designed to reduce the charge concentration in the blasthole and minimize stresses exerted on the walls of the blasthole.
deflagration	An explosive reaction such as a rapid combustion that moves through an explosive material at a velocity less than the speed of sound in the material.
delay	A distinct pause of predetermined time between detonation or initiation impulses, to permit the firing of explosive charges separately.
delay blasting	The practice of initiating individual explosive decks, boreholes or rows of boreholes at predetermined time intervals using delay detonators, or other delaying means, as compared to instantaneous blasting where all holes are fired essentially at the same time.
delay detonator	An electric or nonelectric detonator used to introduce a predetermine lapse of time between the application of a firing signal and the detonation of the base charge.
delay element	The device in a delay detonator that produces the predetermined time lapse between the application of a firing signal and detonation.
delay interval	The nominal time between the detonations of delay detonators of adjacent periods in a delay series; the nominal time between successive detonations in a blast.
delay period	A designation given to a delay detonator to show its relative or absolute delay time in a given series.
delay sequence	The sequence of initiating individual explosive decks, blastholes or rows of blastholes, at predetermined time intervals using delay detonators or other means of delay.
delay series	A series of delay detonators designed to satisfy specific blasting requirements. There are basically two types of delay series: millisecond (MS) or short period (SP) with delay intervals on the order of milliseconds and long period (LP) with delay time on the order of seconds.

delay tag	A tag, band, or marker on a delay detonator that denotes the delay series, delay period and/or delay time of the detonator.
delay time	The lapse of time between the application of a firing signal and the detonation of the base charge of a delay detonator.
density	The mass of an explosive per unit volume, usually expressed in grams per cubic centimeter or pounds per foot. (Also see “specific gravity”).
detonating cord	a flexible cord containing a center core of high explosive which may be used to initiate other high explosives.
detonating cord ms connector	nonelectric short-interval (millisecond) delay devices for use in delaying blasts which are initiated by detonating cord.
detonating cord trunkline	the line of detonating cord that is used to connect and initiate other lines of detonating cord.
detonating primer	a name applied for transportation purposes to a device consisting of a detonator and an additional charge of explosives, assembled as a unit.
detonating velocity	the velocity at which detonation progresses through an explosive.
detonation	an explosive reaction that moves through an explosive material at a velocity greater than the speed of sound in the material.
detonation pressure	the pressure produced in the reaction zone of a detonating explosive.
detonator	Any device containing an initiating or primary explosive that is used for initiating detonation in another explosive material. A detonator may not contain more than 10 grams of total explosives by weight, excluding ignition or delay charges. The term includes, but is not limited to, electric blasting caps of instantaneous and delay types, blasting caps for use with safety fuses, detonating cord delay connectors, and nonelectric instantaneous and delay blasting caps which use detonating cord, shock tube, or any other replacement for electric leg wires.

dewater holes	The process of removing water from a blasthole prior to loading.
diameter	The cross-sectional width of a borehole or an explosive cartridge.
ditch blasting	The formation of a ditch by the detonation of a series of explosive charges.
division 1.1	Explosive material characterized by mass exploding potential.
division 1.2	Explosive material characterized by projection hazard.
division 1.3	Explosive material characterized by fire hazard, minor blast or projection hazard.
division 1.4	Explosive material characterized by minor explosion hazard, not mass exploding.
division 1.5	Insensitive explosives. Very little probability of initiation or transition from burning to detonation during transport.
donor	An exploding charge producing an impulse that impinges upon and explosive "acceptor" charge.
double cap	The application of two (2) detonators per single delay column charge in order to ensure redundancy of initiation. Detonators are typically placed at different elevations in the blasthole.
downline	A line of detonating cord or plastic tubing in a blasthole which transmits the detonation from the trunkline or surface delay system down the hole to the primer.
drill hole	A hole drilled in the material to be blasted for the purpose of containing an explosive charge, also called "blasthole" or "borehole".
drill log	A record of all occurrences during drilling that might help in a complete logging of the hole to assist at time of loading or in determining the cost of the drilling.
drilling deviation	Unconformity of drill hole from its intended position, direction, and path.

drilling pattern	The location of blastholes in relationship to each other and the free face.
dual delay	A non-electric detonator system which combine in-hole delays and surface connector delays in one product.
dummy	A cylindrical unit of clay, sand, or other inert material used to confine or separate explosive charges in a borehole.
dynamite	A high explosive used for blasting, consisting essentially of a mixture of, but not limited to, nitroglycerin, nitrocellulose, ammonium nitrate, sodium nitrate, and carbonaceous materials.
electric blast	A blast primed with electric detonators and associated wiring.
electric blasting circuit	An electric circuit containing electric detonators and associated wiring.
electric detonator	A detonator designed for, and capable of, initiation by means of an electric current.
electronic detonator	A device that utilizes stored electrical energy as a means of powering an electronic timing delay element / module and that provides initiation energy for firing the base charge.
emergency response plan	Instructions carried on a vehicle transporting explosive materials and giving specific procedures in case of emergency.
emulsion	An explosive material containing substantial amounts of oxidizer dissolved in water droplets, surrounded by an immiscible fuel, or droplets of an immiscible fuel surrounded by water containing substantial amounts of oxidizer.
energy	A measure of the potential for an explosive to do work.
ERD explosives	Explosives Regulatory Division - Federal government agency regulating explosive use in Canada.
explosion	A chemical reaction involving an extremely rapid expansion of gases usually associated with the liberation of heat.
explosive	Any chemical compound, mixture or device, the primary or common purpose of which is to function by explosion.

explosive actuated device	Any tool or special mechanized device which is actuated by explosives. The term does not include propellant-actuated devices. Examples of explosive-actuated devices are jet-tappers and jet perforators.
explosive charge	The quantity of explosive material used in a blasthole, coyote tunnel, or explosive device.
explosive loading factor	The amount of explosive used per unit of rock. Also called "powder factor".
explosive materials	These include explosives, blasting agents and detonators. The term includes, but is not limited to, dynamite and other high explosives, slurries, emulsions, and water gels; black powder and pellet powder; initiating explosives; detonators (blasting caps); safety fuse; squibs; detonating cord; igniter cord; and igniters.
explosive strength	The amount of energy released by an explosive upon detonation which is an indication of the capacity of the explosive to do the work.
extra (ammonia) dynamite	A dynamite in which part of the nitroglycerine is replaced by ammonium nitrate in sufficient quantity to result in the same weight strength.
extraneous current	Electrical energy, other than actual firing current or the test current from a blasting galvanometer, that is present at a blast site and that could enter an electric blasting circuit. It includes stray current, static electricity, RF (electromagnetic) waves and time-varying electric and magnetic fields.
fire extinguisher rating	A rating set forth in the National Fire Code which may be identified on an extinguisher by a number (5, 20, 70, etc.) indicating the extinguisher's relative effectiveness followed by a letter (A, B, C, etc.) indicating the class or classes of fires for which the extinguisher has been found to be effective.
fire-resistant	Construction designed to offer reasonable protection against fire.
firing current	An electric current of recommended magnitude and duration to sufficiently energize and electric detonator or a circuit of electric detonators.

firing line	The wire(s) connecting the electrical power source with the electric blasting circuit.
flammability	The ease with which an explosive material may be ignited by flame and heat.
flash point	The lowest temperature at which vapors from a volatile combustible substance ignite in air when exposed to flame, as determined in an apparatus specifically designed for such testing.
flashover	The sympathetic detonation between explosive charges or between charged blastholes.
flyrock	Rocks propelled from the blast area by the force of an explosion.
fragmentation	The breaking of a solid mass into pieces by blasting.
free face	A rock surface exposed to air or water which provides room for expansion upon fragmentation; sometimes called open face.
fume classification	See IME fume classification.
fuse	See "safety fuse".
fuse cap	A detonator which is initiated by a safety fuse; also referred to as an ordinary blasting cap. Synonymous with BLASTING CAP, also see DETONATOR.
fuse cutter	A mechanical device for cutting safety fuse clean and at right angles to its long axis.
fuse lighters	Pyrotechnic devices for the rapid and certain lighting of safety fuse.
Galvanometer	See Blasting Galvanometer.
gap sensitivity	The maximum length of gap across which a detonation wave will travel and initiate a second or receptor cartridge. Both primer and receptor cartridge should be of the same composition, diameter, and weight. Usually refers to gap in air but other media may be used.

gauge (wire)	A series of standard sizes such as the American Wire Gauge (AWG), used to specify the diameter of wire.
gelatin dynamite	A type of highly water-resistant dynamite characterized by its gelatinous or plastic consistency.
geotextile	Permeable fabrics which, when used in association with soil, have the ability to separate, filter, reinforce, protect, or drain. In blasting applications, it is typically used to contain flyrock material in conjunction with matting.
grade sheets	Documents which establish the required finished grade (elevation) for an excavation.
grains	In the avoirdupois system of weight measurement 7000 grains are equivalent to one standard 16 ounce pound (0.45 kg.). A grain is 0.0648 grams in both the avoirdupois and the troy system.
ground vibration	Shaking the ground, by elastic waves emanating from a blast; usually measured in millimetres per second of particle velocity.
guard(s)	Individual or individuals tasked with establishing the Blast Area and keeping all non-essential workers and the public out of the Blast Area in accordance with direction from the Blaster.
hangfire	The detonation of an explosive charge at some non-predictable time after its normally designed firing time.
harness wire	Wire assemblies for connecting electronic detonator and/or firing circuits.
heave	Movement or shifting of the blasted material to an intended distance and direction by the force of the blast.
Hertz (Hz)	Synonymous with "cycles per second."
high explosives	Explosives which are characterized by a very high rate of reaction, high pressure development, and the presence of a detonation wave in the explosive.
highwall	A nearly vertical face at the edge of a bench, bluff, or ledge on a surface excavation.

hole diameter	The cross-sectional width of the blasthole.
hole plugs	See “stemming plugs”
hook up	The act of connecting loaded holes together in accordance with the design delay sequence.
hot load letters	(Previously “Drill and Load Letters”) – A letter, sealed by a professional engineer and signed by the site blast crew, permitting the drilling of holes closer than 7.5m removed from a loaded hole but no closer than 1.0m removed as established in OHSA.
IME	Institute of Makers of Explosives
IME fume classification	A classification indicating the amount of carbon monoxide and hydrogen sulfide produced by an explosive or blasting agent. Explosives with positive oxygen balances are not considered as being acceptable in these classifications.
initiation	The start of deflagration or detonation in an explosive material.
initiation sequencing	The order of borehole detonations in a given blast design.
initiator	A detonator, detonating cord or similar device used to start detonation or deflagration in an explosive material.
instantaneous detonator	A detonator that has a firing time of essentially zero seconds as compared to delay detonators with firing times of from several milliseconds to several seconds.
inventory	A listing of all explosive materials stored in a magazine.
inversion	A reversal of the normal behavior of temperature in the troposphere (the region of the atmosphere nearest the Earth’s surface), in which a layer of cool air at the surface is overlain by a layer of warmer air.
issuing authority	The governmental agency, office, or official vested with the authority to issue permits or licenses.
leading (lead)	The wire(s) connecting the electrical power source with the circuit lines or wires containing electric detonators. See “firing line”.

lead-in lines	The non-electric shock tube used to connect the tied-in blast to the blast machine/device.
leakage resistance	The resistance between the blasting circuit (including lead wires) and the ground.
leg wires	The two single wires or one duplex wire extending out from an electric detonator.
loading	Placing explosive material in a blasthole or against the material to be blasted.
loading density	The weight of explosive loaded per unit length of borehole occupied by the explosive, expressed as “pounds/foot” or “kilometers/meter” of borehole.
loading pole	A non-metallic pole used to assist the placing and compacting of explosive charges in blastholes.
locates	The detection, marking and reporting of buried utility services on a job site.
loggers	An electronic device that records data over time or in relation to location either with a built in instrument or sensor or via external instruments and sensors.
lowering hook	A tool designed for lowering, dislodging or removing explosives from a borehole quickly and safely.
magazine	Any building, structure, or container, other than an explosives manufacturing building, approved for the storage of explosive materials.
magazine keeper	A person responsible for the inventory and safe storage of explosive materials, including the proper maintenance of explosive materials, storage magazines and areas.
magazine permit	A permit formally issued by the issuing authority (ERD) granting permission to install and operate a magazine for explosive product and accessory storage.
main explosive charge	The explosive material that performs the major work of blasting.
manufacturing codes	Code markings stamped on explosive materials packages, indicating among other information, the date of manufacture.

matting	The operation of placing blasting mats on a blast to prevent flyrock.
millisecond	One thousandth part of a second (.001 1/1000 sec.)
minimum gap sensitivity	An air gap, measure in inches or centimeters, which determines whether the explosive material is within specific tolerances for gap sensitivity. Also see "gap sensitivity".
misfire	A blast or specific borehole that failed to detonate as planned. Also, the explosive material itself that failed to detonate as planned.
miss holes	Specific holes in a misfire which failed to fully or partially detonate
ms connectors	Nonelectric, short-interval (milliseconds) delay devices for use in delaying blasts which are initiated by detonating cord. Same as "detonating cord ms connectors".
muckpile	The pile of broken material resulting from a blast.
mudcapping	A mud covered or unconfined charge fired in contact with a rock surface without the use of a borehole. Synonymous with "bulldoze".
multiple path trunkline system	Duplication or repetition of trunkline elements in a blast initiation system to provide alternate paths of initiation.
nitroglycerin	An explosive chemical compound used as a sensitizer in dynamite and represented by the formula $C_3H_5(ONO_2)_3$.
non-electric blast	A blast that does not employ the use of electric detonators for sequencing or initiation.
non-electric detonator	A detonator that does not require the use of electric energy to function.
non-sparking metal	A metal that will not produce a spark when struck with other tools, rock, or hard surfaces.
overbreak	See "backbreak".
overburden	Material of any nature laying on top of a deposit of material which is to be mined.

overhang	A section of a geological formation that is undermined and therefore represents a greater risk of failure. Can be a naturally occurring geological formation or may result from previous blasting.
oxidizer or oxidizing material	A substance, such as a nitrate, that readily yields oxygen or other oxidizing substances to promote the combustion of organic matter or other fuel.
oxygen balance	The percentage of oxygen in an explosive material or ingredient thereof in excess of (+) or less than (-) that which is needed to produce ideal reaction products.
particle velocity	A measure of the intensity of ground vibration, specifically the velocity of motion of the ground particles as they are excited by the wave energy.
pattern dimensions	See Blast Pattern.
petn	An abbreviation for the name of the explosive pentaerythritol tetranitrate.
placards	Signs placed on vehicles transporting hazardous materials (including explosive materials) indicating the nature of the cargo.
pneumatic loading	The loading of explosive materials into a borehole using compressed air as the loading or conveying force.
powder	A common synonym for explosive materials.
powder factor	The amount of explosive used per unit of rock. Also called "explosive loading factor".
powder punch	See "cartridge punch".
powder retriever	A non-sparking, specialized tool designed and used for the removal of explosives from a loaded blasthole.
pre-blast design	A document containing details (blasting parameters) of a blast, or blasts, that are submitted to authorities prior to loading an initiation of the blast(s).
pre-blast survey	A documentation of the existing condition of structures near an area where blasting is to be conducted.

premature firing	The detonation of an explosive charge before the intended time.
presplitting (preshearing)	A smooth blasting method in which cracks for the final contour are created by firing a single row of holes prior to the initiation of the rest of the holes in the blast pattern.
prilled ammonium nitrate	Ammonium nitrate in a pelleted or prilled form.
primary blast	A blast used to fragment and displace material from its original position to facilitate subsequent handling and crushing.
primary explosive	A sensitive explosive which nearly always detonates by simple ignition from such means as spark, flame, impact, friction, or other primary heat sources of appropriate magnitude.
primer	A unit, package, or cartridge of explosives used to initiate other explosives or blasting agents, and which contains (1) a detonator; or (2) detonating cord to which is attached a detonator designed to initiate the detonating cord.
propagation	The detonation of an explosive charge by an impulse received from an adjacent or nearby explosive charge.
quantity distance table	A table listing minimum recommended distances from explosive materials stores of various weights to a specific location.
radio frequency energy (rf)	The energy radiated as electromagnetic waves in the radio frequency spectrum.
radio frequency transmitter	An electronic transmitting device which radiates radio frequency waves. The transmitting device may be fixed (stationary) or mobile, and includes car telephones, citizen band radios, AM and FM radio transmitters, television transmitters and radar transmitters.
receptor (acceptor)	A charge of explosive materials receiving an impulse from an exploding donor charge.
regression analysis	A process using formulas and/or graphs to determine attenuation (dissipation) of vibrations induced (generated) by a blast at given distances from the blast.

relief	The effective distance from a blasthole to the nearest free face.
resistance	The measure of opposition to the flow of electrical current, expressed in ohms.
rifling	Ejection of gases upon detonation from a blasthole due to unconfined explosion. (commonly occurs due to lack of adequate stemming)
safety fuse	A flexible cord containing solid flammable material by which fire or flame is conveyed at a continuous and uniform rate from the point of ignition to a cut end. A fuse detonator is usually attached to that end, although safety fuse may be used without a detonator to ignite material such as deflagrating explosives.
safety standard	Suggested precautions relative to the safety practices to be employed in the manufacture, transportation, storage, handling and use of explosive materials.
scaled distance	A factor relating similar blast effects from various weight charges of explosive material at various distances. Scaled distance referring to blasting effects is obtained by dividing the distance of concern by a fractional power of the weight of the explosive materials.
scanners	An electronic device used to profile the face of a blast to delineate true burden prior to loading and/or blasting. Also referred to as "face profiler".
seam	A stratum or bed of coal or other material. May also refer to a crack or joint in a blast area which may be filled with mud or other material. A seam may be in any orientation.
secondary blasting	Blasting to reduce the size of boulders resulting from a primary blast.
seismograph	An instrument, useful in monitoring blasting operation, which records ground vibration. Particle velocity, displacement, or acceleration is generally measured and recorded in three mutually perpendicular directions.

semi-conductive hose	A hose used for pneumatic conveying of explosive materials having an electrical resistance high enough to limit flow of stray currents to safe levels yet not so high as to prevent drainage of static electric charges to ground. Hose of not more than 2 megohms resistance over its entire length and of not less than 1,000 ohms per foot meets the requirements.
sensitivity	A physical characteristic of an explosive material classifying its ability to be initiated upon receiving an external impulse such as impact, shock, flame, friction, or other influences which can cause explosive decomposition.
separation distances	Minimum recommended distances from explosive materials accumulations to other specified locations.
shaped charge	An explosive with a shaped cavity, specifically designed to produce a high velocity cutting or piercing jet of product reaction; usually lined with metal to create a jet of molten liner material.
shelf life	The maximum storage period during which an explosive material retains adequate performance or physical characteristics.
shock tube	A small diameter plastic tube used for initiating detonators. It contains only a limited amount of reactive material so that the energy that is transmitted through the tube by means of a detonation wave is guided through and confined within the walls of the tube.
shock wave	A transient pressure pulse that propagates at supersonic velocity.
short delay blasting	The practice of detonating blastholes in successive intervals where the time difference between any two successive detonations is measured in milliseconds.
shot	See "blast".
shot firer	See "blaster". (A shot firer usually refers to an underground coal mine blaster).

shunt (shunting)	The shorting together of the free ends of (1) electric detonator leg wires, or (2) the wire ends of an electric blasting circuit or part thereof. The term also applies to an electrical shorting device applied to the free ends of electric detonators by the manufacturer.
shunting leg wires	See Shunt (Shunting)
signature hole	A recorded vibration wave induced by detonation of a single blasthole.
slumping	The typically undesired collapsing or sinking of the explosive column loaded into a blasthole.
slurry	An explosive material containing substantial portions of a liquid, oxidizers and fuel, plus a thickener.
Society of Chemical Manufacturers and Affiliates	A non-profit chemical trade organization of companies in the U.S. Canada and other parts of the world who manufacture chemicals for sale.
spacing	The distance between boreholes. In bench blasting, the distance is measured parallel to the free face and perpendicular to the burden.
specific gravity	The ratio of the weight of any volume of substance to the weight of an equal volume of pure water.
splicing kit	(For non-electric tube) – Specially designed adapters to permit the joining of individual lengths of shock tube.
stability	The ability of an explosive material to retain chemical and physical properties specified by the manufacturer when exposed to specific environmental conditions over a particular period of time.
steady state velocity	The characteristic velocity at which a specific explosive at a given charge diameter will detonate.
stemming	Inert material placed in a borehole on top of or between separate charges of explosive material. Used for the purpose of confining explosive materials or to separate charges of explosive material in the same borehole.
stemming ejection	See “rifling”

stemming plugs	A plastic, vinyl or foam plugs used to seal explosive column in the blasthole at the bottom of collar.
storage	The safekeeping of explosive materials, usually in specially designed structures called magazines.
subdrilling	The practice of drilling boreholes below floor level or working elevation to insure breakage of rock to working elevation.
sympathetic detonation	The detonation of an explosive material as the result of receiving an impulse from another detonation through air, earth or water. Synonymous with “sympathetic propagation”.
sympathetic propagation	See “sympathetic detonation”.
tamping	The action of compacting the explosive charge or the stemming in a blasthole. Sometimes refers to the stemming material itself.
tamping poles	A wooden or plastic pole used to compact explosive charges or stemming.
test blast	An initial trial blast to evaluate blast design, assess local site conditions and ensure safety procedures on-site.
tie in	The process of connecting detonators together to form a complete and sequenced blast prior to initiation.
toe	In bench blasting, excessive burden measured at the floor level of the bench.
toe burden	The actual measured distance from the free face to the blast hole at design grade.
tool box meeting	A site specific safety meeting regularly scheduled and typically occurring on site between supervisors and workers. The meeting is intended to address specific safety topics to enhance prevention, and to identify safety concerns and disseminate information on accidents, incidents and near misses over the period between scheduled meetings.
true burden	The actual measured distance from the free face to the blast hole.

unconfined detonation velocity	The detonation velocity of an explosive material fired without confinement: for example, a charge fired in the open. (Paper tubes are generally not considered as confinement.)
underbreak	Rock remaining within a specific excavation perimeter that was inadequately fragmented during the blast according to design.
utility company permits	A permit issued by an issuing authority to formally authorize the use of explosives for a specific site, area or application.
v.o.d.	Velocity of detonation.
voids	Air gaps within an explosive column in a blasthole. Also referred to as cavities and enlarged spaces within a drilled hole.
water gel	An explosive material containing substantial portion of water, oxidizers and fuel, plus a cross-linking agent.
water hammer	An effect that may occur when explosives are detonated under water.
water resistance	The ability of an explosive to withstand the desensitizing effect of water penetration.
weight strength	The energy of an explosive material per unit of weight. Often expressed as a percentage of the energy per unit of weight of a specified explosive standard.

Definitions

Apprentice

- An individual who, pursuant to a registered Training Agreement, is receiving or is to receive training in a trade that is required as part of an apprenticeship program
- Holds a Training Agreement in either a compulsory or non-compulsory trade;
- Are subject to any ratios that have been set out in regulation and or recommended by industry for their trade(s);
- Remain as an Apprentice until they receive their Certificate of Apprenticeship

BOSTA

Building Opportunities in the Skilled Trades Act, 2021 (BOSTA)

Certificate of Apprenticeship (C of A)

A certificate issued to individuals who have demonstrated that they have completed an apprenticeship program in Ontario.

Certificate of Qualification (C of Q)

A certificate issued to an individual who has completed an apprenticeship or equivalent AND passed the Certificate of Qualification examination.

Competence

The ability of an individual to perform a skill, consistently without assistance, in the workplace as set out in the Logbook.

Competency Analysis Profile (CAP Chart)

A chart that identifies the training needs of an individual trade and details the skills/skill sets that must be demonstrated during an apprenticeship program.

Journeyperson

Journeyperson means an individual who holds a certificate of qualification (in a compulsory or non-compulsory trade) and/or an individual who practices as a journeyperson in a non-compulsory trade who does not hold a certificate of qualification and has equivalent experience in that trade.

Mandatory Skill

Status assigned to unshaded individual skills, skill sets or general performance objectives which must be signed-off for the Apprentice to complete their program.

Optional Skill

Status assigned to shaded individual skills, skills sets or general performance objectives for which sign-off is not required for the Apprentice to complete the program.

Provisional Certificates of Qualification

- A Provisional Certificate of Qualification is issued to an individual who has obtained a Certificate of Apprenticeship (in both compulsory and non-compulsory trades) in a program that has a Certificate of Qualification examination, to which the individual has not yet passed the Certificate of Qualification examination.
- A Provisional Certificate of Qualification shall have the prescribed term or, if no term is prescribed, a term of one year.
- In a compulsory trade, the Provisional Certificate of Qualification allows a person to continue working legally in the trade for up to 12 months while they work to pass the certifying exam.
- Individuals with a Provisional Certificate of Qualification are subject to any ratios that have been set out for their trade(s).

Ratios

For the purpose of an Apprenticeship program, a ratio is the maximum number of Journeypersons to Apprentices. The purpose of ratios is to provide consistent supervision, training and continuity of work.

Sign-off

Signature of the Sponsor of record, or an individual to whom that Sponsor has delegated signing authority, (e.g. Trainer) indicating an Apprentice's demonstration of competence.

Skill

Individual competency/task described in the Logbook.

Skill Sets

Group or selection of individual skills found in the Logbook.

Skill Set Completion for Sponsors

Listing for all skill sets and includes space for sign-off by Sponsor of record.

Sponsor

Means a person that has entered into a registered Training Agreement under which the person is required to ensure that an individual is provided with workplace-based training in a trade as part of an apprenticeship program.

Sponsor of Record

Refers to the Sponsor documented as being signatory to the registered Training Agreement or Contract of Apprenticeship. In order for a Sponsor to be considered for the training of Apprentices, they must identify that the workplace has qualified persons or the equivalent on site, and can identify that the workplace has the tools, equipment, materials, and processes which have been identified by the Industry representatives for the trade.

Trainer

An individual who oversees the performance of a task and sets the workplace expectations and practices for the Apprentice. For a compulsory trade, a qualified Trainer is an individual who holds a Certificate of Qualification. In a non-compulsory trade, a Trainer is an individual who either holds a CofQ, CofA, or is considered equivalent.

Ready to Write Your Exam?

Many of the skilled trades in Ontario have a final certification examination that you must pass to become certified in your trade. Passing the examination gives you the right to hold yourself out as a Journeyperson and receive a Certificate of Qualification in your trade.

There are two types of trade certification examinations in Ontario:

1. Provincial (Ontario) examinations - which lead to a Certificate of Qualification.
2. Red Seal examinations – which lead to a Certificate of Qualification with an Interprovincial Red Seal endorsement.

If a trade is designated as Red Seal in Ontario, you will be writing the Red Seal examination. To access the Red Seal preparation guide please visit: red-seal.ca

Ontario's Exam Preparation Guide

[Exam Resources – Skilled Trades Ontario](#)

Basic Examination Details for You to Know

- You will have **up to four hours to write your examination.**
- Accommodations must be requested and approved prior to scheduling your examination.
- You can leave the examination centre if you complete the examination in less than four hours.
- Exam questions are multiple choice with four options from which you must choose the correct answer. Your examination may have between 90 and 150 multiple choice questions.
- You need a mark of 70% to pass.

Scheduling Your Examination

The examination scheduling process is currently outlined in detail on the Skilled Trades Ontario website: [Exam Scheduling – Skilled Trades Ontario](#)

Remember these 3 basic steps:

1. Confirm your eligibility to write the examination with Skilled Trades Ontario.
2. Contact Client Services at Skilled Trades Ontario to pay your examination fee.
3. Contact the local Service Delivery Office to schedule your examination in their examination centre: <https://www.ontario.ca/page/employment-ontario-apprenticeship-offices>

Instructions for Recording a Change in Sponsor

1. Record your first sponsor's information in Sponsor Record #1 – this would be the sponsor who has signed your initial apprenticeship Training Agreement for this trade.
2. If you do change sponsors prior to completing this apprenticeship, please contact your local Service Delivery Office immediately to update your sponsor record.
3. Please make sure you record all the information regarding any additional sponsors of record towards your apprenticeship using the Sponsor Records on the following pages (if applicable).

You must fill out a Change of Sponsor Record each time you change your sponsor.

Sponsor Record #1

Sponsor Information		
Apprentice Name		
Training Agreement #		Date (mm/dd/yy)
Sponsor Name		
Address		
Telephone		
E-mail Address		

Summary of Training	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	
Skill Sets Completed	

As the Sponsor, I hereby confirm that the above information is true and accurate to the best of my knowledge.

Signature: _____ Date: (mm/dd/yy) _____

The Sponsor is required to sign-off and date the skills after the Apprentice has proven competence in those skills. However, if a skill is shaded, it is optional and does not need to be signed-off.

***If you need additional copies of the Sponsor Record, visit SkilledTradesOntario.ca and search Sponsor Record Form.**

Change of Sponsor Record #2

Sponsor Information		
Apprentice Name		
Training Agreement #		Date (mm/dd/yy)
Sponsor Name		
Address		
Telephone		
E-mail Address		

Summary of Training	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	
Skill Sets Completed	

As the Sponsor, I hereby confirm that the above information is true and accurate to the best of my knowledge.

Signature: _____ Date: (mm/dd/yy) _____

The Sponsor is required to sign-off and date the skills after the Apprentice has proven competence in those skills. However, if a skill is shaded, it is optional and does not need to be signed-off.

***If you need additional copies of the Sponsor Record, visit SkilledTradesOntario.ca and search Sponsor Record Form.**

Change of Sponsor Record #3

Sponsor Information		
Apprentice Name		
Training Agreement #		Date (mm/dd/yy)
Sponsor Name		
Address		
Telephone		
E-mail Address		

Summary of Training	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	
Skill Sets Completed	

As the Sponsor, I hereby confirm that the above information is true and accurate to the best of my knowledge.

Signature: _____ Date: (mm/dd/yy) _____

The Sponsor is required to sign-off and date the skills after the Apprentice has proven competence in those skills. However, if a skill is shaded, it is optional and does not need to be signed-off.

***If you need additional copies of the Sponsor Record, visit SkilledTradesOntario.ca and search Sponsor Record Form.**

Change of Sponsor Record #4

Sponsor Information		
Apprentice Name		
Training Agreement #		Date (mm/dd/yy)
Sponsor Name		
Address		
Telephone		
E-mail Address		

Summary of Training	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	
Skill Sets Completed	

As the Sponsor, I hereby confirm that the above information is true and accurate to the best of my knowledge.

Signature: _____ Date: (mm/dd/yy) _____

The Sponsor is required to sign-off and date the skills after the Apprentice has proven competence in those skills. However, if a skill is shaded, it is optional and does not need to be signed-off.

***If you need additional copies of the Sponsor Record, visit SkilledTradesOntario.ca and search Sponsor Record Form.**

Appendix A — Instructions for Apprenticeship Program Completion

Once an Apprentice has completed all the classroom training and benchmark on-the-job hours specified for the trade and has acquired all the mandatory skills included in this Logbook.

The Apprentice and the Sponsor complete the Apprentice Completion Form and the Skill Set Completion for Sponsors Form located on the following pages.

1. They sign the forms and submit them to their local Service Delivery Office. To find the closest office, check the contact information at ontario.ca/page/employment-ontario-apprenticeship-offices or call the *Employment Ontario* toll free number at (1-800-387-5656).
2. For All Trades: All mandatory skills (or the combination indicated in the completion requirements for the trade) in the Logbook must be signed-off. The recommended hours are a benchmark. If the Sponsor is completing the Apprentice before the industry recommended training hours are done, staff may request further information regarding the Apprentice's on-the-job training. An example of a request would be a letter from the Sponsor confirming the Apprentice worked for some time in the trade before the initial Training Agreement was registered, thereby acquiring some skills beforehand.

If Apprentices are submitting the completion request form and supporting documentation to their local Service Delivery Office by mail, fax, or email (as a scanned document), they should not include their Logbook; if they are presenting this form in person at the local Service Delivery Office, they should bring their Logbook with them.

After staff verifies all the information in the completion request, they may contact either the Apprentice or the Sponsor for further information or documentation. Once the completion has been confirmed, the local Service Delivery Office will issue a Certificate of Apprenticeship to the Apprentice.

Skilled Trades Ontario will receive notification of this completion.

- If the Apprentice has completed a program in a **compulsory trade**, Skilled Trades Ontario will automatically register the Apprentice for a Provisional Certificate of Qualification to continue to work legally for one year while preparing for the certification examination.
- If an Apprentice completes their apprenticeship in a **non-compulsory trade** and there is a Certificate of Qualification exam, they must write and pass the exam to receive a Certificate of Qualification from Skilled Trades Ontario.

For permission to schedule an exam once completion is confirmed, the individual must first contact the Skilled Trades Ontario Client Services Department at 647-847-3000 or toll free at 1-855-299-0028 to pay the certification examination fee. Once you have paid your exam fee with Skilled Trades Ontario, book your exam by contacting your nearest Employment Ontario local Service Delivery Office.

Appendix B — Apprentice Completion Form

Please fill out both sides of this form, including the Skill Set Completion for Sponsors (see back of form). Once both sides are completed, submit the form to your local Service Delivery Office (find contact information at ontario.ca/page/employment-ontario-apprenticeship-offices or by calling Employment Ontario at (1-800-387-5656).

Apprentice Information	
Name (print)	
Client ID # Issued by Ministry	
Telephone Number(s)	

Sponsor Information	
Legal Name	
Address	
Telephone Number(s)	
Sponsor's Signing Authority (<i>print name</i>)	
E-mail Address	

Program Information	
Trade Name	
Number of hours required as per Training Agreement (<i>hours-based trades only</i>)	
Hours completed? (<i>documentation attached</i>)	Yes () No () Not applicable ()
Classroom training completed or exempt?	Yes () No () Not applicable ()

I hereby confirm that the information submitted on both sides of this form is true and accurate.

X _____
Apprentice's Signature Date

X _____
Signature of Sponsor's Signing Authority Date

Appendix C — Skill Set Completion for Sponsors

You will find the skill set numbers and titles in the Logbook's Table of Contents. By signing off each skill set in the table below, you are providing final confirmation, as the Apprentice's Sponsor, that the Apprentice has demonstrated competency in all the mandatory skills included in the skill set.

Skill Set #	Skill Set Title	Signing Authority Signature
U8030.0	Protect Self and Others	
U8031.0	Communicate in Workplace	
U8032.0	Assess Blasting Area and Site	
U8033.0	Control Blast Area	
U8034.0	Develop / Implement Blast Design	
U8035.0	Load Blast Holes	
U8036.0	Maintain Accessories	
U8037.0	Control Fly Rock	
U8038.0	Hook up and Initiate Blast	
U8039.0	Assess Blast Results	

Ministry of Labour, Immigration, Training and Skills Development use only:

Sponsor verified as most recent sponsor of record: Yes () No ()

Documentation to support completion of hours attached: Yes () No ()

Completion of classroom training verified: Yes () No ()

Staff Name _____ Signature _____

Date _____

Appendix D — Local Service Delivery Offices in Ontario

For current office listings visit: ontario.ca/page/employment-Ontario-apprenticeship-offices

Location	Contact	Location	Contact
Barrie 705-737-1431	55 Cedar Pointe Dr Unit 609, Barrie, ON L4N 5R7	Marathon 807-346-1550	52 Peninsula Road, Suite 103 Marathon, Ontario, P0T 2E0
Belleville 613-968-5558 1-800-953-6885	135 North Front St, Belleville, ON K8P 3B5	Markham 905-513-2695	140 Allstate Parkway, Suite 505, Markham, Ontario L3R 5Y8
Brantford 519-756-5197	505 Park Rd North Suite 201, Brantford, ON N3R 7K8	North Bay 705-495-8515 1-800-236-0744	200 First Ave West, North Bay, ON P1B 3B9
Chatham 519-354-2766 1-800-214-8284	870 Richmond St West 1st Floor, Chatham, ON N7M 5J5	Ottawa 613-731-7100 1-877-221-1220	Preston Square, 347 Preston Street, Suite 310, Ottawa, ON K1S 3H8
Cornwall 613-938-9702 1-877-668-6604	132 Second St East Ste 202, Cornwall, ON K6H 1Y4	Owen Sound 519-376-5790 1-800-838-9468	1450 1st Ave West, Suite 100, Owen Sound, ON N4K 6W2
Dryden 807-456-2665 1-800-734-9572	Provincial Government Building, 479 Government St, Dryden, ON P8N 3K9	Peel 905-279-7333 1-800-736-5520	The Emerald Centre, 10 Kingsbridge Garden Circle, Suite 404, Mississauga, ON L5R 3K6
Durham 905-433-0595 1-800-461-4608	78 Richmond Street West, Oshawa, ON L1G 1E1	Pembroke 613-735-3911 1-800-807-0227	615 Pembroke St East, Pembroke, ON K8A 3L7
Elliot Lake 1-800-236-8817	50 Hillside Dr North, Elliot Lake, ON P5A 1X4	Peterborough 705-745-1918 1-877-433-6555	901 Lansdowne St West, Peterborough, ON K9J 1Z5
Fort Frances 807-274-8634	922 Scott St 2nd Flr, Fort Frances, ON P9A 1J4	Sarnia 519-542-7705 1-800-363-8453	Bayside Mall, 150 Christina St North, Sarnia, ON N7T 7W5
Geraldton 807-854-1966	208 Beamish Avenue West Geraldton, Ontario P0T 1M0	Sault Ste. Marie 705-945-6815 1-800-236-8817	477 Queen St East 4th Flr, Sault Ste Marie, ON P6A 1Z5
Halton 905-842-5105 1-844-901-5105	700 Dorval Dr., Suite 201, Oakville, ON L6K 3V3	St Catharines 905-704-2991 1-800-263-4475	Garden City Tower, 301 St Paul St East, 10th Flr, St Catharines, ON L2R 7R4
Hamilton 905-521-7764 1-800-668-4479	Ellen Fairclough Bldg, 119 King St West 8th Flr, Hamilton, ON L8P 4Y7	Sudbury 705-564-3030 1-800-603-5999	159 Cedar St Ste 506, Sudbury, ON P3E 6A5
Kapuskasing 705-465-5785 705-235-1950	Ontario Government Complex, 122 Government Rd West, Kapuskasing, ON P5N 2X8	Thunder Bay 807-346-1550 1-800-439-5493	189 Red River Rd Suite 103, Thunder Bay, ON P7B 1A2
Kenora 807-468-2879 1-800-734-9572	227 1/2 Second St South, Kenora, ON P9N 1G4	Timmins 705-235-1950 1-877-275-5139	Ontario Government Complex, 5520 Highway 101 East Wing B, South Porcupine, ON P0N 1H0
Kingston 613-548-1151 1-866-973-4043	Alliance Business Centre, 299 Concession St Ste 201, Kingston, ON K7K 2B9	Toronto Centre 416-927-7366 1-800-387-5656	2 St Clair West, 11 th floor Toronto, ON M4A 1L5
Kitchener 519-653-5758 1-866-877-0099	4275 King St East, Kitchener, ON N2P 2E9	Toronto South 416-326-5800	625 Church St 1st Fl, Toronto, ON M7A 2B5
London 519-675-7788 1-800-265-1050	1200 Commissioners Rd E, Unit 72, London, ON N5Z 4R3	Windsor 519-973-1441	Roundhouse Centre, 3155 Howard Ave 2nd Fl, Suite 200, Windsor, ON N8X 4Y8

Competency Analysis Profile (CAP) Chart

U8030.0 Protect Self and Others

8030.01
Identify, interpret
and comply with
federal, provincial
and municipal
legislation and
regulations

8030.02
Wear and
maintain
appropriate eye
protection

8030.03
Wear and
maintain
appropriate face
protection

8030.04
Wear and
maintain
appropriate head
protection

8030.05
Wear and
maintain
appropriate
hearing
protection

8030.06
Wear and
maintain
appropriate hand
protection

8030.07
Wear and
maintain
appropriate foot
protection

8030.08
Select and
maintain
appropriate fall
protection

8030.09
Mount and
dismount
equipment

8030.10
Direct all onsite
personnel

8030.11
Direct all onsite
equipment

8030.12
Handle all
explosives

8030.13
Store and secure
all explosives as
required

8030.14
Dispose of
surplus, expired or
unused explosive
products

8030.15
Transport
explosives

U8031.0 Communicate in Work Place

8031.01
Determine chain
of command

8031.02
Identify all
authorized
personnel and
established
contacts

8031.03
Comply with job
instructions

8031.04
Perform job
tasks as a team

8031.05
Maintain records

8031.06
Use approved
hand signals or
other means of
communication

Competency Analysis Profile: Surface Blaster 278B *(all unshaded skill sets must be completed)*

U8032.0 Assess Blasting Area and Site	8032.01 Establish blast site perimeter	8032.02 Establish blast area perimeter	8032.03 Determine geological features of rock	8032.04 Identify hazards above and below ground	8032.05 Identify local environmental conditions
	8032.06 Determine personnel requirements	8032.07 Determine signage requirements	8032.08 Verify pre-blast survey report	8032.09 Determine monitoring requirements	8032.10 Check for miss holes
	8032.11 Review project requirements	8032.12 Confirm locates	8032.13 Ensure required permits are in place	8032.14 Ensure blast notifications are issued	
U8033.0 Control Blast Area	8033.01 Post area, site warnings signs and barriers	8033.02 Communicate with other work crews and contractors in the blast area	8033.03 Instruct and post guards	8033.04 Notify adjacent utilities, property owners and residents of impending blast	8033.05 Remove non-essential personnel and equipment
U8034.0 Develop/Implement Blast Design	8034.01 Review historical blasting information	8034.02 Read and interpret plans, grade sheets, and limits of excavation	8034.03 Design pre-blast plan	8034.04 Verify blast design	8034.05 Verify blast perimeters
	8034.06 Determine type of explosive products	8034.07 Calculate powder factor			

Competency Analysis Profile: Surface Blaster 278B *(all unshaded skill sets must be completed)*

U8035.0
Load Blast Holes

8035.01
Obtain drill log
and verify drilling
before loading

8035.02
Check for
lightning and
potential
extraneous
currents

8035.03
Identify climatic
conditions

8035.04
Check for ground
water

8035.05
Dewater holes

8035.06
Verify selection
of product and
blasting
accessories

8035.07
Verify product
condition and
date code

8035.08
Lay out booster

8035.09
Prime holes

8035.10
Verify primer
location

8035.11
Verify detonator

8035.12
Load explosives

8035.13
Monitor column
rise

8035.14
Stem hole

8035.15
Return excess
explosive
products and
accessories

8035.16
Shunt leg wires

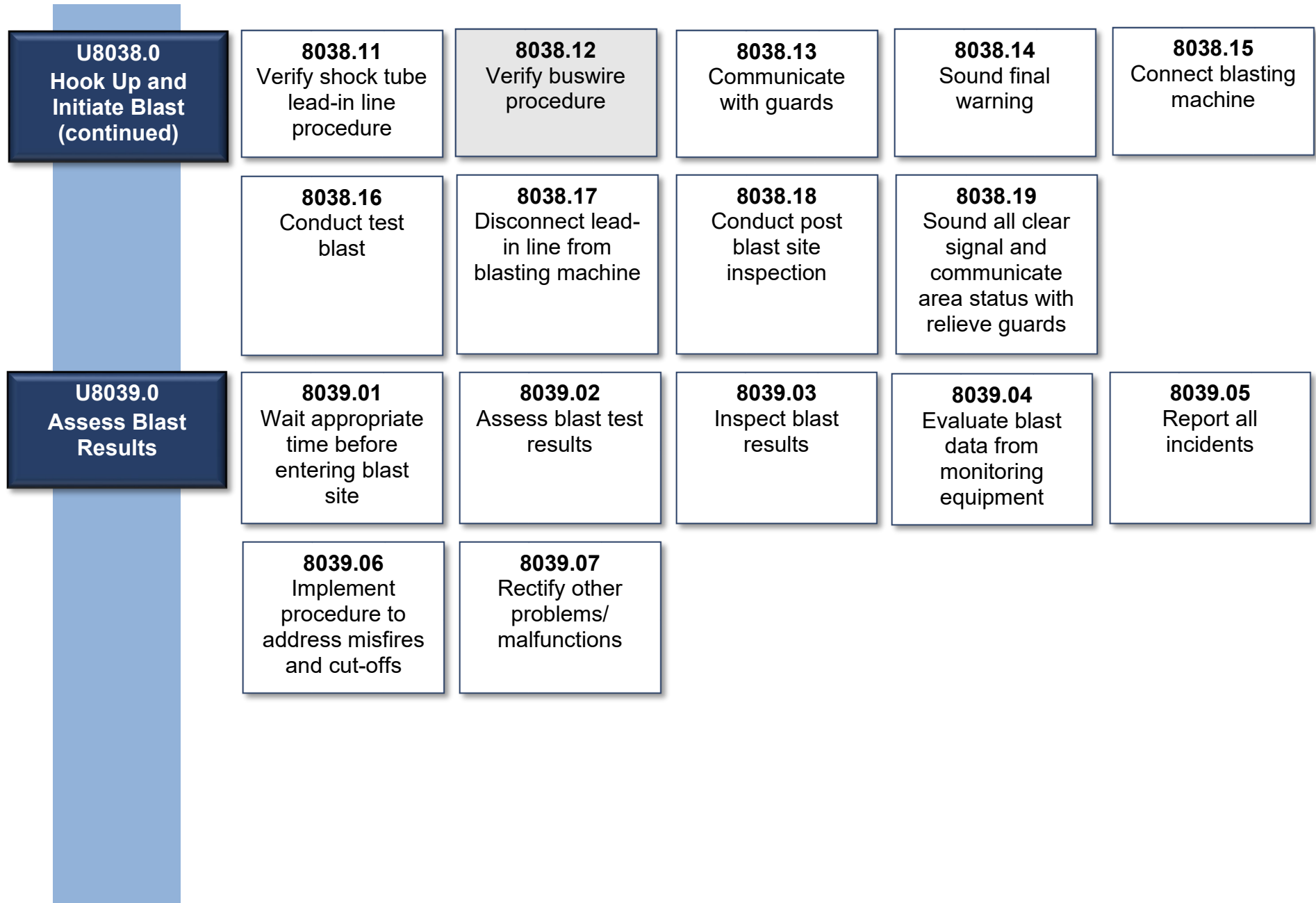
8035.17
Secure and
protect
non-electric
detonating lead-
in lines until
ready for
hook-up

Competency Analysis Profile: Surface Blaster 278B *(all unshaded skill sets must be completed)*

U8036.0 Maintain Accessories	8036.01 Verifying blasting machine condition	8036.02 Verify seismograph condition	8036.03 Verify matting equipment condition	8036.04 Test warning devices	8036.05 Verify leadline or harness wires continuity and condition
	8036.06 Test lightning detector	8036.07 Verify tools and equipment condition			
U8037.0 Control Fly Rock	8037.01 Check for potential fly rock hazards	8037.02 Adjust loading of individual holes	8037.03 Verify timing	8037.04 Select appropriate matting materials	8037.05 Direct the placement select matting
U8038.0 Hook Up and Initiate Blast	8038.01 Clear blast site	8038.02 Verify initiation design	8038.03 Check leg wire, harness wire shock- tube, or detonating cord condition	8038.04 Connect detonators	8038.05 Walk the blast
	8038.06 Run out lead line	8038.07 Clear blast area	8038.08 Position required number of guards	8038.09 Initiate warning signal	8038.10 Verify lead line procedure

(continued on next page)

Competency Analysis Profile: Surface Blaster 278B *(all unshaded skill sets must be completed)*



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Completing Your Apprenticeship Program

Once your sponsor agrees you are competent in the required skills, your hours are complete and you have completed all the levels of classroom training required for your trade:

- ✓ Follow the completion instructions on the Completion Form (Appendix A) in the Logbook.
- ✓ Answer any questions that MLITSD staff may have and provide any additional completion documentation that may be required.
- ✓ Once completion is confirmed, MLITSD will issue you a Certificate of Apprenticeship and notify Skilled Trades Ontario.

After Your Apprenticeship

If you are in a trade with a certification exam, Skilled Trades Ontario will receive notice of your completion.

For compulsory trades, you will be issued a Provisional Certificate of Qualification which will allow you to work legally for up to 12 months until you write and pass your examination.

For a non-compulsory trade, once you pass your examination, you will be issued a Certificate of Qualification for your trade.

Preparing For Your Exam

- **To pay for a Certificate of Qualification examination, contact Skilled Trades Ontario** Client Services Department at: 647-847-3000 or toll free at 1-855-299-0028
- **To schedule your exam:** Once you have paid, contact your local Service Delivery Office to book your exam.
- **Download Skilled Trades Ontario exam preparation guide at:** [Exam Resources – Skilled Trades Ontario](#) and/or view the exam preparation guide for Red Seal trades at: red-seal.ca



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