



General Water Licence Application (Application for a new Water Licence)

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DOCUMENT MANAGEMENT

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DOCUMENT AMENDMENTS

	Description	Date
(1)	Updated for public distribution as separate document from NWB Guide 4	June 2010
(2)	Updated NWB logos and reformatted table to allow rows to break across page	May 2011
(3)	Update NWB logo	April 2013
(4)		
(5)		
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(9)		
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GENERAL WATER LICENCE APPLICATION (APPLICATION FOR NEW WATER LICENCE)

The applicant is referred to the NWB's Guide 4: [Guide to Completing and Submitting a Water Licence Application for a New Licence](#) for more information about this application form.

LICENCE NO: (for NWB use only)		
1. APPLICANT (PROPOSED LICENSEE) CONTACT INFORMATION (name, address) Qulliq Energy Corporation 1047 First Avenue. P.O. Box 420 Baker Lake, NU, X0C 0A0 Phone: (867) 979-7540 e-mail: DGrant@QEC.NU.CA	2. APPLICANT REPRESENTATIVE CONTACT INFORMATION if different from Block 1 (name, address) Tara Gunson APEX Geoscience Ltd. 100, 11450 160 Street NW Edmonton, AB T5M 3Y7 Phone: (780) 467-3532 e-mail: tgunson@apexgeoscience.com (Attach authorization letter.) See "220328 - QEC- RESPEC Authorization Letter" and "220331 - RESPEC-APEX Authorization Letter"	
3. NAME OF PROJECT (including the name of the project location) Baker Lake Geothermal Project		
4. LOCATION OF UNDERTAKING		
Project Extents See "220301 - Figure 1 - QEC Baker Lake Proposed Drillhole Location" and "220301 - Figure 2 - QEC Drillhole Location Lot 447" NE: Latitude: (64° 9' 20" N) Longitude: (96° 1' 8" W) SE: Latitude: (64° 19' 17" N) Longitude: (96° 1' 8" W) SW: Latitude: (64° 19' 17" N) Longitude: (96° 1' 18" W) NW: Latitude: (64° 19' 20" N) Longitude: (96° 1' 18" W)		
Camp Location(s) No camp will be required as the Project is within the municipal boundaries of the Hamlet of Baker Lake. Latitude: (° ' " N) Longitude: (° ' " W)		
5. MAP - Attach a topographical map, indicating the main components of the undertaking. See "220301 - Figure 1 - QEC Baker Lake Proposed Drillhole Location" and "220301 - Figure 2 - QEC Drillhole Location Lot 447"		
NTS Map Sheet No.: 066A08	Map Name: Baker Lake	Map Scale: 1:50,000

6. NATURE OF INTEREST IN THE LAND - Check any of the following that are applicable to the proposed undertaking (at least one box under the 'Surface' header must be checked).

Sub-surface

Mineral Lease from Nunavut Tunngavik Incorporated (NTI)
Date (expected date) of issuance: _____ Date of expiry: _____

Mineral Lease from Indian and Northern Affairs Canada (INAC)
Date (expected date) of issuance: _____ Date of expiry: _____

Surface

Crown Land Use Authorization from Indian and Northern Affairs Canada (INAC)
Date (expected date) of issuance: _____ Date of expiry: _____

Inuit Owned Land (IOL) Authorization from Kitikmeot Inuit Association (KIA)
Date (expected date) of issuance: _____ Date of expiry: _____

IOL Authorization from Kivalliq Inuit Association (KivIA)
Date (expected date) of issuance: _____ Date of expiry: _____

IOL Authorization from Qikiqtani Inuit Association (QIA)
Date (expected date) of issuance: _____ Date of expiry: _____

Commissioner's Land Use Authorization
Date (expected date) of issuance: _____ Date of expiry: _____

Other: [Municipal Business Licence, Scientific Research Licence \(NRI\)](#)
Date (expected date) of issuance: [Under application](#) Date of expiry: _____

Name of entity(s) holding authorizations:
[Qulliq Energy Corp.](#)

7. NUNAVUT PLANNING COMMISSION (NPC) DETERMINATION

Indicate the land use planning area in which the project is located.

North Baffin
 South Baffin
 Akunniq

Keewatin
 Sanikiluaq
 West Kitikmeot

Is a land use plan conformity determination required?

Yes No

If Yes, indicate date issued and attach copy:

If No, provide written confirmation from NPC confirming that a land use plan conformity review is not required.

[See "220613 - 22YN042-NPC Conformity Determination" attached.](#)

8. NUNAVUT IMPACT REVIEW BOARD (NIRB) DETERMINATION

Is an Article 12 Part 4 screening determination required?

Yes No

If Yes, indicate date issued and attach copy:

If No, provide written confirmation from NIRB confirming that a screening determination is not required.

See "220802 - 22YN042-Screening Decision Report" attached.

9. DESCRIPTION OF UNDERTAKING – List and attach plans and drawings or project proposal.

[220418 - QEC Baker Lake Geothermal Project Non-Technical Summary – English](#)

[220418 - QEC Baker Lake Geothermal Project Non-Technical Summary – Inuktitut](#)

[220401 - QEC Baker Lake Geothermal Project ARP](#)

[220802 - QEC Baker Lake Geothermal Project SCFMP - Part 1](#)

[220802 - QEC Baker Lake Geothermal Project SCFMP - Part 2](#)

[220401 - QEC Baker Lake Geothermal Project ERP](#)

[220401 - QEC Baker Lake Geothermal Project WMP](#)

[220301 - Figure 1 - QEC Baker Lake Proposed Drillhole Location](#)

[220301 - Figure 2 - QEC Drillhole Location Lot 447](#)

10. OPTIONS – Provide a brief explanation of the alternative methods or locations that were considered to carry out the project.

The drillhole will only be located in an area near the required infrastructure (e.g. power plant)

11. CLASSIFICATION OF PRIMARY UNDERTAKING - Indicate the primary classification of undertaking by checking one of the following boxes.

Industrial

Agricultural

Mining and Milling (includes exploration/drilling/exploration camps)

Conservation

Recreational

Municipal (includes camps/lodges) Miscellaneous (describe below):

Drillhole to test for the potential geothermal heat and power generation

See Schedule II of *Northwest Territories Waters Regulations* for Description of Undertakings.

Information in accordance with applicable Supplemental Information Guidelines (SIG) must be submitted with a New Water Licence Application. Indicate which SIG(s) are applicable to your application.

Hydrostatic Testing

Tannery

Tourist / Remote Camp

Landfarm & On-Site Storage of Hydrocarbon Contaminated Soil

Onshore Oil and Gas Exploration Drilling

Mineral Exploration / Remote Camp

Advanced Exploration

Mine Development

Municipal

General Water Works

Power

<p>12. WATER USE - Check the appropriate box(s) to indicate the type(s) of water use(s) being applied for.</p> <p><input type="checkbox"/> To obtain water for camp/ municipal purposes <input type="checkbox"/> To obtain water for industrial purposes <input type="checkbox"/> To cross a watercourse <input type="checkbox"/> To alter the flow of, or store water <input type="checkbox"/> To divert a watercourse <input type="checkbox"/> To modify the bed or bank of a watercourse <input type="checkbox"/> Flood control</p> <p>X Other: Water for drilling test hole to test for the potential geothermal power generation</p>
<p>13. QUANTITY AND QUALITY OF WATER INVOLVED - For each type of water use indicated in Block 12, provide the source of water, the quality of the water source and available capacity, the estimated quantity to be used in cubic meters per day, method of extraction, as well as the quantities and qualities of water to be returned to source.</p> <p>Name of water source(s) (show location(s) on map): Water will be sourced from the nearest available waterbody or trucked to site.</p> <p>Describe the quality of the water source(s) and the available capacity: Water quality will be pristine. Care will be taken to ensure that water is drawn from bodies with sufficient capacity in order to avoid impact on lake level or flow</p> <p>Provide the overall estimated quantity of water to be used: 100 m³/day</p> <p>Provide the estimated quantity(s) of water to be used from each source: 100 m³/day from numerous sources for drilling</p> <p>Indicate the estimated quantities to be used for each purpose (camp, drilling, etc.) 100 m³/day for drilling</p> <p>Describe the method of extraction(s): The drill pumps use a 1" inside diameter suction hose on the diesel pump with a fine screen on the foot valve. For drilling, a fiberglass window screen with a nominal opening size of less than 1/16" is also generally wrapped around the foot valve to prevent the intake of silt and sand into the pump, which can cause considerable damage to the pump chambers. In addition, it is common practice for the drilling contractor to place the foot valve of the intake hose in a perforated 20 L pail, which further protects against harmful materials and fish being entrained into water intake hoses.</p> <p>Estimated quantity(s) of water returned to source(s) Water used for drilling will not be returned directly to the source, but placed in a sump to allow for slow infiltration into the soil and will be located at least 31 m away from a water body.</p> <p>Describe the quality of water(s) returned to source(s): Water used for drilling will not be returned directly to the source, but placed in a sump to allow for slow infiltration into the soil and will be located at least 31 m away from a water body.</p> <p>14. WASTE – Check the appropriate box(s) to indicate the types of waste(s) generated and deposited.</p> <p><input type="checkbox"/> Sewage X Solid Waste X Hazardous X Bulky Items/Scrap Metal <input type="checkbox"/> Animal Waste X Other (describe): Drilling grey water</p> <p>X Waste oil <input type="checkbox"/> Greywater <input type="checkbox"/> Sludges <input type="checkbox"/> Contaminated soil and/or water</p>

15. QUANTITY AND QUALITY OF WASTE INVOLVED – For each type of waste indicated in Block 14, describe its composition, quantity in cubic meters/day, method of treatment and method of disposal.

All waste other than drilling greywater will be disposed of at the Baker Lake waste facility except hazardous waste or recyclable waste the needs to be shipped to an accredited facility.

Type of Waste	Composition	Quantity Generated	Treatment Method	Disposal Method
Drill grey water	Drill Water	100 m3/day	Sump	Disposed of in excavated sump located adjacent to the drill hole
Combustible solid waste	Food	Personal field lunch/meals	Take back to hotel, daily	Dispose of in hotel garbage or dump
Combustible and Non-combustible solid waste	Cardboard, untreated wood, bulky items, scrap metal, empty barrels/fuel drums		Stored in sealed containers or other appropriate and safe containment	Removed and taken to approved recycling or disposal facility
Contaminated soil/water	Soil/water plus hydrocarbons or other chemicals		Stored in sealed containers	Removed and taken to approved disposal facility
Hazardous waste or oil	Used oil	0.005m3/day	Stored in sealed containers	Removed and taken to approved disposal facility

16. OTHER AUTHORIZATIONS – In addition to the sub-surface and surface land use authorizations provided in Block 6, indicate any other authorizations required in relation to the proposed undertaking. For each provide the following:

Authorization: _____

Administering Agency: _____

Project Activity: _____

Date (expected date) of issuance: _____ Date of expiry: _____

17. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES - Describe direct, indirect, and cumulative impacts related to water and waste.

All potential environmental effects associated with the proposed Baker Lake Project are considered minor, localized effects that can be mitigated. No significant residual impacts to the environment are expected to occur as a result of the implementation of this program.

The Baker Lake site is a test for establishing the geothermal potential close to a community in order to try and reduce the use of diesel fuel to generate electrical power.

18. WATER RIGHTS OF EXISTING AND OTHER USERS OF WATER

Provide the names, addresses and nature of use for any known persons or properties that may be adversely affected by the proposed undertaking, including those that hold licences for water use in precedent to the application, domestic users, in-stream users, authorized waste depositors, owners of property, occupiers of property, and/or holders of outfitting concessions, registered trapline holders, and holders of other rights of a similar nature.

Advise the Board if compensation has been paid and/or agreement(s) for compensation have been reached with any existing or other users.

19. INUIT WATER RIGHTS

Advise the Board of any substantial affect of the quality, quantity or flow of waters flowing through Inuit Owned Land (IOL), and advise the Board if negotiations have commenced or an agreement to pay compensation for any loss or damage has been reached with one or more Designated Inuit Organization (DIO).

20. CONSULTATION – Provide a summary of any consultation meetings including when the meetings were held, where and with whom. Include a list of concerns expressed and measures to address concerns.

Consultations with the Hamlet are ongoing and public meetings are planned prior to commencement of the project.

21. SECURITY INFORMATION

Provide an estimate of the total financial security for final reclamation equal to the total outstanding reclamation liability for land and water combined sufficient to cover the highest liability over the life of the undertaking. Estimates of reclamation costs must be based on the cost of having the necessary reclamation work done by a third party contractor if the operator defaults. The estimate must also include contingency factors appropriate to the particular work to be undertaken.

Where applicable, the financial security assessment should be prepared in a manner consistent with the principals respecting mine site reclamation and implementation found in the *Mine Site Reclamation Policy for Nunavut*, Indian and Northern Affairs Canada, 2002.

As the project is one drillhole, located within the Hamlet of Baker Lake the estimated reclamation costs relatively low. Would only require clean up of site, shipping any hazardous waste and filling in of sump. An estimated \$5,000 will cover any 3rd party reclamation required.

22. FINANCIAL INFORMATION

Provide a statement of financial responsibility.

See “211104 - QEC Financial Statements” attached

If the applicant is a business entity, provide a list of the officers of the company.

President/CEO Bruno Pereira

CFO Chris Brady

Corporate Secretary Shelly McLeod

If the applicant is a business entity attach a copy of the Certificate of Incorporation or evidence of registration of the company name.

See “101020 - QEC Act” attached.

<p>23. STUDIES UNDERTAKEN TO DATE - List and attach copies of studies, reports, research, etc. QEC commissioned a Nunavut Geothermal Feasibility Study, completed by RESPEC, with guidelines set by the Canadian Geothermal Energy Association (CanGEA) for the Canadian National Geothermal Database (CNGD), published in June 2018. Baker Lake has been selected as a test site for investigating the geothermal potential in the Canadian Shield.</p>
<p>24. PROPOSED TIME SCHEDULE – Indicate the proposed start and completion dates for each applicable phase of development (construction, operation, closure, and post closure).</p> <p><u>Construction</u> Proposed Start Date: September/2022 (month/year) Proposed Completion Date September/2022 (month/year)</p> <p><u>Operation</u> Proposed Start Date: September/2022 (month/year) Proposed Completion Date: October/2022 (month/year)</p> <p><u>Closure</u> Proposed Start Date: October/2022 (month/year) Proposed Completion Date: October/2022 (month/year)</p> <p><u>Post - Closure</u> Proposed Start Date: _____ Proposed Completion Date: _____ (month/year)</p> <p>For each applicable phase of development indicate which season(s) activities occur.</p> <p><u>Construction</u> <input type="checkbox"/> Winter <input type="checkbox"/> Spring <input checked="" type="checkbox"/> Summer <input checked="" type="checkbox"/> Fall <input type="checkbox"/> All season</p> <p><u>Operation</u> <input type="checkbox"/> Winter <input type="checkbox"/> Spring <input checked="" type="checkbox"/> Summer <input checked="" type="checkbox"/> Fall <input type="checkbox"/> All season</p> <p><u>Closure</u> <input type="checkbox"/> Winter <input type="checkbox"/> Spring <input checked="" type="checkbox"/> Summer <input checked="" type="checkbox"/> Fall <input type="checkbox"/> All season</p> <p><u>Post - Closure</u> <input type="checkbox"/> Winter <input type="checkbox"/> Spring <input type="checkbox"/> Summer <input type="checkbox"/> Fall <input type="checkbox"/> All season</p>
<p>25. PROPOSED TERM OF LICENCE</p> <p>Number of years (maximum of 25 years): 5 years Requesting 5 years in the event the drillhole is not able to be completed this year.</p> <p>Requested Date of Issuance: September/2022 (month/year) Requested Expiry Date: August/2027 (month/year)</p> <p>(The requested date of issuance must be <u>at least</u> three (3) months from the date of application for a type B water licence and <u>at least</u> one (1) year from the date of application for a type A water licence, to allow for processing of the water licence application. These timeframes are approximate and do not account for the time to complete any pre-licensing land use planning or development impact requirements, time for the applicant to prepare and submit a water licence application in accordance with any project specific guidelines issued by the NWB, or the time for the applicant to respond to requests for additional information. See the NWB's <i>Guide 5: Processing Water Licence Applications</i> for more information)</p>
<p>26. ANNUAL REPORTING – If not using the NWB's <u>Standardized Form for Annual Reporting</u>, provide details regarding the content of annual reports and a proposed outline or template of the annual report.</p>

27. CHECKLIST – The following must be included with the application for the water licensing process to begin.

Written confirmation from the NPC confirming that NPC's requirements regarding land use plan conformity have been addressed.

Yes No If no, date expected _____

Written confirmation from the NIRB confirming that NIRB's requirements regarding development impact assessment have been addressed.

Yes No If no, date expected _____

Completed General Water Licence Application form.

Yes No If no, date expected _____

Information addressing Supplemental Information Guideline (SIG) , where applicable (see Block 11)

Yes No If no, date expected _____

English Summary of Application.

Yes No If no, date expected _____

Inuktitut and/or Inuinnaqtun Summary of Application.

Yes No If no, date expected _____

Application Fee of \$30.00 CDN (Payee Receiver General for Canada).

Yes No If no, date expected [To be paid via credit Card over the Phone](#)

Water Use Fee Deposit of \$30.00 CDN (Payee Receiver General for Canada). The actual water use fee will be calculated by the NWB based upon the amount of water authorized for use in accordance with the Regulations at the time of issuance of the licence.

Yes No If no, date expected [To be paid via credit Card over the Phone](#)

28. SIGNATURE

Tara Gunson

Geologist

August 2, 2022

Name (Print)

Title (Print)



Signature

Date