

PERMISSION AGREEMENT #3
BOREHOLE DRILLING PROJECT
BOREHOLE SITES NO. 4 - 6

BETWEEN:

HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO, as represented by the **Minister of Natural Resources and Forestry** (the "Ministry")

AND

THE NUCLEAR WASTE MANAGEMENT ORGANIZATION, (the "NWMO")

(referred to together as the "**Parties**")

WHEREAS the Ministry is the owner of the Crown land located approximately 5 Km northeast of Mennin Lake, 41 Km northwest of the Municipality of Ignace, 20 Km southeast of Wabigoon Lake Ojibway Nation, and 63 Km southeast of Dryden as described in Appendix A – Borehole Drilling Site Description attached hereto, defined below as the Borehole Drilling Site;

AND WHEREAS the Ministry and the NWMO executed a Memorandum of Understanding dated March 20, 2017, which in part sets out the process for NWMO to request permission to conduct borehole drilling projects on Crown Land;

AND WHEREAS the NWMO has requested a Permission, as defined below, from the Ministry to conduct a Borehole Drilling Project, as defined below, at the Borehole Drilling Site;

AND WHEREAS pursuant to subsection 2(2) of the *Public Lands Act*, 1990, c. P.43 (*PLA*), the Minister, as defined below, has the authority to enter into agreements with any person for the purpose of carrying out his or her duties under the *Public Lands Act*, including the management of public lands;

AND WHEREAS as a member of the Executive Council of Ontario, the Minister the has the common law authority to enter into agreements with respect to the use of public lands; and

THIS AGREEMENT WITNESSES that in consideration of the terms and conditions set out herein and such other good and valuable consideration (the receipt and sufficiency of which are hereby acknowledged), the Ministry hereby grants Permission, as defined below, to the NWMO to use the Borehole Drilling Site for the purpose stated herein, and for no other purpose, subject to the following terms and conditions:

1. DEFINITIONS and GENERAL PROVISIONS

- 1.1 In the Agreement, words in the singular include the plural and vice-versa.
- 1.2 The headings in the Agreement are for convenience of reference only and do not form part of the Agreement and in no manner modify, interpret or construe the Agreement.
- 1.3 In the Agreement the following words shall have the following meanings:

“**Agreement** ” means this Agreement including:

- Appendix A – Borehole Drilling Site Description
- Appendix B – Borehole Drilling Project Description and Conditions
- Appendix C – Crown Land Occupier’s Self Reporting Form
- Appendix D – Environmental Management Plan

“**Borehole Drilling Site**” means the lands specified in Appendix A on which the NWMO may conduct the Borehole Drilling Project;

“**Borehole Drilling Project**” means the technical and other activities described in more detail in Appendix B, necessary for the NWMO to determine whether the Borehole Drilling Site may be suitable for a long-term underground storage facility for Canada’s nuclear fuel waste;

“**Indemnified Parties**” means each of the following and their directors, officers, advisors, agents, appointees and employees: Ontario and the members of the Executive Council of Ontario;

“**Ontario**” means Her Majesty the Queen in right of Ontario;

“**Minister**” means the Minister of Natural Resources and Forestry; and

“**Permission**” means the permission set out in Article 3.

2. MINISTER’S AUTHORITY AND SEVERABILITY

- 2.1 The Minister has entered this this Agreement pursuant to both (a) the authority provided by subsection 2(2) of the *Public Lands Act*, and (b) the Minister’s common law executive authority to enter into agreements respecting the use of public land as a member a member of the Executive Council.
- 2.2 Each source of the Minister’s authority to enter into this Agreement may be separately relied upon; if any provision of this Agreement is determined by a court to be illegal or unenforceable on account of being outside either (a) the Minister’s authority under subsection 2(2) of the *Public Lands Act*, or (b) the Minister’s common law executive authority, the remaining provisions of this Agreement shall be severable and enforceable in accordance with their terms.

3. DESCRIPTION OF PROPERTY AND PERMISSION

- 3.1 The Ministry grants the NWMO Permission to enter and use the Borehole Drilling Site for the Borehole Drilling Project, subject to the terms and conditions of this Agreement.
- 3.2 This Agreement does not convey any right, title or interest in the Borehole Drilling Site, or in any trees standing growing or being thereon, or in any minerals, sand, gravel or similar materials, in, on or under the land.

4. TERM

- 4.1 The term of this Agreement shall be from the date signed below by the Minister’s Designated Representative to the fifth anniversary of that date (the “Term”).

5. BOREHOLE DRILLING PROJECT CONDITIONS

- 5.1 The NWMO shall carry out the Borehole Drilling Project in accordance with the terms and conditions of this Agreement, and specifically in accordance with Appendix B – Borehole Drilling Project Description and Conditions.

6. MINISTRY’S PROPERTY

- 6.1 The NWMO agrees to assume full responsibility for the care of the Borehole Drilling Site during the Term, and to assume all risk of loss, damage, or injury to itself, its servants, agents, employees or licensees.

7. RESPONSIBILITIES

- 7.1 The NWMO shall be responsible at its own cost and expense for all maintenance directly associated with its use of the Borehole Drilling Site, including, without limitation: janitorial services, garbage removal, access maintenance, snow removal and any necessary rehabilitation of the Borehole Drilling Site as further specified in Appendix B and Appendix D.
- 7.2 In addition to complying and fulfilling the conditions referred to in Article 7.1, on termination or expiry of this agreement, or as further specified in Appendix B and Appendix D, the NWMO shall remove all improvements, property or other assets from the Borehole Drilling Site, and remove all garbage and debris that resulted from the NWMO's use of the Borehole Drilling Site during the Term, and leave the Borehole Drilling Site in a clean and safe condition, restored as much as possible to its pre- Borehole Drilling Project condition. NWMO will be required to submit a *Crown Land Occupation: Occupiers' Self Reporting Form* attached as Appendix C to this Agreement. The Ministry will permit the NWMO to access the Borehole Drilling Site for the purposes described above.
- 7.3 The NWMO shall be responsible for securing the Borehole Drilling Site and restricting public access to it as required to ensure public safety.

8. CONDITION OF THE BOREHOLE DRILLING SITE

- 8.1 The Ministry makes no representations as to the suitability of the Borehole Drilling Site for the Borehole Drilling Project, and the Parties agree that access to the Borehole Drilling Site and the quality of that access is the responsibility of the NWMO.
- 8.2 The Ministry shall not be responsible for any damage or loss to the Borehole Drilling Site arising from circumstances, acts or conditions beyond the Ministry's control, or due to "force majeure", which is defined as an act of God, war, invasion, revolution, insurrection or other act of a similar nature.

9. ENVIRONMENTAL DAMAGE

- 9.1 The NWMO will be solely responsible for any environmental damage or adverse effects to the Borehole Drilling Site and any environmental clean-up or rehabilitation that may be required as a specified in Appendix B or Appendix D. The NWMO is not responsible for:
- a) any environmental damage to the Borehole Drilling Site caused by the previous occupation of the area of the Borehole Drilling Site by other persons, organizations, or the Ministry;
 - b) any environmental damage to the Borehole Drilling Site arising during the period covered by this Agreement, where such environmental damage is a consequence of pre-existing environmental damage from previous occupation, or was caused by the activities of the Ministry during the period of this agreement; and
 - c) any environmental damage to the Borehole Drilling Site caused by any other persons, organizations, or by the Ministry.

10. INDEMNIFICATION

- 10.1 The NWMO shall indemnify and hold harmless Her Majesty The Queen in right of Ontario and the members of the Executive Council of Her Majesty The Queen in right of Ontario and their directors, officers, advisors, appointees, employees and agents ("Indemnified Parties") from and against any and all liability, loss, costs, damages and expenses (including legal, expert and consulting fees), causes of action, actions, claims, demands, lawsuits and other proceedings by whomever made, sustained, incurred, brought or prosecuted arising out of or in connection with anything done or

omitted to be done by NWMO, its subcontractors or their respective directors, officers, employees, agents, partners or affiliates in the course of carrying out any activities under or in connection with the Agreement.

11. INSURANCE

11.1 The NWMO shall obtain and maintain for the Term at its expense with insurers having a secure A.M. Best rating of B + or greater, or the equivalent, all the necessary and appropriate insurance that a prudent person in the business of NWMO would maintain including, commercial general liability insurance on an occurrence basis for third party bodily injury, personal injury and property damage, to an inclusive limit of not less than \$2 million Cdn. dollars per occurrence, \$5 million Cdn. dollars products and completed operations aggregate, the policy to include the following endorsements:

- the Indemnified Parties as additional insureds with respect to liability arising out of the negligence of NWMO, its subcontractors or their respective directors, officers, agents, employees, partners, affiliates, volunteers or independent contractors
- contractual liability coverage
- cross-liability clause/severability of interest
- contingent employers liability coverage
- NWMO shall maintain or cause to be maintained employers liability coverage (or compliance with the section below entitled "Proof of W.S.I.A. Coverage" is required);
- sudden and accidental pollution (120h)
- coverage for each of the following operations, when part of the work:
 - shoring, blasting, excavation, underpinning, demolition, pile driving and caisson work, work below ground surface, tunnelling and grading.
- 30 day written notice of cancellation, termination or material change
- non-owned automobile coverage with contractual coverage for hired automobiles

11.2 If the NWMO or its subcontractors are subject to the *Workplace Safety and Insurance Act, 1997*, S.O. 1997, c. 16, Schedule A ("WSIA"), it shall submit a valid clearance certificate of WSIA coverage to the Ministry prior to the execution of the Agreement by the Ministry. In addition, NWMO shall, from time to time at the request of the Ministry, provide additional WSIA clearance certificates. NWMO covenants and agrees to pay when due, and to ensure that each of its Subcontractors pays when due, all amounts required to be paid by it/its Subcontractors, from time to time during the Term, under the WSIA, failing which the Ministry shall have the right, in addition to and not in substitution for any other right it may have pursuant to the Contract or otherwise at law or in equity, to pay to the Workplace Safety and Insurance Board any amount due pursuant to the WSIA and unpaid by the Vendor or its Subcontractors and to deduct such amount from any amount due and owing from time to time to NWMO pursuant to the Contract together with all costs incurred by the Ministry in connection therewith.

11.3 NWMO shall obtain and maintain for the Term at its expense automobile liability insurance as per statutory requirement in Ontario and /or other jurisdictions, Ontario Automobile Policy (OAP 1) Owner's Policy Sections 3 and 4, auto liability for a limit of not less than \$2,000,000 (two million) dollars per occurrence including Accident Benefits, and where applicable Section 7, Loss or Damage Coverage.

11.4 Proof of Insurance - NWMO shall provide the Ministry with certificates of insurance, or other proof as may be requested by the Ministry, that confirms the insurance coverage as provided for in Section 11.1, and renewal replacements on or before the expiry of any such insurance. Upon the request of the Ministry, a copy of each insurance policy shall be made available to it. NWMO shall ensure that each of its Subcontractors obtains all the necessary and appropriate insurance that a prudent person in the business of the Subcontractor would maintain and that the Indemnified Parties are named as additional insureds with respect to any liability arising in the course of performance of the Subcontractor's obligations under the subcontract for the provision of the deliverables.

12. OCCUPATIONAL HEALTH AND SAFETY

- 12.1 This Agreement is not a contract for work or services, and nothing in the Agreement shall have the effect of making the Ministry an employer of the NWMO or any of the NWMO's directors, officers, employees, agents, partners, affiliates, volunteers or subcontractors for the purposes of the *Ontario Occupational Health and Safety Act*, R.S.O. 1990, Chapter O.1, as amended, ("OHS Act"), or Part II of the *Canada Labour Code*, R.S.C., 1985, c.L-2, as amended, ("CLC").
- 12.2 NWMO shall meet all employer obligations and ensure that all work performed by or for NWMO in connection with the Agreement is carried out in accordance with the OHS Act and its regulations to the extent they apply to the Borehole Drilling Project.
- 12.3 NWMO shall take all reasonable precautions to meet and to ensure its subcontractors meet all requirements for the protection of workers set out in the OHS Act and CLC and the regulations made under those Acts as applicable. Any health and safety concerns or deficiencies identified by the Ministry's Designated Representative must be addressed and corrected by NWMO immediately.

13. AMENDMENTS AND ASSIGNMENT

- 13.1 This Agreement may be amended only by written agreement duly executed by the Parties.
- 13.2 NWMO shall not assign this Agreement or any part thereof without the written consent of the Ministry. Such consent shall be in the sole discretion of the Ministry and subject to any terms and conditions that may be imposed by the Ministry.

14. ACCESS AND INSPECTION

- 14.1 The Ministry or the Ministry's authorized representatives may enter and inspect the Borehole Drilling Project Site described in Appendix A at any time.
- 14.2 The NWMO representative who is in charge of the Borehole Drilling Project Site shall produce and show this Agreement to any Ministry Representative whenever requested by the Ministry.

15. TERMINATION

- 15.1 The Ministry may terminate this Agreement upon giving thirty (30) days' Notice to NWMO upon giving thirty (30) days' Notice to NWMO, or immediately upon the occurrence of an Event of Default.
- 15.2 Each of the following events will constitute an Event of Default:
- a) NWMO, prior to or after executing the Agreement, makes a material misrepresentation or omission or provides materially inaccurate information to the Ministry;
 - b) there is a material change to the nature, size or scope of the Borehole Drilling Project;
 - c) NWMO assigns the Agreement in whole or in part without first obtaining the written approval of the Ministry; or
 - d) NWMO breaches any of its other obligations under the Agreement and fails to rectify the breach within thirty (30) days from the date the Ministry notifies NWMO of such breach.
- 15.3 NWMO may terminate this Agreement upon giving thirty (30) days' Notice to the Ministry, but not prior to receiving a Notice from the Ministry that has determined NWMO has fulfilled all applicable obligations under the Agreement, such determination to be at the sole discretion of the Ministry.

16. NOTICE

- 16.1 Any Notice shall be

- a) in writing;
- b) delivered personally or by pre-paid courier, or sent by facsimile, certified or registered mail; and
- c) forwarded to the Designated Representative of the respective Party.

16.2 All Notices shall be effective:

- a) at the time the delivery is made if the Notice is delivered personally, by pre-paid courier or by facsimile; or
- b) five business days after the day the Notice was deposited in the mail if the Notice is sent by certified or registered mail,

unless the day the Notice is effective falls on a day when the NWMO or the Ministry is normally closed for business or the Notice is sent by facsimile after 5:00 p.m. on a business day, in which case the Notice shall not be effective until the next business day that the NWMO or the Ministry, as the case may be, is normally open for business.

17. DESIGNATED REPRESENTATIVES

17.1 It is agreed that the Ministry and NWMO may act through any designated representative for the purposes of this Agreement.

17.2 For the purposes of this Agreement, for the Ministry, the Designated Representative and address are:

Ray Boudreau
District Manager
Dryden District Ministry of Natural Resources and Forestry
479 Government Street
Dryden, Ontario
P8N 3KN

and, for the NWMO, the Designated Representative and address are:

Allan Webster
Director, Regulatory Affairs and Environmental Assessment
22 St. Clair Avenue East 6th Floor
Toronto, Ontario
M4T 2S3

17.3 Either Party, through its Designated Representative, may designate a different representative or provide a revised address, from time to time, by providing Notice in writing to the other Party.

18. GENERAL

18.1 This Agreement and the rights, obligations and relations of the Parties shall be governed by and construed in accordance with the laws of the Province of Ontario, and the federal laws of Canada applicable therein. Any litigation arising in connection with the Agreement shall be conducted in Ontario unless the Parties agree in writing otherwise.

18.2 Any failure by the Ministry to insist in one or more instances upon strict compliance by the NWMO with any of the terms or conditions of the Agreement shall not be construed as a waiver by the

Ministry of its right to require compliance with any such terms or conditions and the obligations of the NWMO with respect to such compliance shall continue in full force and effect.

18.3 The NWMO shall have no power or authority to bind the Ministry or to assume or create any obligation or responsibility, express or implied, on the Ministry's behalf. The NWMO shall not hold itself out as an agent, partner or employee of the Ministry. Nothing in the Agreement shall have the effect of creating an employment, partnership, or agency relationship between the Ministry and the NWMO.

19. SURVIVAL

19.1 The following Articles and sections, and all applicable cross-referenced sections and appendices, will continue in full force and effect for a period of seven years from the date of expiry or termination of the Agreement: Articles 1, 7.2, 9.1, 10.1 18.1, 19.1 of the Agreement, and Sections 8 -and 14 of Appendix B.

IN WITNESS WHEREOF this Agreement has been executed by this 24th day of Sept. 2019, by,

For Her Majesty the Queen in Right of Ontario as represented by the Minister.

Name: 
District Manager

Date: Sept. 24/19

For Nuclear Waste Management Organization

Name: 
Director, Regulatory Affairs
and Environmental Assessment

Date: Sept. 24, 2019

APPENDIX A – BOREHOLE DRILLING SITE DESCRIPTION

This Borehole Drilling Site Description and associated figures are sourced from the "MNRF Ignace Borehole Drilling Project Submission", Document No.: APM-REP-00549-0202, dated March 7, 2019.

Borehole Location Description* (UTM Zone 15N, NAD 83)		
Borehole Number	Easting	Northing
Borehole No. 4	556957.2	5486488
Borehole No. 5	556070.9	5486530
Borehole No. 6	555440.6	5485314

* UTM coordinates denotes UTM centroid of each borehole location.

Borehole Location Description

The potential borehole locations are within the oval in Figure 1 which is subject to the Ministry of Northern Development and Mines Withdrawal Order No. W-K-98/13. They are located in the Revell Batholith, approximately 5 km northeast of Mennin Lake, 40 km northwest of the Municipality of Ignace, 20 km southeast of Wabigoon Lake Ojibway Nation, and 60 km southeast of Dryden. The drilling activities planned under this update are for boreholes 4 to 6 as shown in Figure 2 along with the locations of BH01, BH02 and BH03.

As work progresses, the specific location for other boreholes (e.g., borehole 7 up to 10) will be determined in a future phase of work. NWMO will file the locations for other boreholes and other additional studies as plans for the work are finalized.

Figures

Figure 1: Map showing Revell Batholith and Oval A

Figures 2: Update to Locations for Boreholes in the Ignace Area

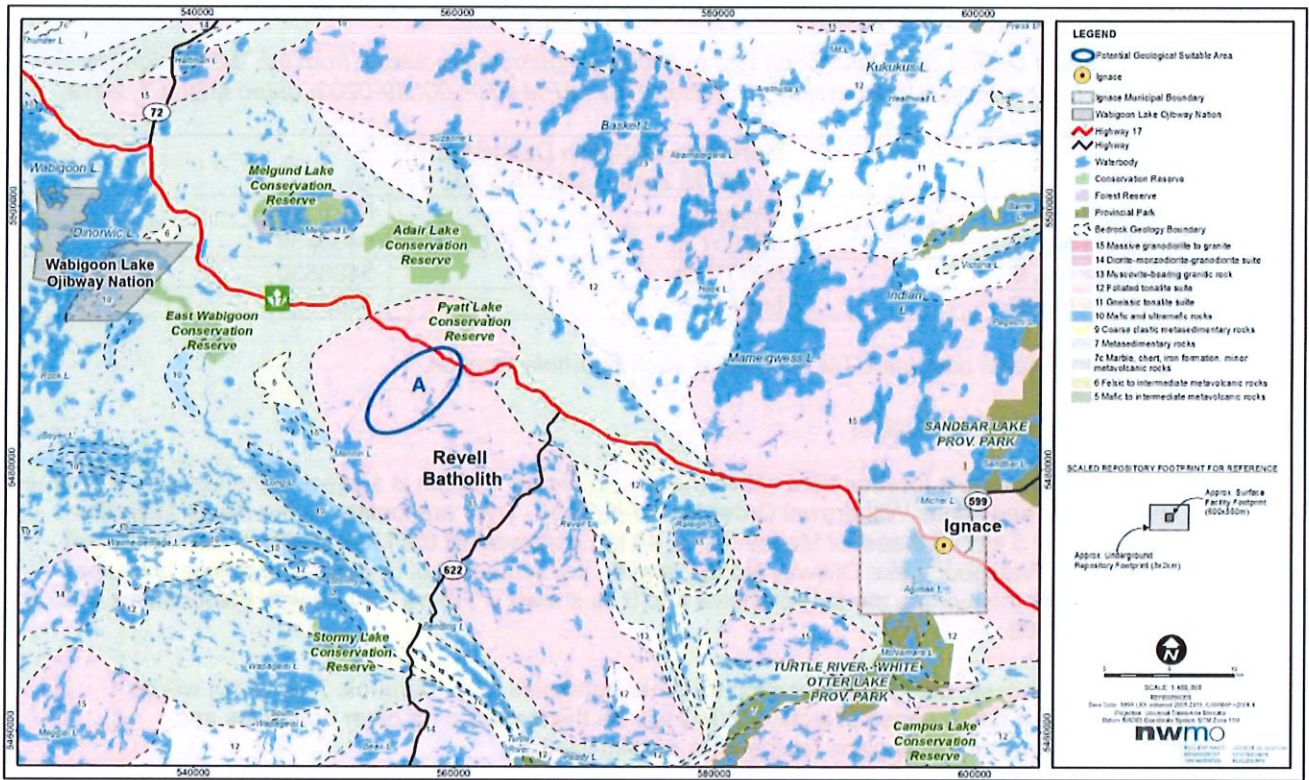


Figure 1: Map showing Revell Batholith and Oval A

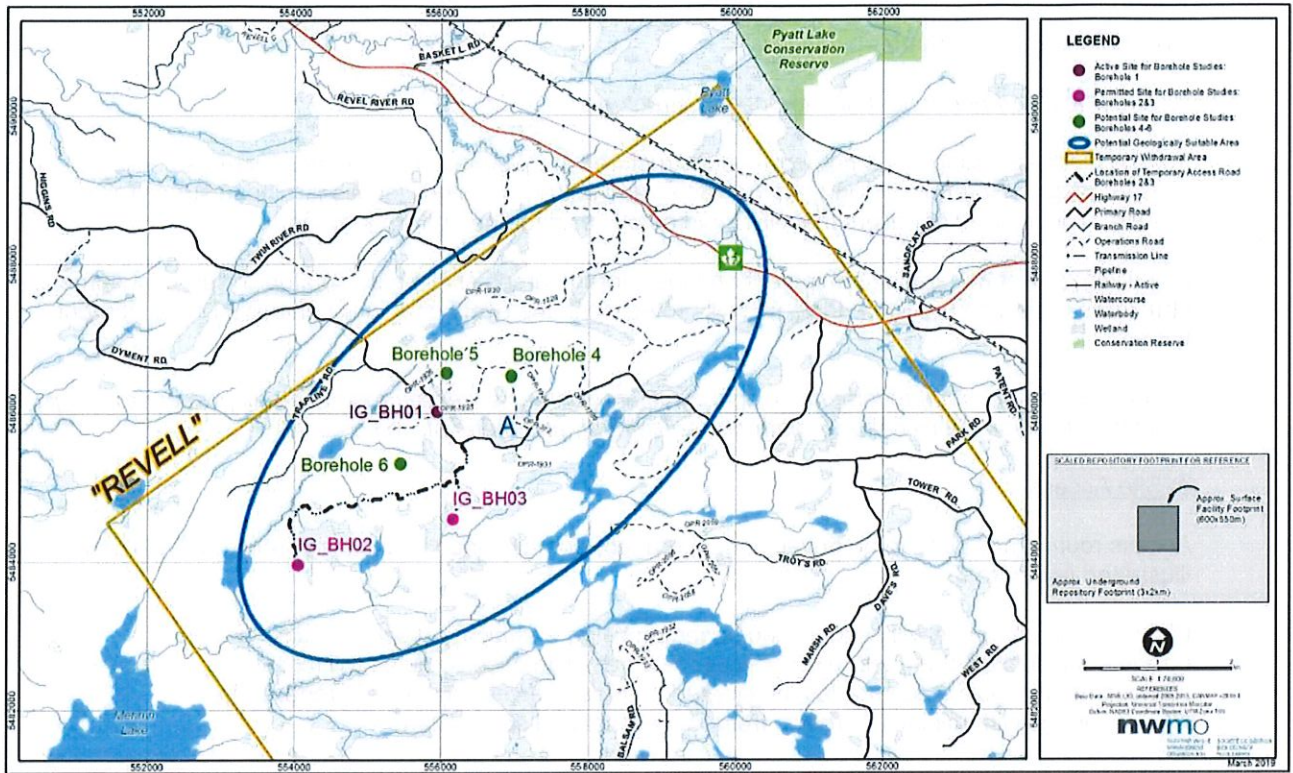


Figure 2: Locations for Boreholes in the Ignace Area

APPENDIX B – BOREHOLE DRILLING PROJECT DESCRIPTION AND CONDITIONS

Borehole Drilling Activities:

1. Construction of permanent and temporary structures

For the planned drilling work, no permanent structures are planned. Temporary structures shall be brought to each Borehole Drilling Site (or “Site”) and setup on the drill locations. These structures will include various sizes of trailers that will serve as offices, storage and work areas.

All drilling, power generation equipment and fuel storage areas shall be setup atop of spill containment structures. This is to provide additional spill protection in the event of an accidental spill or equipment failure.

2. Construction of, or improvements to, infrastructure such as accesses roads or trails, water crossings, including design specifications, methods, equipment, and materials to be used.

a) Site Access

Access routes may need to be developed, upgraded, or maintained to access borehole sites 4,5 and 6 as illustrated in Figure 3.

Planned access routes will be identified based on using existing road access as far as possible and limiting the need to cross water features. The access routes will follow contours to minimize steep grades, be cleared of trees and vegetation and prepared to allow drainage with minimum erosion from rain events and spring thaw.

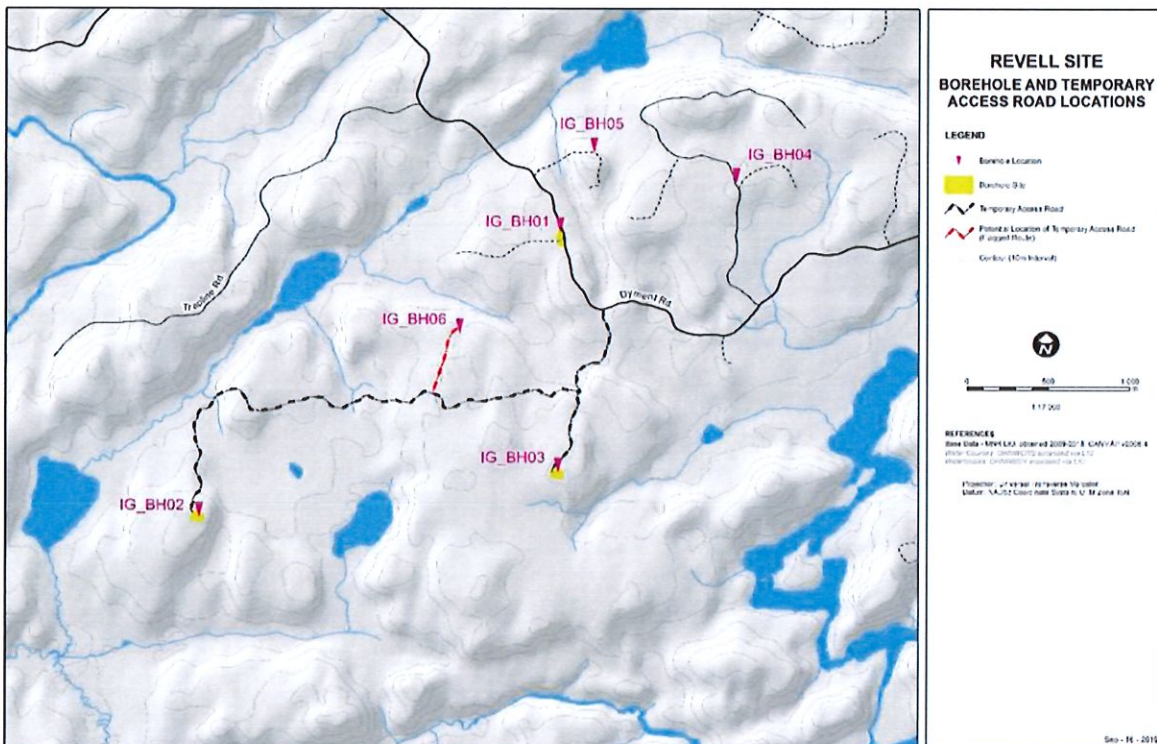


Figure 3: Planned route for borehole access roads

As required, crushed aggregate will be placed to provide a stable running surface for vehicle access. Harvestable trees will be cut and cleared from the road, all other vegetation will be brushed and piled separately.

Equipment to be used is likely to include front end loaders or similar, bulldozer, chainsaws, trucks to remove trees and deliver aggregate, excavators, chipping equipment, feller bunchers, log loaders, brushers, mulchers and small miscellaneous tools.

In general, road construction (Class IV or V), if required, will be performed as per the guidelines for those involved with building access roads on Crown land in Ontario "*Environmental Guidelines For Access Roads and Water Crossings*". The manual will be followed to address impacts from road construction including water crossings, and erosion sedimentation during in-water work as well as from soil erosion on slopes as described in Appendix A.

The following minor road maintenance activities may occur without subsequent permission from MNRF.

- Water crossing cleaning for the purpose of maintaining the flow of water.
- Grading of existing trails or roads.
- Clearing of existing ditches.
- Graveling of existing trails or roads.
- Clearing or brushing of existing road or trail surface.
- Snow plowing.
- Sanding or dust control.
- Repair or replacement of posted signage.

Any proposed road maintenance and construction activities that are not listed in the above provisions, and which has not been authorized through this agreement, will require additional permission from the MNRF prior to commencement.

b) Site Establishment

The pads for selected Borehole Drilling Sites (approximately 3500 m² per Site or 0.9 acre) shall each be prepared using aggregate sourced from a local supplier. The aggregate shall be spread using a skid steer or similar equipment and compacted using a small compacting roller.

Each borehole drilling site will have an 8' high fence erected around its perimeter in an effort to prevent wildlife from entering each site and to limit site spread.

Equipment used during site establishment could include trucks for towing in the trailers, drilling support equipment and possibly the drill rig (may also be self-propelled), a small mobile crane to remove equipment from the transport trailers and place into final location (if required), pickup trucks and small equipment such as a skid steer.

It is planned to have longer term land use (for a period of up to 5 years), at selected borehole sites. Equipment could be installed as part of the Borehole Drilling Project to support long-term monitoring, a quarterly sampling program and research activities as described in Section 4.1.3 of the Project Description Submission. Additional equipment may be setup on any site to facilitate longer term environmental monitoring (meteorological stations, animal observation cameras, bat and bird sound recording instruments, ambient noise measuring instruments, etc.) as described in Section 4.2 of the Project Description Submission.

c) Vertical Seismic Profiling (VSP)

VSP will take place in the borehole as part of the borehole testing phase of work to assist in identifying and interpreting structures below the surface. VSP involves temporarily lowering geophones in the borehole and locating seismic source vibrations on the surface. VSP is undertaken by measuring and interpreting how long vibrations, produced at the surface by a seismic source, take to travel through the ground before being registered by sensors, geophones, placed at various depths in the borehole. The field time required for producing a VSP is short (i.e., order of weeks).

VSP requires source vibrations from surface locations to be offset in various directions surrounding the borehole. The existing road network will be utilized for the majority of these locations and no new road building is required. However, at certain locations where roads do not already exist, path clearing of trees will be required to allow for access for a seismic source vehicle. The seismic sources, on existing roads and cleared paths, will be located within a 1 km distance of the associated borehole.

Figure 2 shows the location of BH01, BH02 and BH03 and access roads currently being built as per the permission for these activities. This figure also shows other existing roads in the area.

d) Site Utilities

The sites will operate diesel powered generators to provide the electrical power needed to support the planned work activities. Power will be for offices, core logging activities, lighting, portable ablution facilities, yard lighting, storage etc. Potable and process water will be brought to the Sites.

Cellular and/or satellite communications will be setup at the site to support planned work activities and emergency communications.

Potable and process water will be brought to the sites. Surface water will be used only if a drill site is located in a remote area where transport of potable water to site is not feasible. If surface water is used, appropriate best practices will be used in consultation with the MNRF.

Designated waste disposal bins shall be setup on the Sites for the collection of all garbage generated during the work program. The garbage bins shall be removed from each Site and taken to a licensed disposal facility.

e) Notification of trappers (etc.)

NWMO shall provide written notice to the persons specified below at least five (5) days (or such other period of time as specified by the Ministry) prior to commencing any work at a Site or for the purpose of gaining access to a Site as described in condition 1 or condition 2 of this Appendix B:

- any trappers licensed to trap under the *Fish and Wildlife Conservation Act, 1997* (FWCA) in an area that could be affected by the work,
- any licenced bear operator within the meaning of O. Reg. 665/98 made under the FWCA who is licenced to provide bear hunting services in an area that could be affected by the work; and
- other persons that may be specified by the Ministry.

3. *Hazardous materials*

Hazardous materials shall be stored according to regulated requirements. As required, and at the end of the planned work, hazardous waste shall be removed from each Site and disposed of at a licensed disposal facility. Hazardous materials are likely to be limited to diesel and gasoline fuel, hydraulic fluid, grease and oil.

4. *Equipment fueling activities, including planned location for re-fueling and any fuel storage on Site*

Due to the remote nature of the work locations, all fuel for equipment and tools shall be brought to the Sites in a certified fuel transportation container and transferred to certified fuel storage containers. These containers shall be double walled and stored in a dedicated fuel storage location with additional containment.

Fueling of large equipment will be done at the equipment e.g. the drill rig and power generator. This equipment will be positioned atop of containment. Where required, temporary spill trays shall be placed beneath the refueling point to capture any leaks of fuel during the refueling activities e.g. when refueling small equipment such as a skid steer or pickup truck. Refueling of small tools e.g. a chainsaw, shall be performed in a designated refueling area or atop of a spill tray. Fuel storage and refueling areas shall be set away from temporary offices and drilling equipment.

Hand held fire extinguishers and spill kits shall be located at the fuel storage and refueling locations.

5. Vegetation and ground clearing activities, including equipment and methods to be used and the location and size of area(s) to be cleared

Prior to the start of any work the NWMO will work with the MNRF representative to visit the sites and review the planned work so as to minimize the required ground clearing for access and site establishment.

The sites indicated (Figure 2) have been chosen based on the technical needs of the project and have been located in relatively level areas. The final drill sites will be cleared of trees and brush. The non-harvestable material (soil, saplings, and debris) will be pushed to a suitably agreed area where it will be piled and left at the end of the drilling activity.

The absence/presence of merchantable timber will be confirmed during a site visit. In the event merchantable timber is discovered and cleared, Crown dues will be paid where applicable and the timber will be left at the road side for public fuel wood purposes or stacked for collection for transport to approved lumber or pulp mills.

6. Purchase of forest resources

a. **Definitions:** For the purposes of this section, the following terms have the following meanings:

"Harvest" means the cutting, clearing, removal, or similar activity related to Forestry Resources;

"Forest Resources" means any Merchantable Timber located at the Borehole Drilling Site;

"Merchantable Timber" means merchantable timber as defined and described in the Scaling Manual;

"Ontario Stumpage Matrix" means the matrix of charges set and changed from time-to-time by the Minister, and made publicly available on a Ministry webpage;

"Rates" means the rates at which NWMO will pay for Forestry Resources and described in sub-condition (d) below;

"Scale" means to measure Forest Resources in accordance with the Scaling Manual; and

"Scaling Manual" means the Scaling Manual made by the Ministry under ss. 68(1)4 of the *Crown Forest Sustainability Act, 1994*.

- b. **Purchase:** NWMO agrees to purchase, in accordance with the conditions of this section, any Forest Resources Harvested from the Borehole Drilling Site under the authority of this Permission Agreement.
- c. **Scaling:** NWMO agrees:
- i. all Harvested Forest Resources shall be Scaled by either: (a) a staff member of or person designated by the Ministry, or (b) a person approved by the Ministry and who is licensed under the Scaling Manual;
 - ii. Scaling shall occur at a location designated or approved by the Ministry;
 - iii. Subject to condition (d) immediately below, Forest Resources shall not be moved from the Borehole Drilling Site until so approved by the Ministry;
 - iv. the person who Scales Forest Resource shall submit a tally sheet recording the measurement of the Forest Resources to the Ministry; and
 - v. to provide the Ministry with any information the Ministry requests regarding the Scaling.
 - vi. The Company agrees to submit by the 15th of each month to the Ministry all scale tally sheets for all Crown forest resources measured in the previous month.
- d. **Availability and Delivery of Scaled Forest Resources:** NWMO agrees:
- i. to pile all Forest Resources separately by product/end destination at road side in an orderly manner that enables scaling;
 - ii. to contact the Ministry in relation to section C (i) of this agreement prior to undertaking scaling activities;
 - iii. to scale all wood prior to modification (e.g. chipping);
 - iv. scaled wood may either be delivered to a forest resource processing facility or be left on site and made available for public use for a period of no more than 180 days after harvest;
 - v. to provide the name of the destination facility prior to the movement of harvested Forest Resources;
 - vi. to remove any harvested wood remaining on site after 180 days; and
 - vii. to provide the Ministry with any information the Ministry requests regarding the movement, reporting and payment of harvested wood.
- e. **Rates of Payment:** NWMO agrees to pay for each cubic metre of Forest Resources Harvested, the Rates listed below as set by the Minister and adjusted from time-to-time in the Ontario Stumpage Matrix, as applicable to the Forest Resources on the date they are Scaled:
- Minimum Rate
 - Forest Renewal Rate
 - Forestry Futures Rate
 - Residual Rate
- f. **Invoicing:** The Ministry will calculate the amount owed by NWMO with respect to Scaled Forest Resources at applicable Rates based on the tally sheets submitted by scaler(s) pursuant to sub-condition (c) iii above and will forward invoices reflecting the amount to NWMO for payment on a monthly basis.
- g. **Payment:** NWMO agrees to pay the amounts specified on the invoice by the date and to the address specified on the invoice.

7. The planned activities to be performed once the Sites are established include:

a) Drilling and coring – A drill rig will be setup to drill and core HQ3 (96 mm (3-3/8 in)) holes to maximum depths of 1000 m each. Included in the drilling setup will be the installation of conductor casing which will be bedded to a depth of ~1 m below the top of bedrock (casing length will be based on overburden depth). Drilling fluids and cuttings will be managed at surface and recirculated. Drilling fluids shall be traced using a combination of naturally occurring water isotopes (oxygen, deuterium and tritium) and a fluorescent tracer.

Field measurements shall be made regularly in order to maintain consistent drill fluid properties and to identify any component of drilling fluid in the groundwater and pore water samples.

b) Core logging - All core retrieved will be logged, photographed and sampled on site and stored in core boxes. Some core samples will be taken and shipped off-site for laboratory testing. The core boxes, with the remaining core, will be removed from the site and stored in the interim core storage facility located in Ignace. All core will be logged and labelled for traceability.

c) Geophysical well logging – the well will be logged using industry -standard geophysical equipment that will be lowered down into the drilled hole. At the completion of each activity, the equipment shall be retrieved from the hole. All regulatory requirements for transporting, handling and removing the equipment shall be followed.

d) Hydraulic testing – A straddle packer system and accompanying equipment will be used to perform the hydraulic testing to determine the hydraulic conductivity of the rock at regular intervals down the borehole. The test locations will be based on the information gained from the geophysical well logging and core logging activities.

e) Groundwater sampling and testing – If permeable zones are detected during the drilling and coring activities, samples of water from those areas will be collected, prepared for testing and shipped out for further laboratory analysis.

f) Borehole/Well sealing – At this time, it is planned that some boreholes will be instrumented for additional monitoring. Based on the results from the planned program, there may be a decision to abandon the borehole. If the borehole is abandoned, it will be temporarily sealed at surface and between zones that have differing hydraulic pressures or ground water chemistry (if any are identified). The current plan includes instrumenting the wells to perform longer term data collection (see details in Section 4.1.1 2b - Site Establishment above). If longer term data collection is not required, the well will be permanently sealed and abandoned according to provincial regulations.

g) Site operation - The sites will operate on a 24/7 basis during drilling and certain testing operations. Workers will access the work site daily as required for their working shift. The number of workers at each site will vary from one (1) to an expected maximum of fifteen (15) per shift over the course of the work program. NWMO personnel and authorized visitors will be periodically at the site. Workers will drive to and from the work sites.

8. Decommissioning and Rehabilitation of the Borehole Drilling Sites

At the end of the drilling and testing program all equipment and materials will be removed from each site (excluding long-term bore hole monitoring instruments). The access routes and some of the prepared pad areas will be maintained to support future Monitoring Phase activities (Section 4.1.3) such as taking water samples, downloading data from downhole Instruments, and servicing equipment as required.

At the end of Borehole Drilling Project, and the cessation of all other activities by the NWMO in the area, a decommissioning plan will be developed. This plan will cover the rehabilitation of borehole drilling sites, access roads, and water crossings (as required) and will be made with input from local communities.

With respect to decommissioning of temporary access roads and water crossings, rehabilitation efforts may include, but are not limited to, the following activities:

- Berming and ditching of road entrances to prevent vehicle access.
- Mechanical site preparation to reduce soil compaction and expose mineral soil for regeneration efforts.
- Artificial or natural regeneration (i.e., tree planting, ground seeding, leave for natural).
- Culvert removal and stream bank stabilization.

In the event of a contaminant spill, the spill shall be cleaned up according to the requirements of the contractor's Environmental Management Plan and the satisfaction of the regulating authority.

Site rehabilitation shall include site preparation and associated forest regeneration. These activities will be conducted as prescribed (i.e. timelines, site preparation methods, tree species, etc.) by the MNRF.

9. Schedule

The work is planned to begin upon commencement of the Term of the Permission Agreement, (site establishment and Borehole 4 to 6 drilling and testing) with monitoring continuing for up to 5 years after installation of the borehole instrumentation. The timing of the initiation of the work could be impacted by social engagement considerations.

10. Additional Studies

Section 4.2 of the Project Description describes the additional work that will be conducted within and around oval A (Annex A Figure 1) to support the collection of data to describe the geosphere and the natural environment. The location for following studies have been established for this group of activities that will be conducted at, or in close proximity to, a borehole drill pad at locations shown in Annex A Figure 2:

- Meteorological Monitoring (One (1) MET Tower) described in Section 4.2.3; and
- Microseismic Monitoring (One (1) microseismic monitoring station) described in Section 4.2.6.

The Geophysical Studies (2d Seismic Studies) described in Section 4.2.5 will be conducted along the existing road network, including the new roads from the BH02 and BH03 permission.

11. Alternate drilling locations

Sites have been reviewed based on project requirements. Due to the nature of the target areas, all potential drilling sites require clearing of trees and vegetation. Target areas have been located on the most level ground, away from water bodies and least likely to cause erosion during heavy rain events and spring melts. All potential drill sites, and alternative road access options, if needed, will be studied to enable selection of the specific locations for BH04, BH05, and BH06.

Alternate locations may also be identified to account for potential discoveries or change in conditions prior to the commencement of activities within a borehole site. Any such alterations will be communicated to MNRF prior to commencement of any associated works.

12. Longer Term Land Use and Site Requirements

The monitoring phase is expected to last five (5) years after installation of the borehole instrumentation for boreholes used for monitoring. This phase would require maintaining access to the borehole and its monitoring equipment for sampling purposes.

Two examples for establishing a monitoring station are illustrated below.

Example of a Monitoring Station with an Enclosure

The monitoring station could be established with the instrumented well head and an enclosure that remain installed for the duration of the long-term monitoring phase. This would include the activities described below.

- a) Retain the drill pad from the drilling program – required when equipment and personnel access the site to collect water samples, take pressure measurements and maintenance of the system if required.
- b) Add a 3 m x 3 m x 0.1 m thick concrete pad around the well head. The pad provides a stable base for the enclosure and the setup of the test equipment required during the sampling event – (see Figure 5).
- c) A protective enclosure approximately 1.2 m x 1.2 m x 1.2 m. See Figures 4 and 5. The enclosure protects the external instruments and monitoring connections.
- d) Retain the gated fence to restrict access from public and wildlife.
- e) Signage and contact numbers.

Example of a Monitoring Station with a Cap

The monitoring station could be established with a cap that remains installed for the duration of the long-term monitoring phase, apart from during the sampling period. During sampling, the cap would be removed, and instrumentation and test equipment would be temporarily set up. Establishing the monitoring station would include the activities described below.

- a) Add a 3 m x 3 m x 0.1 m thick concrete pad around the well. The pad provides a stable base for the setup of the test equipment required during the sampling event.
- b) Within the concrete pad, place a monitoring well manhole cover, expected to be around 0.2 m to 0.3 m in diameter, such that it is centered above the borehole surface casing, about 0.15 m in diameter, and sits flush with the pad's finished surface (see Figure 6).

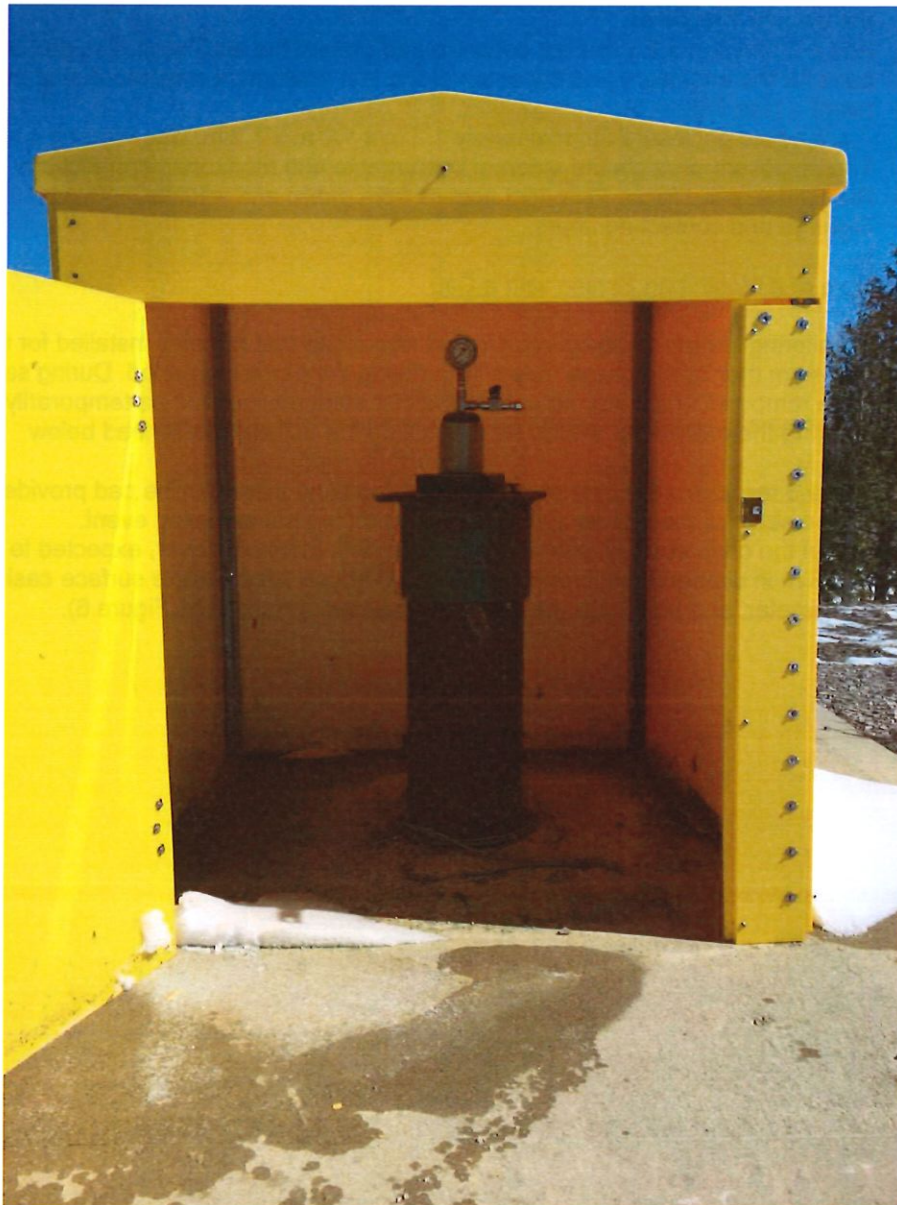


Figure 4: Example of an enclosure placed atop of an instrumented well head.



Figure 5: Example of concrete pad with well head enclosure and temporary test equipment.



Figure 6: Example of a Monitoring Station with a Cap

13. Quarterly sampling program

The quarterly sampling program requires access to the site for a pickup truck and trailer. The trailer, containing the test and sampling equipment, is positioned at the borehole. The sampling tripod and winch are setup over the well head and pressure measurements and water samples are collected from the isolated sections within the well. The collected water samples are bottled, labeled and prepared for dispatching to an accredited laboratory for analysis. The total volume of water removed from the well is less than 5 liters.

The sampling team, consisting of two people, mobilizes to and from the site each day for a total of 2-3 days. All required materials, tools and equipment are brought to the site for the work and are removed at the end of the sampling event.

During a winter sampling event it is expected that a local contractor will be hired to clear the access route and the site of snow.

The data collected from the instrumentation and the results of the pressure measurement and water sample analysis are key inputs to the ground water model and the baseline environmental monitoring program.

14. Constructed roads no longer required to support the NWMO Borehole project requirements must be decommissioned as per guidelines contained within the *Environmental Guidelines For Access Roads*

and Water Crossings" (the "Water Crossing Guidelines") available on the Government of Ontario website at: <https://www.ontario.ca/page/environmental-guidelines-access-roads-and-water-crossings>.

15. NWMO is responsible for ensuring that proposed and planned activities do not harm, harass, or kill species protected by the Endangered Species Act, 2007 ("Species at Risk"), or damage or destroy their habitats. Should NWMO detect species at risk at or near its site(s) or if the habitat of any species at risk is found at or near the site(s), NWMO will consider how its activity will impact those species. If the activity is likely to adversely impact any species at risk or its habitat, NWMO shall contact the Ministry of the Environment, Conservation and Parks at SAROntario@ontario.ca.

16. All infrastructure and equipment shall be removed from the Sites and any area around the Sites after operations cease. NWMO shall ensure that all waste is removed routinely from the Sites to prevent scavenging and spread by wildlife. Fencing around the Sites shall be kept in orderly condition while in place and removed from the Sites when no longer required. All equipment to be kept in serviceable condition to prevent fuel spills at the Sites.



Ministry of
Natural
Resources

Ministère des
Richesses
naturelles

Crown Land Use Occupation –
Occupier Self-Reporting Form
Occupation des terres de la Couronne –
Auto-vérification par l'occupant(e)

Ontario

- Instructions: 1) Confirm location and use of improvements shown on the attached site plan by initialing the improvements and or identifying and initialing changes.
2) Complete all applicable sections
3) Sign and date the declaration
4) Return signed form complete with photographs to:
- Instructions: 1) Pour confirmer l'emplacement et l'utilisation des améliorations indiquées sur le plan ci-joint, veuillez écrire vos initiales sur les améliorations et, au besoin, en indiquant d'abord les améliorations.*
2) Remplir toutes les sections applicables
3) Signer et dater la déclaration
4) Retourner le formulaire signé avec les photos à

Note: all photographs must be signed and dated on reverse by the authorized occupier
Remarque : toutes les photos doivent porter la signature de l'occupant(e) autorisé(e) et la date au verso.

Form of Authorization:
Formulaire d'autorisation :

Location:
Lieu :

Occupier:
Occupant(e) :

Occupier Mailing Address:
Adresse postale de l'occupant(e) :

Street
Rue :

Apt:
Appart.:

City/Town:
Ville/village:

Postal Code:
Code postal:

Site Plan – attached (as provided by MNR)
Plan des lieux ci-joint (conforme au plan du MRN)

Authorized Use(s):

Utilisation(s) autorisée(s) : _____

Solid waste disposal – approved waste disposal site , located
Évacuation des déchets solides – lieu d'enfouissement approuvé , reconnu

Sewage disposal – approved septic system Class
Évacuation des eaux usées – fosse septique approuvée Catégorie

Fuel storage facilities – approved system Type of system
Installation d'entreposage de combustible – système approuvé Type de système

Attach colour photographs covering the following views:
Joindre des photos en couleur représentant :

waterfront viewed from the water body (where applicable)
 le rivage vu de l'eau (le cas échéant)

all structures
 toutes les structures

other -
 autre -

I hereby certify that the information is true and complete and the attached photographs accurately depict the location authorized by _____ as of, 20____.

Je certifie par les présentes que ces renseignements sont justes et complets et que les photos ci-jointes représentent précisément le lieu relevant du _____ en date du 20 ____.

Name of Occupier
Nom de l'occupant(e)

Signature of Occupier
Signature de l'occupant(e)

Date
Date



E&IS ENVIRONMENTAL PROTECTION E.2.5.1 (CAN)

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