Manual **030**

Alberta Energy Regulator

Rock-Hosted Mineral Exploration

January 2025

Alberta Energy Regulator
Manual 030: Rock-Hosted Mineral Exploration

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1 Introduction

1.1 About This Manual

This manual outlines the regulatory processes and operational protocols for rock-hosted mineral exploration. The guidance provided in this manual will help applicants submit technically complete applications that the Alberta Energy Regulator (AER) can evaluate within expected timelines.

The *Metallic and Industrial Minerals Exploration Regulation* (*MIMER*) outlines rules, provisions, and stipulations for metallic and industrial minerals exploration within Alberta. *MIMER* includes details regarding exempted operations (see Part 1, section 2), licensing and permitting, exploration approval, assessments, and penalties.

In this manual, **relevant land authority** means Alberta Transportation, a municipal council, or the Special Areas Board (see the *Special Areas Act*) whenever an approved program is conducted wholly or partially within their administrative areas.

For the requirements for developing rock-hosted mineral resources, see *Directive 091: Rock-Hosted Mineral Resource Development*.

1.2 Contact Information

Contact the AER concerning questions about rock-hosted mineral exploration or about this manual:

Alberta Energy Regulator
Suite 1000, 250 – 5th Street SW
Calgary, Alberta, T2P 0R4
Email: Exploration@aer.ca
Phone: 780-427-2876
Toll free: 1-855-297-8311

1.3 Exploration Regulatory Framework

1.3.1 Legislation

The AER administers mineral resource exploration under Part 8 of the *Mines and Minerals Act* (*MMA*) and *MIMER*. References to approval holder, licensee, or permittee in this manual are defined in sections 1(g), 1(h) and 1(i) of *MIMER*, including authorized land agents or subcontractors working on behalf of an approval holder.

The *Public Lands Act* and *Public Lands Administration Regulation* are provincial legislation governing the use and allocation of public land. The AER issues dispositions authorizing the use of public land under the *Public Lands Act*.

Part 4 of *MIMER* sets out requirements concerning the rights to conduct exploration and the need for consent. In section 24, any exploration on private land, federal land, or land owned by the province that is not public land requires the owner, the owner's agent, or the land agency (administrator) to consent.

1.3.2 Regulatory Stages

Before applying to the AER for an exploration approval, applicants must have the tenure (minerals permit or lease) under Part 3 of the *Metallic and Industrial Minerals Tenure Regulation* and exploration permit, and exploration licence under Part 2 of *MIMER*.

Figure 1 is an overview of the regulatory stages for rock-hosted mineral exploration involving applications to and approvals by the AER, including

- an exploration permit under *MIMER*,
- an exploration licence under *MIMER*,
- an exploration approval under *MIMER*, and
- a reclamation certificate under the *Environmental Protection and Enhancement Act*.

Follow the *MIMER* requirements and provide the AER with the application information required under section 3(1) of the *Alberta Energy Regulator Rules of Practice*.

Applications are submitted in a format acceptable to the AER.

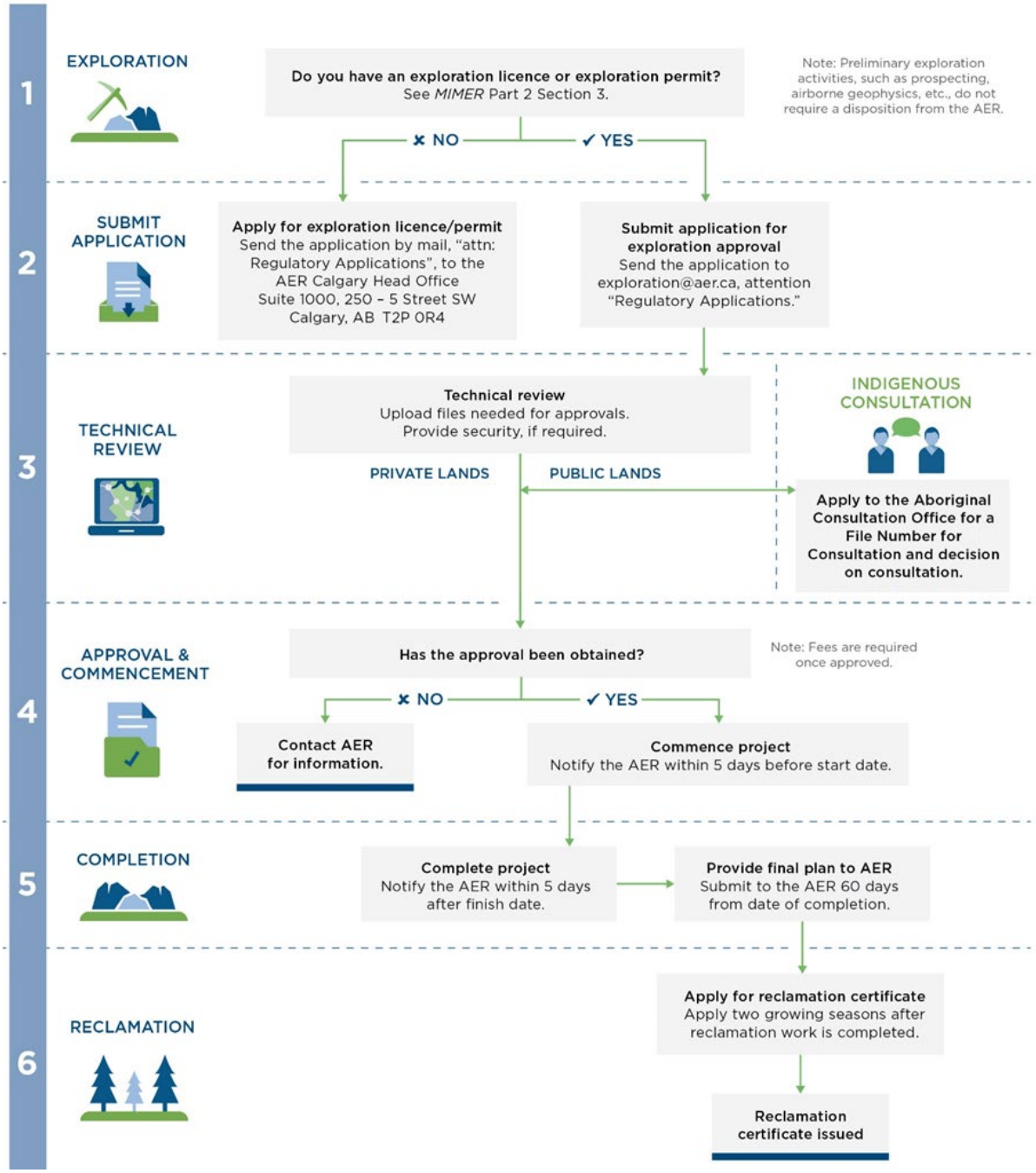

Figure 1. Rock-hosted mineral exploration regulatory stages

2 Metallic and Industrial Minerals Tenure

Tenure is achieved by obtaining a rock-hosted minerals permit or lease under Part 3 of the *Metallic and Industrial Minerals Tenure Regulation* issued by Alberta Energy and Minerals.

- A rock-hosted minerals permit grants the exclusive right to explore for rock-hosted metallic and industrial minerals in a specified location. Other jurisdictions in Canada use the term "mineral claim" for this type of agreement.
- A rock-hosted minerals lease grants the exclusive right to develop and mine rock-hosted metallic and industrial minerals in a specified location.

Tenure is a prerequisite to applying to the AER for an exploration approval.

3 *MIMER* Exploration Licence and Permit

An application for an exploration permit or licence may be made under section 3(1) of *MIMER*.

Part 1, section 2 of *MIMER* lists the operations exempted from Part 8 of the *MMA*. For example, a permit and licence are not required for prospecting work with handheld tools, rock sampling less than 20 kilograms, mapping, till sampling, soil sampling, airborne geophysical techniques, ground geophysical surveys, induced polarity surveys, etc.

3.1 *MIMER* Exploration Permit

An exploration permit is required to operate exploration equipment in Alberta (e.g., drilling, trenching, bulk sampling).

3.2 *MIMER* Exploration Licence

An exploration licence is required to conduct an exploration program and carry out any investigation or associated development to determine the presence of a mineral resource that, in the AER's opinion, results in a surface disturbance.

3.3 Application Submission

Follow these steps to apply for an exploration licence or permit:

1) Provide the completed "Application for Metallic and Industrial Minerals Exploration Permit or Licence" form available on the AER forms webpage.
2) Provide a copy of the certificate of incorporation for Alberta as evidence of entitlement to conduct business in Alberta.
3) Include the nonrefundable application fee of $50.00 (*MIMER* section 3(2)). Accepted forms of payment include cash or a certified cheque or money order payable to the Alberta Energy Regulator.
4) Send the completed form, incorporation certificate, and the application fee to the AER:

Alberta Energy Regulator
Regulatory Applications
Suite 1000, 250 – 5th Street SW
Calgary, Alberta, T2P 0R4

4 Exploration Approval Application

Licensees require an exploration approval from the AER to execute a program of exploration. Under section 5 of *MIMER*, a licensee as defined in section 106 (g) of the *MMA* or a person authorized by the licensee may apply to the AER for an exploration approval.

Follow the guidance in this manual to ensure compliance with all procedures and to submit a technically complete exploration approval application.

4.1.1 Considerations

A licensee may be required to pay a security deposit under *MIMER* sections 10 and 11. The deposit may be required either before or after the application.

When an exploration program is proposed to be conducted in whole or in part within a municipality or a "Special Area," it is recommended that the municipality or the Special Areas Board be notified before starting the exploration program. Use the "Notice of Intent for Rock-Hosted Mineral Exploration" form available on the AER forms webpage.

Section 5(2) of *MIMER* requires providing four copies of the preliminary plan for approval. All submissions are preferred to be in a scalable electronic format acceptable to the AER (see section 6(2) of *MIMER*). Clearly show on the map the information listed on the "Preliminary Metallic and Industrial Minerals Exploration Program Information" form available on the AER forms webpage.

Other considerations include (manual section references)

- approval term (see section 4.2),
- First Nation consultation (see section 4.3).
- caribou Protection plans (see section 4.4), and
- historical resources (see section 4.5).

See section 5 if the application involves deep drillholes or bulk sampling.

4.1.2 Application Submission

Follow these steps to apply for an exploration approval:

1) Provide the completed "Preliminary Metallic and Industrial Minerals Exploration Program Information" form available on the AER forms webpage.

2) Provide the preliminary plan (*MIMER* section 5(2)).

3) Include the nonrefundable application fee of $100 (*MIMER* section 5(2)). Accepted forms of payment include cash or a certified cheque or money order payable to the Alberta Energy Regulator.

4) Email the application to Exploration@aer.ca.

4.1.3 Application Processing

The AER will register the exploration approval application in the Exploration Application System and assign a metallic and mineral exploration (MME) number. When the AER has made its regulatory decision on the program application, it will email the licensee of the decision.

Applicants can expect a decision on a technically complete MME approval application under *MIMER* within 30 business days.

4.2 Exploration Term and Expiry

The term for an exploration approval will be commensurate with the scope of work proposed. The AER will specify the expiry date in the approval. The minimum term for an exploration approval will likely be one year. The operating year for exploration programs is May 1 to April 30. All exploration programs will end on April 30 of a given operating year.

4.3 First Nation Consultation

Programs on public land may require consultation with First Nations and certain Métis groups as directed by the Aboriginal Consultation Office (ACO). Contact the ACO to obtain a preconsultation assessment for public land decisions and a file number for consultation (FNC). The AER will not issue an exploration program without completed consultation requirements.

4.4 Caribou Protection Plans

If the MME program falls within a caribou zone as shown on the provincially approved caribou range map, the licensee must have an accepted Caribou Protection Plan (CPP) as required by the Government of Alberta's CPP guidelines and caribou calving information. A CPP can be submitted or amended at any time, but the AER requires an accepted CPP before deciding on an MME program.

4.5 Historical Resource Requirements

Applicants should work with Alberta Culture to ensure that all requirements under the *Historical Resources Act* are met for an MME program application.

4.6 Exploration Approval Amendments

Under section 18 of *MIMER*, the approval holder may apply to the AER to amend the exploration approval regarding changes to the program. A request for amendment should include the following:

- a completed “Preliminary Metallic and Industrial Minerals Exploration Program Information” form with “amendment” selected
- an updated map
- updated detailed program information

4.7 Public Lands Regulator Temporary Field Authorizations

The licensee must obtain a regulator temporary field authorization (RTF) for minor changes (e.g., detours, pushouts, turnarounds, watercourse crossings, geotechnical work, water withdrawal and additional access) to exploration programs on public lands that are not already authorized in the exploration approval. The licensee may submit an RTF application after receiving an exploration approval and before notifying the AER of program completion. For more information on RTF, see temporary field authorizations.

Follow these steps to apply for an RTF:

1) Provide the completed forms available on the AER forms webpage.
2) Include the following information with the RTF request:
   a) a detailed public land standing report to assess ownership or adjacency issues for any new quarter section that is affected by the amended exploration activity,
   b) a plan or map of the proposed activities,
   c) any required consent, and
   d) any required First Nations or Métis settlement consultation and the FNC number.
3) Submit the application electronically to Exploration@aer.ca.

There are no fees associated with RTF requests.

5 Exploration Applications Involving Deep Drillholes or Bulk Sampling

5.1 Deep Drillholes

A deep drillhole is a drillhole that exceeds 150 m true vertical depth. If the preliminary plan identifies drillholes in excess of 150 metres (m), then the AER will require the applicant to provide additional information, which will be specified as a condition in the application approval. An exploration application involving deep drillholes to explore for rock-hosted minerals or obtain rock-hosted minerals for experimental purposes should include the following:

- plans and cross-sections of the area encompassed by the proposed program showing
  - the topography and bedrock geology

  - the location of known aquifers, watercourses, water bodies, pipelines, roads, and other private or public works in the area
  - the location of completed drillholes, adits, shafts, or other underground openings
  - the sites of operating, suspended, or abandoned underground mines
  - the type, location, depth, numbered location of each proposed drillhole
  - the area, with boundaries, where the proposed drilling will occur
- a brief discussion of known or suspected mineral occurrences in the area stating the target unit and formation
- a brief statement of known or suspected occurrences of subsurface water or other commodities, such as oil or gas, that are likely to be encountered
- a table indicating
  - the proposed location of each drillhole relative to actual or theoretical section boundaries or another survey system acceptable to the AER
  - the azimuth, dip, and depth of each proposed drillhole
- a description of the proposed drilling program, including
  - the type of drilling equipment to be used
  - water management
  - drill-cuttings management
  - the holes and intervals to be cored
- a description of the measures the applicant intends to take to abandon the drillholes (see also section 5.2) and
  - the proximity to known operating, suspended, or abandoned underground mines
  - the occurrence of artesian flow
  - drillhole size
  - geologic setting
  - casing use
- any additional information requested by the AER

5.2 Abandonment of Drillholes

Exploration drillholes should be sealed to permanently prevent the vertical movement of groundwater between permeable water-bearing zones and prevent surface water from contaminating the aquifer. A mechanical plug and bentonitic or cement backfill or grouting will be specified as a condition in the application approval.

Exploration approvals should include details on the proposed abandonment procedures, including the following:

- proximity to known operating, suspended, or abandoned underground mines
- occurrence of artesian flow
- drillhole size
- geologic setting
- use of casing

The stratigraphy of the downhole sequence and the presence and number of aquifers will determine the use of mechanical plugs. Consider the following situations.

5.2.1 Drillhole Size

Drillholes less than 127 millimetres (mm) in diameter (effectively PQ core size) should either be

- cemented or grouted bottom to top or
- have mechanical plugs installed and the hole cemented or grouted to ensure aquifer segregation.

Drillholes greater than 127 mm in diameter should have a combination of mechanical rubber-flanged plugs and bentonite-fortified cement or grout to isolate groundwater regimes followed by backfilling to the surface. Because of the larger drillhole volumes required, additional remediation steps are often necessary.

5.2.2 Drillholes Within the Precambrian Shield

Abandonment should incorporate setting a mechanical plug into competent ground at least 10 m below the overburden or surface contact and placing cement or grout in the drillhole extending from the top of the plug to the surface.

5.2.3 Coal Seams

A coal seam is an interbedded zone of coal and inorganic matter where the inorganic matter does not exceed one-third of the volume of the seam. A layer with inorganic matter exceeding 0.3 m depth is not considered a coal seam.

An exploration drillhole penetrating a coal seam thicker than 1.5 m should be cemented through the coal seam and extend above the seam to at least three times the thickness of the seam.

An approval holder who considers a coal seam to be recoverable by surface mining methods or unrecoverable by underground mining methods may apply to the AER for exemption from this section.

5.2.4 Irretrievable Drill Casing

When the drill casing is irretrievable, the casing should be cut off at or below the surface and capped and plugged. If there is water seepage around the outside of the casing, secure it by placing cement above and around the casing annulus to a two-metre depth to prevent groundwater from seeping vertically around the casing.

5.2.5 Phanerozoic Basin

Small-diameter boreholes in the Phanerozoic Basin should be cemented throughout the Phanerozoic section from bottom to top with an appropriate cement or a cement and bentonite mix, if possible.

Large-diameter drill holes in the Phanerozoic Basin and potentially the Athabasca Basin should be abandoned using some suitable combination of mechanical rubber-flanged plugs, bentonite-fortified cement or grout, and backfill composed of drill cuttings (exclude cuttings containing >1.0% triuranium octoxide [U3O8]).

5.2.6 Crystalline Precambrian Rocks

Drillholes in crystalline Precambrian rocks below the Phanerozoic unconformity may be plugged at the top of the competent crystalline basement and cemented above that point. Where cementing the entire borehole is not feasible, individual aquifers and the glacial overburden should be plugged and cemented unless directed by the AER otherwise. If some part of the drill string becomes irretrievable in the borehole, small-diameter boreholes should be cemented using the tremie method with the cement extending from the bottom to the top of the stuck rods.

5.3 Bulk Sampling

An exploration application involving bulk sampling excavations to explore for rock-hosted minerals or obtain samples for experimental purposes should include the following information for a trench, adit, tunnel, shaft, slope, bulk sample pit or other excavation:

- plans and cross-sections of the area encompassed by the proposed program, showing
  - the topography and bedrock geology
  - the location of known aquifers, watercourses, water bodies, pipelines, roads, and other private or public works in the area

  - the location, inclination, and depth of completed drillholes trenches, test pits, adits, shafts or other underground openings
  - the sites of operating, suspended, or abandoned underground mines
  - the proposed location of the excavation
  - the proposed location of explosives storage facilities
  - all proposed access roads
- a brief discussion of known or suspected mineral occurrences in the area
- a statement of the potential effects of the proposed program on the environment
- a description of the measures the applicant intends to take
  - to remedy or modify the potential impact of the proposed program on the environment
  - to control pollution
- plans showing the methods and sequence of the proposed excavation operations and the related abandonment and reclamation program
- a suitable plan showing
  - the type, location, and depth of each proposed excavation
  - the proposed location of discard areas
- evidence regarding the stability of all slopes resulting from the proposed excavation
- cross-sections of all proposed excavations showing
  - the dimensions of the proposed openings
  - the mineral occurrences, together with the strata overlying and underlying them, as they are known
  - the methods of any proposed strata support
- a description of the proposed program, including
  - the types of excavating equipment
  - the method and sequence of excavation
  - the method used for obtaining samples
  - the disposition of all excavated materials, including mineral occurrences
- the methods used to ensure the stability of discard dumps and the abandonment and reclamation plans for the area
- any additional information requested by the AER

Consider the following operational matters relating to bulk sampling:

- Unless authorized, a minimum 100 m buffer of undisturbed vegetation should be maintained between the bulk sampling activities and all water bodies and watercourses.
- Material excavated from overburden trenching should be backfilled with the topsoil placed last. Preserve topsoil stockpiles separate from other material.
- In the case of uranium exploration, following backfilling, a radiometric survey should be conducted to ensure that the gamma levels (measured at 1 m from the surface) are less than 1.0 µSv/hr (Sv = sievert). When material is found to exceed background levels, contact the AER for review and approval of the handling procedures.
- Hydraulic stripping operations should be approved by the AER before initiation.
- The permit holder should complete all the excavation and reclamation for bulk sampling during the approval term specified (see also section 8.3).

6 Exploration Program Operating Protocols

6.1 Land Access Consent

6.1.1 Private Lands

Consent from the landowner to access private lands should be obtained before initiating the exploration program.

Flagging and locating program lines and sites can be completed before receiving the program approval as long as no surface disturbance occurs (including line cutting).

6.1.2 Public Lands

Consent from the AER to access public lands should be obtained before initiating the exploration program.

Flagging and locating program lines and sites can be completed before receiving program approval as long as no surface disturbance occurs (including line cutting).

6.2 Exploration Program Notifications to the AER

Under section 26 of *MIMER*, the licensee and permittee must provide the AER with a notice regarding the particulars of the approved exploration program at the start and end of the approved exploration program.

6.2.1 Notice of Exploration Program Commencement

The exploration program commencement date is the date of entry to the land to begin exploration after receiving the exploration program approval.

Notify the AER within five business days before the program commencement date. Complete the "AER MME Commencement Notification" form available on the AER forms webpage and email it to Exploration@aer.ca.

The AER will provide the licensee or permittee with a confirmation number after receipt of a complete notification. Retain the confirmation number as verification that the AER has been notified of the program start. Once the licensee or permittee receives the confirmation number for commencement, the exploration program may begin.

6.2.2 Notice of Exploration Program Completion

Notify the AER within five business days after the program completion date. Complete the "AER MME Completion Notification" form available on the AER forms webpage and email it to Exploration@aer.ca.

6.3 Exploration Program Notifications to the Relevant Land Authority

Under section 26 and 28 of *MIMER*, the licensee or permittee must provide the relevant land authority with a notice regarding the particulars of the approved exploration program at the start and end of the approved exploration program.

6.3.1 Notice of Exploration Program Commencement

The exploration program commencement date is the date of entry to the land to begin exploration after receiving the exploration program approval.

Notify the relevant land authority and holders of forest management agreements and timber licenses within 2 to 15 business days before the program commencement date. Complete the "MME Notice of Commencement to Relevant Land Authority" form available on the AER forms webpage and email it to Exploration@aer.ca. A relevant land authority may agree in writing to a different time or period of time that notification is required. Commencement activities may include activities that cause surface disturbance, such as line cutting, drilling, or any treatment of site locations to prepare it for exploration activity.

The licensee or permittee should provide the following information with the program notification to the relevant land authority:

- the start date
- a copy of the exploration approval from the AER
- a copy of the approved preliminary plan for the exploration program

6.3.2 Notice of Exploration Program Completion

Notify the relevant land authority not less than one business day after the program completion date. Complete the "MME Notice of Completion to Relevant Land Authority" form available on the AER forms webpage and email it to Exploration@aer.ca.

6.4 Special Protocols

6.4.1 Notification of Flowing Gas or Water

Notify the AER of any flowing gas or water from the drillhole. Call the Energy and Environmental Emergency 24-Hour Response Line at 1-800-222-6514 to report an energy or environmental incident or emergency.

6.4.2 Uranium Mineralization Isolation and Containment

Any borehole encountering uranium mineralization in a zone measured or suspected to be >1 m wide and containing 1.0% U3O8 should have the mineralization sealed off.

The approval holder should use any tools available to ascertain the presence of uranium mineralization, including a handheld scintillometer or downhole radiometric probes, and identify if the uranium mineralization zone is >1 m wide.

Any drilling mud solids or cuttings with a uranium content >0.05% U3O8 should be disposed of downhole unless retained.

Drillholes encountering uranium mineralization should be grouted through the upper 30 m of bedrock or the entire depth of the hole, whichever is less.

Drillholes should be cemented/grouted over an interval from 10 m above to 10 m below the mineralization zone in addition to the other decommissioning requirements outlined above.

7 Data, Cores, and Samples

7.1 Exploration Data

Exploration data is necessary to validate an approval holder's analyses and determination of ore reserves and forms the basis for an appropriate mine design. Data is typically provided by drill logs with lithological, geochemical, geotechnical, and geophysical data. If data or other supporting information is required, it will be conditioned in the program approval and may include the following:

- drillhole data (collars, inclination, direction end-of-hole location, length, drillhole identifier)
- bulk sample data (location of excavation and related dumps and stockpiles, depth of excavation, volume excavated, configuration of adits, shafts, tunnels, stockpiles, and dumps)

- sampling data (drillhole sample locations and results, surface sample locations, sample descriptions, notes, and geochemical results)
- geology (surface mapping with outcrop descriptions, polygon and line GIS data)
- geophysics (drillhole geophysical surveys, surface geophysical surveys, raw and processed geophysical data)
- geotechnical (core logging and mapping and video and geotechnical testing)
- standardized coordinate systems (UTM NAD83 10TM, etc.)
- method of exploration data submission (digital, hardware media, etc.)

Submit exploration data in a format provided by the AER. Supplying raw data allows for reprocessing and filtering. See appendix 1 for examples of acceptable formats for digital data. Submit all data to MRDA.Submissions@aer.ca in a form that the AER can search, copy, paste, and print the document.

7.2 Bulk Samples and Drillhole Core Segments

It is recommended that operators core each drillhole and analyze the core segments. Core segments should be taken of each targeted lithology with mineral occurrence. If directed by the AER, provide bulk samples, core segments, and analysis in accordance with section 16.3 of *Directive 091*.

An operator providing data, logs, cores, or other materials will bear the submission cost. Damaged or poorly marked core boxes or boxes that do not meet the MCRF specifications may be replaced or relabelled by the AER at the operator's expense. Operators may request exemptions from any requests concerning cores by the AER.

8 Final Plan Submission

8.1 Background

Under Part 7 of *MIMER*, a licensee must submit a "final plan" for an approved exploration program with the AER. The final plan is required within 60 days following the program end date as noted in the "Completion Notification to the AER" form.

In addition to the final plan requirements in section 38 of *MIMER*, include a copy of the RTF with the final plan submission. Record RTF activities on all final plan maps. Complete the "Final Plan Metallic and Industrial Minerals Exploration Program Information" form available on the AER forms webpage.

Timber damage assessment (TDA) fees will be accounted for and charged under the final plan submission.

8.2 Final Plan Submission Procedure

Email the final plan to Exploration@aer.ca. It will be registered in the Exploration Application System. For more information see Systems and Tools.

A complete submission of a final plan should include the following:

- a "Final Plan Metallic and Industrial Minerals Exploration Program Information" form (see AER forms webpage)
- a TDA form (available from the Government of Alberta) for programs in the Green Area

All submissions are preferred to be in a scalable electronic format acceptable to the AER to show the information listed on the "Final Plan Metallic and Industrial Minerals Exploration Program Information" form.

If the program did not start, submit a letter of cancellation to the AER before or no later than 30 days after the expiry date of the program approval, following section 36 of *MIMER*.

There are no fees associated with cancelling an exploration program or submitting a final plan.

8.3 Reclamation Certificate

Exploration operations are reclaimed in accordance with section 35 of *MIMER*, which states:

> "The licensee for a program of exploration shall obtain a reclamation certificate issued pursuant to the *Environmental Protection and Enhancement Act* in respect of all work conducted under the authority of the exploration approval for the program."

The AER encourages operators to complete reclamation concurrent with activities to help ensure reclamation success. If reclamation activities are necessary after expiry, the holder should submit an RTF application to allow access.

Apply for a reclamation certificate to the AER via OneStop no later than three years after completing the exploration program. Failure to apply for a reclamation certificate within this timeframe may result in a noncompliance.

If reclamation is deemed unsuccessful by the operator, contact the AER to discuss options to help achieve success.

9 Release of Exploration Program Information

9.1 Exploration Program Information

The following information is considered program information:

- the preliminary plan application
- the approval issued for the specific exploration program
- other approvals associated with the exploration program (e.g., RTF)
- all parameters of the program design and execution
- final plans and maps for the exploration program

9.2 Release of Exploration Program Information

Information collected in relation to an approved exploration program as it relates to personal information and this manual may be released as per section 42 of *MIMER*, subject to the *Freedom of Information and Protection of Privacy Act*.

Subject to the *Freedom of Information and Protection of Privacy Act* as it relates to the release of personal information, on the request in writing made by any person to the AER, the Minister may release and make available to that person information that is held in the records of the Department in relation to an approved exploration program in accordance with the following:

A release of information may be made at any time

- after one year following the date of program completion;
- before one year has elapsed after the date of program completion if the licensee has consented to the release;
- after the approval by the AER of a final plan for a program of exploration, information as to the location sites in the final plan may be released by the AER to a branch or division of the department designated for the purpose of identifying the location of those sites on access maps to which persons involved in the conduct of exploration in Alberta will have access.

In the written request, indicate the approved exploration program and the program information being requested, and the phone number and the address of the requester.

Submit the request to the AER at InformationRequest@aer.ca.

The AER will provide program information in hard copy.

Program information excludes information or correspondence between a First Nation and the program licensee, program permittee, or any other person authorized by the program licensee or program permittee

to communicate or consult with a First Nation or any details of a First Nations consultation plan or program.

9.3 Release of Exploration Data

The AER may permit the public access to the exploration data following the confidentiality period in accordance with section 42 of *MIMER*. This period of confidentiality can be extended upon request of the licensee. Access may include records, reports, or information received or acquired by the AER regarding the following:

- drillhole location, elevation, diameter or approximate dimensions, depth, azimuth, dip, and completion date
- the name and registered address of the operator who or on whose behalf the exploratory drillhole was completed
- logs or lithological descriptions
- cores, core segments, or fragments from the drillhole together with an indication of the ASTM class or classes (mineralization encountered in the hole is assigned a class based on its composition)
- whole or partial bulk samples

Appendix 1 Acceptable Formats for Digital Data

Data Type	Description	Format	File Extension
Report text	Annual, relinquishment, and final reports Geophysical survey logistics and interpretation reports Documents, figures, etc.	Reports must be PDF documents Figures and tables may be interleaved with the text Annual, partial relinquishment, and final reports must contain the relevant section headings as specified in this guideline. MS Word documents must be converted to PDF for submission	.pdf
Tabular data	Point locations/drill collars Geochemistry Drilling, including downhole surveys, lithology, alteration, seams, geophysics, etc. Geotechnical data Analytical data, including geochemistry, gas, coal quality, composites, reflectance, etc. All relevant dictionaries, including lithology, seams, geotechnical, etc. New or corrected data generated from historical exploration activities	Comma or tab delimited ASCII (.csv preferred)	.csv .txt .dat
Maps, plans, figures and photos not embodied in report text	Maps, plans, figures, photos, etc.	PDF GEOTIFF/TIFF JPEG PNG	.pdf .tif .jpg .png
Geochemistry laboratory certificates	Original laboratory reports or certificates of results	PDF	.pdf
Mapping data	Original mapping point and line and vector data in GIS format	ESRI shape files MapInfo tab files	.shp, .shx, .tab, .map
Core and chip photographs		JPEG or high-resolution PDF	.jpg preferred
Geophysical data	Raw, processed, line, point, grid, and derived data	Grids: Preferred in ER Mapper Geosoft also accepted	.grd, .ers, and associated binary file

		Location data: Electrical: ASEG ESF preferred, Maxwell EMIT accepted *Potential field: ASEG GDF2* *Ground-penetrating radar: SEG formats* *Passive seismic: All formats accepted* *Magnetotellurics* *Other: TAB delimited ASCII with header*	 .esf, .con, .tem .des, .dfn, .dat, .met .sgy, .segy, .sg2 All formats .edi
Remotely sensed data (lidar, multispectral and hyperspectral)	Raw, processed, point cloud, spectral, grid data		.las, .dem, .tif
Remotely sensed and geophysical images	Images derived from geophysical /remote sensing surveys, e.g., TMI, gravity, Landsat, ADS80	300 dpi, georeferenced: GEOTIFF/TIFF ECW JPEG, JPEG 2000, PNG PDF	 .tif .ecw .jpg .jp2 .png .pdf
Seismic data	Raw data	SEG-Y and SEG-D	.sgy and .sgd
	Processed data	SEG-Y	.sgy
	Navigation data	UKOOA P1/90	.uka
	Processed sections	Digital format with metadata (Image, PDF, vector)	.tif, .ecw, .jpg, .jp2, .png, .pdf
Geophysical log data	Processed wireline and MWD data	LAS LIS / DLIS Delimited ASCII	.las .lis .asc
	Log plots Downhole acoustic scanner – interpreted images	PDF TIFF JPEG GIF PNG	.pdf .tif .jpg .gif .png

	Processed downhole velocity data	SEG-Y	.sgy
3D models	3D objects	Point and grid data: Comma or tab delimited ASCII (.csv preferred)	.csv, .txt
		Surface, volume, curve, point and grid data	.ts, .pl, .vs, .vo, .dxf
	Geophysical inversion and forward modelling	UBC, VPMG, Modelvision or other inverse and forward modelling formats	.den, .sus, .ts, .vo, .dxf, .tkm
3D model interpretive data (constraining data)	Surface geological mapping, geological cross-sections, well data, seismic, topographic, gravity and magnetic data	Georeferenced images	.jpg, .tiff, .bmp, .ers
		Comma or tab delimited ASCII (.csv preferred)	.csv
		Surface, curve, point and grid data Shapefiles	.ts, .pl, .vs, .vo, .ers, .dxf
		Seismic lines SEG-Y	sgy
			.shp