PROFESSIONAL GEOSCIENTISTS ONTARIO

GUIDANCE ON DOCUMENT AUTHENTICATION

February 2025

This guideline was developed by PGO's Professional Practice Committee

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GUIDANCE ON DOCUMENT AUTHENTICATION

1. Introduction

In accordance with the Professional Geoscientists Act (2000), professional geoscientists registered with the Association of Professional Geoscientists Ontario (PGO) shall sign their name and affix their seal to authenticate professional opinions or documents they produce as a means of protecting this information. Any work that results in technical information that will be relied on by others or will affect the health and safety of the public should be authenticated when it is released into the public. Failure to adhere to proper authentication procedure may result in an investigation and disciplinary action by the PGO.

This document should be read in conjunction with the following publications of PGO which are included in full for reference in Appendix B;

> Section 6 of the Professional Geoscientists Act, 2000, S.O. 2000, c. 13 – Use of stamp or seal,
>
> Section 7 of Ontario Regulation 60/01: Code of Ethics of Professional Geoscientists, and
>
> SCHEDULE "A" - The Professional Geoscientists Seal, of APGO By-Law No. 3 – Certificate of Registration.

This document provides guidance on document authentication, which can also be referred to as either "sealing and signing" or "stamping and signing".

PGO By-Law #3 - Schedule A, describes the progression of documents that are to be signed and sealed. A "Master" document is created when reports, drawings or documents are finalized. These can be either in electronic or hard copy form and are unsigned.

A copy made from the Master, that is signed, sealed and dated by the geoscientist is called an "Original". These can also be either in electronic or hard copy form.

It is fundamental to professional practice that the professional geoscientist:

- authenticate an Original of all documents that the professional geoscientist has produced or contributed to;

- ensure that the contribution of the professional geoscientist(s) to a product or document is clearly indicated and duly acknowledged, especially when projects involve multiple professional disciplines; and
- ensure that the purpose(s) of any geoscience document which the professional geoscientist has authenticated are clearly stated therein.

Care should also be taken to preserve the integrity of an authenticated document while using today's technology-based document preservation and transfer methods.

2. Document Authentication: The Basics

2.1 The Purpose of the Seal

Once granted registration, each professional geoscientist is issued a seal with their unique registration number. The seal provides evidence that the holder is registered with the PGO, and that they are authorized to practice professional geoscience within Ontario. The use of the seal and the Registrant's signature, along with the date of signing on a report or opinion document is the distinctive authentication mark of the professional and fulfills the requirement under the By-Laws of PGO.

Section 6 of the Act requires that:

(1) An individual shall not affix the stamp or seal of a member or a certificate holder[1] to a document or record (or a copy of one) unless,

(a) the document or record was prepared by or under the supervision of the member or by or under the supervision of a member retained or employed by the certificate holder, as the case may be; and

(b) the stamp or seal is affixed with the knowledge and consent of the member.

Same

(2) Despite subsection (1), with the consent of the member or certificate holder, an individual may affix the member's or certificate holder's stamp or seal to a document or record (or a copy of one) prepared by or under the supervision of an individual who is not described in clause (1) (a)

[1]Certificate holder is defined in the Act to mean a "a corporation, partnership or other entity to whom a certificate of authorization is issued"

Effect of consent

(3) If a member or certificate holder consents to have his, her or its stamp or seal affixed to a document or record in the circumstances described in subsection (2), the member or certificate holder is responsible for the contents of the document or record as if it had been prepared by the member or under the supervision of the member or certificate holder in the course of the practice of professional geoscience.

Any person who receives a geoscience document has the right to reject the document if it has not been authenticated. For the public, the use of the seal and signature attests that the holder is a Registrant of the PGO, and therefore authorized to practice professional geoscience in Ontario. It is an indication that the opinions and judgements in the authenticated document were provided by a professional held to high standard of knowledge, skill and ethical conduct.

2.2 The Practice of Authentication

Practically, the authentication of a document is achieved by affixing the seal with the signature, along with the clear presentation of the professional geoscientist's name, their professional designation (P.Geo.), and an unambiguous date of authentication (for example, "3 October 2023" rather than "03-10-23" or "10-03-2023"). The seal shall appear with the signature. It is recommended that the signature and seal are close together or overlap, but the seal not be made illegible.

The use of the professional geoscientist's seal is reserved for the authentication of geoscience documents only, and any other use of the seal, such as for personal documents or advertising, is prohibited.

3. Document Authentication: Application

This section provides details on the authentication for different types of documents, and the use of digital or electronic signatures.

3.1 The Authentication of Different Types of Documents

Documents delivered to the client in the course of practice of the profession should be authenticated by the following means:

- Opinion Letters and Reports: affixing of the seal and signature of the author(s);

- Technology-based documents: indication of the name, professional title and PGO License number of the author(s), along with the date of authentication. Such documents should include an electronic or digital signature, failing which the appropriate cautionary note shall be added in a conspicuous fashion. The PGO suggests the following wording: “The original of this electronic document was produced and authenticated by (author’s name) on (date of authentication) and may be consulted at (location). This copy cannot be considered an authenticated document and shall not be used for purposes that require an authenticated document.”

All copies of an Original authenticated geoscience document shall replicate the Master document.

3.2 Electronic Digital Signatures

For electronic based outputs, authentication will involve an electronic seal with a digital certificate. The electronic seal is a digital version of the rubber stamp.

PGO recommends that Registrants use a cryptographically protected digital signature to go with the electronic seal, the veracity of the resulting digital certificate details is certified by a trusted Certificate Authority and protects the data integrity of the signed electronic document.

Care should be taken to preserve the integrity of an authenticated document while using today’s technology-based document preservation and transfer methods.

An electronic or digital signature shall be:

- Authentic: It shall be possible to identify the signer with no uncertainty.
- Forgery-proof: The signature cannot be easily counterfeited or applied by someone else.
- Non reusable: The signature cannot be reused and cannot be transferred to another document.
- Tamper-proof: The signed document is unalterable, so once signed, it can no longer be modified.
- Irrevocable: The signer cannot renounce the document.

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PGO recommends that Registrants opting the use of digital authentication ensure that they use a reputable and trusted Certificate Authority for their digital authentication needs.

3.3 When Authentication is not Required

Occupational products that meet the definition of non-technical work such as press releases, cost estimates, brochures, flyers, contracts and checklists will not require authentication nor will they require use of a physical or digital seal. Preliminary or draft memorandums, letters, reports, should not be authenticated, and they should be clearly marked PRELIMINARY or DRAFT, along with the names of the contributing professional geoscientists and the date of the last document update. Subject to applicable regulations, certain types of documents, such as borehole logs, drawings, diagrams, or maps completed by the professional geoscientist may require individual authentication.

3.4 Unacceptable Methods of Authentication

Photocopied or scanned seals, scanned images of the professional stamp, stick on labels as methods of authentication should be avoided. Use of electronic seals without digital certification may be deemed unacceptable methods of authentication.

3.5 Documents Involving Single Discipline or Multiple Disciplines

a) Single Discipline
   If only one discipline is involved in the geoscience work, then only the Registrant who is professionally responsible for the geoscience work is required to authenticate the document. If several individuals of the same discipline are involved, and each have responsibility only for their work, then each individual shall authenticate the document, having defined the scope and identified the sections under their responsibility.

b) Multiple Disciplines
   If multiple disciplines are involved in the professional work product, then the professional Registrant(s) in each discipline should authenticate the document and define the scope of their work and the sections they are responsible for.

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3.6. Geoscience Documents prepared under a Certificate of Authorization

Documents produced under a Certificate of Authorization should ensure that the geoscience work prepared meets the quality control and quality assurance standards of the Certificate Holder and the practices of professional geoscience in accordance with requirements established under relevant federal and provincial statues. When Registrants authenticate their work, they shall clearly state their area of responsibility and, in addition to their applying their personal signature, seal and date of signing should clearly include the Certificate of Authorization name and PGO registration number of their employer.

In the case where geoscience documents are produced under more than one Certificate of Authorization, Registrants should ensure their work affiliation to their respective Certificate of Authorization is clearly presented.

3.7. Technical Documents or Work Products by Professionals Not Registered in Ontario

The large presence of multi-national companies in Ontario increases the possibility of technical work produced by professionals who are not registered with PGO. Any work that is determined to need authentication for use in Ontario will be prepared by a Registrant so as to meet this legal obligation, including by direct supervision by a Registrant who assumes responsibility for the product, or via registration for temporary or incidental practice by geoscientists who are eligible. Professional work products that are prepared in Ontario to be used outside of the province should also meet the same reciprocal criteria, if possible, prior to authentication of the professional document.

4. Document Security and Retention

This section addresses the security and retention of the integrity of authenticated documents. The professional often has little control over the use of their product. To prevent their product from being used for purposes other than that for which it was produced, the professional geoscientist should ensure that each report, opinion or other final geoscience document they produce always includes a clear statement of the purpose for which the work was done and of any related restrictions, along with a cautionary note against other uses.

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4.1 Security

Professional geoscientists shall maintain complete control over the use of their seal, reproductions of their seal, their handwritten signature and their digital signature, so no one can use them without their explicit consent. To this end, professional geoscientists shall keep the access codes to their digital signature strictly confidential and shall control access to their computer when these codes are activated. A professional geoscientist who gives someone access to their digital signature and/or reproductions of their handwritten signature could be held legally responsible for any illicit use of their digital signature by that person.

In case of doubt or dispute, an original of the document as described in By-Law #3, should be kept so that forgery, modification or tampering can be proven by comparison.

The professional geoscientist should show adequate security measures were in place to ensure its preservation, in addition to having adequate documentation that the authentic document was transmitted to the recipient(s).

4.2 Document Revisions

Modification of a geoscience document is strictly reserved for professional geoscientists, and revisers are professionally responsible for the geoscience product directly or indirectly affected by their modifications. As such, the reviser(s) shall authenticate the modified geoscience document. A revision log should be attached to the document that clearly indicates the reviser's name(s) and PGO registration number(s), the purpose and nature of the modification(s), and the date of modification(s). It is important that the purpose and scope of any modification be clearly indicated, especially if the purpose diverges from the original purpose of the document, so as to avoid any confusion in the attribution of responsibility, especially if there are several revisers, or several sets of modifications of the same document.

4.3 Documents on Physical Media

While counterfeiting of a paper document is always possible, it is relatively easy to detect. The professional geoscientist should assess the risk of counterfeiting of the documents they produce and take steps to limit this risk. The steps to consider can include, where applicable:

- If copies are requested, a new Original derived from the Registrant's Master document should be prepared.

- Controlling the number of original documents by restricting their number and identifying them individually;
- Using special paper or reproduction processes.

4.4 Technology Based Documents

Technology-based documents have the same legal value as paper documents. However, they can be easier to alter, copy, separate, destroy, extract or otherwise manipulate.

Moreover, in a context where teamwork requires many transmissions of documents, it is always possible that an error may be introduced and perpetuated or that the wrong version of a document may be used by mistake.

To ensure the integrity and authenticity of technology-based documents, and to minimize the risk of error, professional geoscientists and the organizations who employ them should set up methods and tools for the creation, distribution, version management and safeguarding of technology-based documents. Such methods should:

1. protect and control the imprints of the seal and the signature;
2. ensure document integrity (authenticated documents should be secure); and
3. enable verification of the authors' identity.

An authenticated technology-based geoscience document may be transmitted if it includes appropriate authenticating marks (imprint of seal and of signature) and bears the digital signature of the professional geoscientist. If reproduction of the professional geoscientist's seal(s) and handwritten signature imprint(s) are used in accordance with Section 2, then the technology-based document should be secure.

A digital signature is the best form of security for an electronic document.

A technology-based document that has not been authenticated shall contain the name of the author, date and a cautionary note to that effect. The PGO suggests the following wording: "The original of this electronic document was produced and authenticated by (author's name) on (date of authentication) and may be consulted at (location). This copy cannot be considered an authenticated document and shall not be used for such purposes that require an authenticated document."

Before distributing an electronic document, the professional geoscientist should evaluate the risks in order to choose the appropriate precautions. The following factors should be considered:

- Is the recipient reliable?
- How will the recipient use the document?
- Does the recipient have a system for ensuring document integrity and confidentiality?
- Is there a risk of alterations to the document?
- Is there a risk of unauthorized copying or use of the seal and signature?
- Might the recipient use the document for purposes other than those for which the professional geoscientist accepts professional responsibility?

4.5 Document Retention

An authenticated geoscience document shall be kept in a way that will preserve its integrity.

The documents in the professional geoscientist's files, Master, Original and underlying information should be archived by the professional geoscientist or by the professional geoscientist's employer subject to the requirements stipulated under established company policies, legislation and/or industry standards applicable to such documents.

PGO recommends that a retention period of 7 years for the Registrant, in keeping with retention of financial or corporate information in Ontario.

If access to a saved document requires the use of certain hardware, tools or systems, these shall be conserved and kept in good operating condition to ensure retrieval, alternatively, the Registrant should maintain their archived data in a currently usable format.

The Master and Original of a geoscience document be easy to find. In the absence of a electronic storage system designed for this purpose a storage log or inventory should be maintained.

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4.6 Translations

Professional geoscientists sometimes have to deliver a geoscience document in a language other than their usual working language. The professional geoscientist should clearly state the language the document was prepared in; in case a discrepancy emerges between documents provided in different languages. PGO recommends using language similar to the following; *"This document is translated from the original English (or other original language) and provided for information purposes. In case of a discrepancy*

between the documents, the original authenticated English (or other original language) version will prevail."

A professional geoscientist may authenticate a document, or that portion of the document for which they are responsible, in more than one language if they are sufficiently fluent in those languages.

Where the situation (client or legislation) requires that all the texts have equal status, the professional geoscientist shall take the steps possible to ensure that the meaning in all texts is the same. This may involve using the services of a professional translator or geoscientist who work in language in question.

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APPENDIX A

DEFINITIONS and ABBREVIATIONS

The following definitions and abbreviations have been used within this guidance document.

Author: The professional geoscientist(s) who conceived or produced a geoscience product or participated therein.

Certificate of Authorization (CoA): A certification issued by Professional Geoscientists Ontario to a corporation, partnership or other entity that offers or provides services to the public that constitute the practice of professional geoscience.

Copy: An exact duplication of an original document, identified as such.

Digital signature: A cryptographically protected information in which the veracity of the signature is ascertained by certificate details certified by a Digital Certificate Authority and protects (tamper proofs) the data integrity of digitally signed electronic document

Digital Certificate Authority: An entity that stores, signs and issues digital certificates

Document: Information inscribed on a medium constitutes a document. The information is delimited and structured, according to the medium used, by tangible or logical features and is intelligible in the form of words, sounds or images. The information may be rendered using any type of writing, including a system of symbols that may be transcribed into words, sounds or images or another system of symbols.

Geoscience document: A document expressing the result of geoscience work done by a professional geoscientist. A geoscience document must be considered a “document” within the meaning of the Act.

Geoscience product: Anything produced, whether tangible or intangible, as a result of work done by one or more professional geoscientists, including the preparation of geoscience documents.

Handwritten signature: The personal mark (usually the name written by hand) that a person habitually makes on a document to acknowledge their consent and responsibility with regard to the document, or to authenticate it.

Imprint: A facsimile (of a seal, a signature, etc.) appearing on a document, regardless of the medium.

Integrity of a document: The integrity of a document is ensured if it is possible to verify that the information it contains has not been altered and has been maintained in its entirety, and that the medium used provides stability and the required perennity to the information.

Master: A document which is created when reporting, drawings and other information are assembled and prepared as a final document by a Registrant. The Master and its underlying information are accessible to the Registrant and are used to prepare an Original which can be authenticated.

Opinion: An opinion expressed by a person or organization who has been consulted.

Original: The document that is produced directly by the author from their Master and authenticated. This is the first source of subsequent copies or reproductions. In the case of a technology-based document, the integrity of the Original must be ensured and it must be possible to trace the original back to a person, whether or not it is ever transmitted.

Plan: A geoscience document containing information in a graphical form, that is, through a combination of lines and characters (letters, numbers, signs and symbols). In cartography, the term “plan” refers to a map representing an area small enough for its curvature to be omitted and the scale to be considered constant.

Registrant: An individual who is registered by Professional Geoscientists Ontario. In Professional Geoscientists Act 2000, a Registrant is referred to as “Member”

Seal: The professional geoscientist’s official stamp. It contains the professional geoscientist’s name, license type (i.e., “Practicing Member”), license number, the words “Professional Geoscientist, Ontario”.

Technology-based document: A document existing on a medium that uses information technologies, whether electronic, magnetic, optical, wireless or other, or that uses a combination of technologies, such as a computer file.

Verification: The act of verifying or ensuring the exactitude of something by comparing it against some form of proof.

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APPENDIX B

References to Act and Regulations

Professional Geoscientists Act, 2000, S.O. 2000, c. 13 Use of stamp or seal

Use of stamp or seal

6 (1) An individual shall not affix the stamp or seal of a member or a certificate holder to a document or record (or a copy of one) unless,

(a) the document or record was prepared by or under the supervision of the member or by or under the supervision of a member retained or employed by the certificate holder, as the case may be; and

(b) the stamp or seal is affixed with the knowledge and consent of the member. 2000, c. 13, s. 6 (1).

(2) Despite subsection (1), with the consent of the member or certificate holder, an individual may affix the member's or certificate holder's stamp or seal to a document or record (or a copy of one) prepared by or under the supervision of an individual who is not described in clause (1) (a). 2000, c. 13, s. 6 (2).

Effect of consent

(3) If a member or certificate holder consents to have his, her or its stamp or seal affixed to a document or record in the circumstances described in subsection (2), the member or certificate holder is responsible for the contents of the document or record as if it had been prepared by the member or under the supervision of the member or certificate holder in the course of the practice of professional geoscience. 2000, c. 13, s. 6 (3).

O. Reg. 60/01: CODE OF ETHICS OF PROFESSIONAL GEOSCIENTISTS

7. A professional geoscientist shall sign, stamp and seal only plans, specifications, reports or documents,

(a) that he or she has prepared or that have been prepared under his or her direct supervision and control; or

(b) that another person has prepared and that the professional geoscientist has thoroughly reviewed and for which he or she accepts professional responsibility.

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