# Draft Technical Standards for Assessment Work Reports

January 2025

# INTRODUCTION

This Technical Standards document sets out what must be included in the technical report applicable to the type of assessment work that is required as part of an assessment work report submission pursuant to the *Mining Act*, R.S.O. 1990, C. M.14 and the Assessment Work Regulation (O. Reg. 65/18).

Before submitting your work report, please review the policies on Assessment Work Types and Costs as well as the Directives for submitting work reports.

## Requirements For All Technical Reports

A. contain a title page with the name of the report, the property and/or project name, the date of completion of the report, and clearly identify all authors;

B. give the names of the persons who performed the work;

C. identify all mining lands where work was performed, including:

   a. township(s);

   b. cell number(s) on the Provincial Grid;

   c. mining land tenure number(s) (i.e., claim numbers, lease numbers, Licenses of Occupation numbers, or Patent numbers);

   d. the number(s) of any active and applicable exploration permit issued or exploration plan filed pursuant to O. Reg. 308/12 and;

   e. ownership of the land.

Example:

| Mining land tenure (i.e., claim numbers, lease numbers, Licenses of Occupation numbers, or Patent numbers) | Cell number(s) on the Provincial Grid | Active exploration plan and/or permit number | Township(s) | Ownership(%) |
|---|---|---|---|---|
| | | | | |

A. describe the means of access to the work area from the nearest population centre;

B. list the coordinate source used to locate the area of work. If using UTM, include Datum and Zone;

C. state for whom the work was performed;

D. include a signed and dated statement of qualifications from the author or a signature page with a signed and dated stamp for authors registered with a professional organization;

E. include a list of all references cited in the technical report;

F. where samples were collected, provide all assays and analysis with the signed Certificates of Analysis and;

G. provide a legend of all symbols or abbreviations used in the technical report;

H. where the transportation of supplies, equipment, or persons to and from the mining lands occurs outside of Ontario but within the borders of Manitoba and Quebec, please provide a justification. Costs incurred within Canada but outside of Manitoba, Quebec and Ontario would be prorated.

## Requirements For All Maps

**Note: These requirements are in addition to any work type specific map requirements:**

A. north direction arrow;

B. a graphic or bar scale;

C. grid co-ordinate lines (e.g. UTM coordinates including Datum and Zone);

D. provincial grid cell boundary lines;

E. mining land tenure number of all lands where work was performed;

F. coverage of any applicable early exploration plan or permit;

G. legend with a descriptive list of all symbols used on the map and;

H. where applicable, lakes, streams, and other notable topographic features.

# WORK TYPES

## 1. Grass Roots Prospecting

A technical report in respect of grass roots prospecting shall include:

A) A brief written summary of the work program detailing:

a. the purpose of the work;

b. the commodity being explored and;

c. the results of the program;

B) Data including the following information:

a. a daily log describing, in detail, the nature and content of the work performed and descriptions of the rocks and mineralization observed during the performance of the work;

b. list and provide a description and GPS location of all samples collected;

example:

| Sample ID | UTM source and zone | | Lab Reference ID | Description of sample |
|---|---|---|---|---|
| | Easting | Northing | | |
| | | | | |

C) Geological map(s):

a. showing the location and date of all traverses;

b. showing the location of all outcrops investigated and of observed rock types, mineralization, trenches, and any mineralized float boulders;

c. showing the location of all samples, with legible sample identifiers.

D) OPTIONAL: provide photographs of any significant mineral samples that may have been found, if available;

## 2. Bedrock Trenching, Bedrock Pitting, Overburden Stripping and Related Manual Work including outcrop mapping, outcrop washing and brushing and sampling associated with this work such as channel sampling and plugger sampling.

A technical report in respect of bedrock trenching, bedrock pitting, overburden stripping and related manual work including outcrop mapping, outcrop washing and brushing and sampling associated with this work such as channel sampling and plugger sampling shall include:

A) A brief written summary of the work program detailing:

   a. the purpose of the work;

   b. the commodity being explored;

   c. the results of the program;

B) Data including the following information:

   a. provide a daily log describing in detail the nature and content of the work performed and the observations made during the performance of the work, the description of rocks and mineralization exposed, as well as the type of equipment used, and the dates and hours worked;

   b. describe the dimensions of the work areas and the total area and volume of material stripped, and/or pitted, and/or trenched;

C) Geological map(s):

   a. showing the location(s) of trenches, pits, and stripped areas, in relation to the land disposition boundaries;

   b. showing a detailed map of each of the trenches, pits, and/or stripped areas;

   c. showing the dimensions of the trenches, pits, or stripped areas and of overburden storage areas, and new surface stripping, bedrock trenching and known rock outcrops;

   d. showing the nature of the rocks and mineralization exposed during the performance of the work;

D) OPTIONAL: Photographs of each of the trenched, pitted, and/or stripped areas, if available.

## 3. Taking Samples for Purposes Of Geoscience Work

A technical report in respect of taking samples for purposes of geoscience work shall include:

A) A brief written summary of the work program detailing:

a. the purpose of the work;

b. the commodity being explored;

c. the results of the program;

B) Data including the following information:

a. a daily log describing in detail the nature and content of the work performed and the observations made during the performance of the work, the description of rocks and mineralization sampled and exposed, as well as the type of equipment used;

b. provide a description and GPS location of all samples collected;

c. where drill core is resampled, provide the drill hole number, log, plan and section, and the intervals at which the samples were taken;

d. where heavy mineral processing of overburden samples is reported, provide the size and weight of the samples, the analytical procedures used and the accompanying results;

e. where metallurgical testing, beneficiation, or bulk sampling are reported, provide the size and weight of the sample, the analytical procedures used and the accompanying results;

C) Geological map(s):

a. clearly identifying the location of each sample by number and measured core length;

b. where samples are reported for core or non-core drilling, providing the drill hole collar location in relation to mining land boundaries.

## 4. Remote Sensing Imagery

A technical report in respect of remote sensing imagery shall include:

A) A brief written summary of the work program detailing:

a. the purpose of the work;

b. the commodity being explored;

c. the results of the program;

B) Data including the following information:

a. The source of the remote sensing imagery, the method of data collection for the imagery;

b. provide the complete raw and processed datasets and describe the corrections and processing steps applied to the remote sensing data;

c. If a computer-generated model was created as part of the interpretation process for imagery collected, provide details of the modelling software, method and input parameters;

C) Geological map(s):

a. showing the original and interpreted remote sensing images or maps.

## 5. Geological Survey Work

A technical report in respect of a geological survey shall include:

A) A brief written summary of the work program detailing:

a. the purpose of the work;

b. the commodity being explored;

c. the local geological settings of the property;

d. the results of the program.

B) Data including the following information:

a. descriptions of significant geological structures and of the character, attitudes and dimensions of mineralized and/or altered zones encountered on the property and the surrounding rock types;

b. the procedures and parameters related to the survey, such as grid control or GPS navigation;

c. a table of all samples collected with their GPS locations;

C) Geological map(s):

a. give an interpretation of all the field exploration work performed, analytical and testing data and other relevant information;

b. showing traverse lines that have been run;

c. indicating the location and dimensions of all formations and samples taken;

d. showing the location of any stripped areas, trenches, test pits, shafts and adits.

## 6. Geochemical Survey Work

A technical report in respect of a geochemical survey shall include:

A) A brief written summary of the work program detailing:

a. the purpose of the work;

b. the commodity being explored;

c. the results of the program;

B) Data including the following information:

a. explain the procedures, including the sampling methods and equipment used, and parameters related to the work such as grid control or GPS navigation;

b. describe each of the samples collected including the type(s) (e.g., vegetation, soil, sediment, rock, etc.), GPS location(s), depth of the sample(s) collected and observations;

a. in the case of soil samples, indicate the depth or range of depth below the surface and the particular soil horizon sampled;

b. in the case of samples of living vegetation, plant, humus or peat, describe the samples as specifically and completely as possible, giving the plant name, species, and part of the plant sampled;

c. give an analysis of the geochemical data by mathematical or other means in order to establish background, threshold and anomalous values;

d. give an interpretation of all the field exploration work performed, and analytical data and discuss whether the program met its original objectives;

C) Geological map(s),

a. showing traverse lines that have been run. If applicable, include established grid lines and baselines;

b. showing all station points and sample numbers and any other maps of assay results, where produced;

c. showing profiles or contours as determined from the analytical results of the survey and give the vertical scale where profiles are used.

## 7. Ground Geophysical Survey Work

A technical report in respect of a ground geophysical survey shall include:

A) A brief written summary of the work program detailing:

a. the purpose of the work;

b. the commodity being explored;

c. the local geological settings of the property;

d. the results of the program;

B) Data including the following information:

a. specify the total distance of line traversed and number of days in the field for each type of survey performed;

b. identify the name, type and model of the instrument used to perform the survey, specifying the scale constant or sensitivity;

c. describe the method of survey and the use of the instrument, operational technique and parameters measured;

d. describe the calibration and quality control methods used;

e. provide the complete raw and processed datasets;

f. describe the corrections and processing steps applied to the survey data;

g. describe the possible causes of background and anomalous values relating the latter to known or speculated causes;

h. give an analysis of the geophysical data and an interpretation of all the field exploration work performed, analytical and testing data and other relevant information. If a computer-generated model was created as part of the interpretation process for the field work performed, provide details of the modelling software, method and input parameters;

C) Geological map(s):

a. showing traverse lines that have been run. If applicable, include established grid lines and baselines;

b. showing all station points, the values of readings taken and the units measured;

c. providing the GPS location of the main base control point or base station, if applicable;

d. in cases of borehole surveys:

a. providing a plan showing the projection to surface of each drill hole surveyed, with the loop configuration, or current source or seismic source;

b. providing a drill hole section for each drill hole surveyed, or a detailed geological map of the area, both showing the lithology, and mineralization;

c. showing profiles, contours or sections of the fully processed data and give the vertical scale where profiles are used;

d. containing a legend or explanation indicating how the measured units are plotted, anomalous zones are indicated, and spurious suspect readings are identified.

## 8. Airborne Geophysical Survey Work

A technical report in respect of an airborne geophysical survey shall include:

A) A brief written summary of the work program detailing:

a. the purpose of the work;

b. the commodity being explored;

c. the local geological settings of the property;

d. the results of the program;

B) Data including the following information:

a. identify the manufacturer, type and model of all instruments and sensors used in the performance of the survey, specifying the scale constant or sensitivity, the accuracy and the parameters measured for each instrument, including sampling rate;

b. describe the position of all instruments and sensors with respect to the aircraft and provide a figure showing the location of EM transmitter and receiver coils, magnetometers, and gravimeter;

c. describe the calibration and quality control methods used;

d. specify the method of ground control related to flight path recovery, ground speed and the terrain clearance of the aircraft used in the performance of the survey;

e. specify the flight-line spacing, the total distance flown over the entire survey and the distance flown over the mining lands for which the assessment work is to be credited;

f. provide the complete raw and processed digital datasets;

g. describe the corrections and processing steps applied to the survey data;

h. for EM surveys, provide vertical sections along flight lines of calculated electrical parameters (e.g. apparent resistivity or apparent conductivity), if applicable;

i. give an interpretation of all the field exploration work performed; If a computer-generated model was created as part of the interpretation process for the field work performed, provide details of the modelling software, method and input parameters;

B) Geological map(s):

a. showing the flight line along which the data were acquired, identifying the line number;

b. showing profiles or contours determined from the readings obtained by the survey, stating the units measured;

c. for EM surveys, showing the locations of picked anomalies symbolized to show relative conductivity;

d. containing a legend indicating profile scale (where used), contour intervals (where used), colour scale bar (where colour contours are used).

## 9. Modelling Or Reprocessing of Existing Data In Order To Identify A New Mineral Exploration Target

A technical report in respect of modelling and/or reprocessing of existing data in order to identify a new mineral exploration target shall include:

A) A brief written summary of the work program detailing:

a. the purpose of the work;

b. the commodity being explored;

c. the local geological settings of the property;

d. the results of the program;

e. the description of identified targets;

B) Data including the following information:

a. explain how the work leads to a new exploration model or concept supporting new exploration activity(ies) and identify the new mineral exploration target(s);

b. give an interpretation of all the work performed;

c. provide details of the reprocessing and/or modelling software, methods and input parameters;

C) Geological map(s),

a. showing the results of data modelling or reprocessing;

b. showing the locations of new mineral exploration targets;

c. showing profiles or contours determined from the readings obtained by the modelling or reprocessing, stating the units measured;

d. containing a legend indicating profile scale (where used), contour intervals (where used), colour scale bar (where colour contours are used).

## 10. Line Cutting Associated With Geoscience Work

A technical report in respect of line cutting shall include:

a. a description of the established baseline and grid lines that were cut, including the total distance and average width cut, and the work performed on the control grid.

## 11. Exploratory Drilling by Core Or Non-Core Methods, Including Diamond Or Core Drilling, And Other Drilling Such As Percussion, Reverse Circulation And Auger Drilling

A technical report in respect of exploratory drilling by core or non-core method, including diamond or core drilling, and other drilling such as percussion, reverse circulation, and auger drilling, shall include:

A) A brief written summary of the work program detailing:

a. the purpose of the work;

b. the commodity being explored;

c. the local geological settings of the property;

d. the results of the program;

B) Data including the following information:

a. indicate the start and end dates of the drilling program;

a. provide a summary table, specifying for each drill hole;

b. the drill hole number or wedge number;

c. the drill collar location using UTM coordinates (with Datum and Zone);

d. the drill hole azimuth and dip;

e. the drill hole or wedge length;

f. the number of samples assayed;

b. give an interpretation of all the field exploration work performed, analytical and testing data and other relevant information; If a computer-generated model was created as part of the interpretation process for the field work performed, provide details of the modelling software, method and input parameters;

c. drill hole logs,

a. identifying the hole by number;

b. giving the cell number(s) on the Provincial Grid, the mining claim numbers, lease numbers, Licences of Occupation numbers or Patent numbers on which the hole is drilled;

c. indicating the location of the drill hole collar with UTM coordinates (with Datum and Zone), and, if available, in relation to grid line co-ordinates;

d. indicating the dip/inclination and azimuth of the hole;

e. indicating the size of the core, or the diameter of the drill hole if bored other than by core drilling;

f. stating the start and completion dates of the drilling;

g. stating the name of the drill contractor;

h. stating the storage location of the core or drill sample material;

i. indicating the thickness of overburden in the core drilling holes and other boreholes where this data can be ascertained;

j. indicating if the casing was left in place and method of capping;

k. indicating if the hole was abandoned due to rock or technical reasons;

l. indicating if the hole encountered artesian conditions and whether sealed or valved;

m. describing all geological units encountered in terms of their thickness, composition, colour, texture, structure, grain size, degree of sorting, mineralization, alteration, degree of metamorphism, and bedding;

n. indicating the total length of penetration of the drill hole in bedrock and unconsolidated material;

o. indicating the location and type of all samples taken for assay or physical tests, using the core length intervals, and providing their identification numbers and assay resultsp. stating the date of completion of the log;

p. containing the printed name of the author of the log;

q. providing a legend of all symbols or abbreviations used in the logs;

r. in cases of overburden drilling designated specifically to sample unconsolidated materials, describing the stratigraphy of the materials encountered as to type of material, thickness, colour, texture, structure, grain size, degree of sorting and mineralization, and describing the type of bedrock penetrated, if reached;

C) Geological map(s), including:

a. a drill plan,

a. showing the coverage of any applicable exploration plans and/or permits;

b. showing the location of drill hole collars;

c. showing the projection of the drill hole(s) to surface;

d. indicating the drill hole numbers;

b. a drill hole section,

a. showing a graphic or bar scale;

b. showing coordinate lines corresponding with those shown on the drill plan;

c. providing a descriptive list of all abbreviations, short forms or symbols;

d. showing mining land boundary lines, township boundary lines;

e. showing the mining claim, lease, patent or parcel numbers of all mining lands on which the drilling work was performed showing the coverage of any applicable exploration plans and/or permits;

f. showing the overburden, rock types or type of material intersected;

g. showing the location of the unconsolidated materials, mineralization, and structures designated by code or symbol;

h. containing a legend for codes or symbols corresponding to unconsolidated materials, mineralization and structure;

i. indicating the number, dip/inclination, azimuth, and length of the drill hole;

## 12. Petrographic Work, Including Microscopy, Scanning Electron Microscopy And Electron Microprobe Studies

A technical report in respect of petrographic work, including microscopy, Scanning Electron Microscopy and Electron Microprobe studies, shall include:

A) A brief written summary of the work program detailing:

   a. the commodity being explored

   b. the geological model(s) and/or concept(s) being applied;

B) Data including the following information:

   a. provide the GPS location of all samples analysed;

   b. include sample preparation procedures;

   c. in cases of all studies provide:

      a. sample descriptions and photographs of all samples, captioned with the sample identifier;

   d. in cases of Scanning Electron Microscopic (SEM) or Electron Microprobe (EMP) imagery,

      a. indicate where the data was obtained, the type of equipment used and the operating conditions used to obtain the images, the units of measurement, lower detection limits and the laboratory quality control data;

   e. provide the sample identification numbers, their analyses results and certificates of analysis;

   f. summarize the results and interpretations of all observations and other relevant information, discussing the value of the work program;

C) Geological map(s),

   a. showing the location of all samples;

## 13. Environmental Baseline Studies

A technical report in respect of environmental baseline studies shall include:

A) A brief written summary of the work program detailing:

   a. the purpose, nature and scope of the study;

   b. the land use at the exploration project site;

c. any information on previous activities on the site;

d. the flora, fauna and ecological communities in the area likely to be affected by the exploration project;

B) Data including the following information:

a. the method of collection of the data, the nature of the data collected and the results;

b. describe the Environmental Quality Standards used to assess the environmental impact on the study area;

c. provide the qualifications of the person(s) and/or contractor(s) reporting the study;

C) Geological map(s):

a. outlining the study area;

b. showing the location of monitoring and/or sampling sites;

c. showing the location of potential impact sites and;

D) OPTIONAL: include photographs of the Baseline Study sites, captioned with site identifiers;

E) provide the GPS coordinates of the monitoring and/or sampling sites.

## 14. Rehabilitation Required or Permitted To Be Done Under The Act, If Done In Accordance With The Requirements In The Act Or The Regulations

A technical report in respect of rehabilitation required or permitted to be done under the act, if done in accordance with the requirements in the act or the regulations is eligible for assessment work credit if the submitter provides, shall include:

A) A brief written summary of the work program detailing:

a. any significant areas where hazards or risks have been recognized;

B) Data including the following information:

a. where a proponent undertakes progressive rehabilitation of a site without being subject to a closure plan and met the prescribed standard, provide a copy of the applicable progressive rehabilitation report;

b. describing how the work site was rehabilitated;

C) Geological map(s):

a. of the rehabilitated area, as per the requirements.

# COSTS AND EXPENSES

## Expenditures

Include a statement of expenditures or table that details the specific costs being claimed in the work report submission. The statement of expenditures summary report/table must clearly reconcile with the costs entered in the report of work submission. As outlined in the template of expenditures, please indicate how many hours were worked in the field, the hourly rates of personnel and equipment, as necessary.

The ministry may request proof of expenditures.

## Aboriginal Consultation Costs

When an assessment work report includes Aboriginal consultation costs, the following requirements shall be addressed in the technical report, in addition to the items required for the particular assessment work type,

A) A brief written summary of the work program detailing:

a. the consultation(s) that is being reported, the objective as well as the results of the consultation;

b. identify the aboriginal communities that were consulted;

c. the exploration project name

d. the commodity being explored and

e. the proposed or ongoing work program;

f. identify the mining lands for which the consultation was performed;

g. state the dates during which the consultation(s) was performed;

h. identify who performed the consultation(s);

i. contain a summary of discussions, dates, and communications;

B) Geological map(s), showing:

a. the land consulted on.