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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYIT
OFFICE DES EAUX DU NUNAVUT

APPLICATION FOR NEW WATER LICENCE
MADRID ADVANCED EXPLORATION PROGRAM

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)

M. John Roberts
Vice President, Environmental Affairs
TMAC Resources Inc.
95 Wellington Street West
Suite 1010, P.O. Box 44
Toronto, Ontario, M5J 2N7

Phone: 416-628-0126
Fax: 416-644-9337
e-mail: john.roberts@tmacresources.com

2. APPLICANT REPRESENTATIVE CONTACT INFORMATION if different from Block 1 (name, address)

Phone: _____
Fax: _____
e-mail: _____
(Attach authorization letter.)

3. NAME OF PROJECT

Madrid Advanced Exploration Program, Hope Bay Belt, Kitikmeot Region

4. LOCATION OF UNDERTAKING

Project Extents: *The below coordinates outline the extent of the Madrid Advanced Exploration Program*

	Lat/Long		*UTM*	
NE	*68° 06' 34" N*	*106° 32' 22" W*	*7555864*	*435954*
NW	*68° 08' 07" N*	*106° 37' 44" W*	*7555840*	*432309*
SE	*68° 00' 13" N*	*106° 29' 00" W*	*7544000*	*438000*
SW	*68° 00' 07" N*	*106° 40' 29" W*	*7544000*	*430000*

Camp Location(s)

No new camp facilities will be installed at Madrid area to support the exploration program. Site offices and emergency shelters will be installed to support the bulk sampling program.

Existing Doris North Project Camp and/or the licensed Windy Camp will be used to support the Madrid Advanced Exploration Program.

68°08'18.7"N 106°36'39.7"W --- Doris North Project Camp
68°4'17.65"N 106°36'36.54"W --- Windy Camp

5. **MAP** - Attach a topographical map, indicating the main components of the undertaking.

See enclosed "Madrid Advanced Exploration Program Type B Water Licence Application Supplemental Information Report" *Section 2.0*

NTS Map Sheet No.*: 77A03* Map Name: *Hope Bay* 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)
Tok 1: Date of issuance: Aug. 1, 2000 Date of expiry: December 30, 2014
Tok 3: Date of issuance: Aug. 1, 2000 Date of expiry: December 30, 2014

☐ Mineral Lease from Indian and Northern Affairs Canada (INAC)
#4648: Date of issuance: Oct 12 2001 Date of expiry: Oct 12 2022
#4649: Date of issuance: Oct 12 2001 Date of expiry: Oct 12 2022

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) see table below
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: _____
Date (expected date) of issuance: _____ Date of expiry: _____

Hope Bay Belt Authorizations

Quarry Permits	***Commercial Lease***
KTP308Q010 - Quarries A, B, D (exp. Jan 20, 2015)	*KTCL308D003 - Commercial Lease (exp. Sept 13, 2018)*
KTP307Q010 - Quarries 2, 3, 4 (exp. Jan 20, 2015)	
IOL Surface tenure – Quarries G, H (application pending)	
Land Use Licences	***Water Licences***
KTL303C056 - Hope Bay Land Use (exp. Jan 20, 2015)	*2BB-BOS1217 Boston Advanced Exploration Project (exp. Jul 31, 2017)*
KTL306C003 - Boston Land Use Licence(exp. Jan 20, 2015)	*2AM-DOH1323 Doris North Mining and Milling Undertaking (exp. Aug 15, 2023)*
KTL306F007 - Winter Road Land Use(exp. Jan 20, 2015)	*2BE-HOP1222 Hope Bay Regional Exploration Program (exp. Jun 30, 2022)*
IOL Surface Tenure for Advanced Exploration – Madrid (application pending)	

Name of entity(s) holding authorizations: TMAC Resources Inc.

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.

An approved Land Use Plan for the Kitikmeot Region is currently not in place.

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 *Screening determination pending; refer to* "Madrid Advanced Exploration Program Type B Water Licence Application Supplemental Information Report" *Section 10.0*

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

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

See "Madrid Advanced Exploration Program Type B Water Licence Application Supplemental Information Report" *Section 4.0*

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

See "Madrid Advanced Exploration Program Type B Water Licence Application Supplemental Information Report" *Section 10.10*

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
- ☐ Municipal (includes camps/lodges)
- ☐ Recreational
- ☐ Power
- ☐ Miscellaneous (describe below):

_____

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

12. WATER USE - Check the appropriate box(s) to indicate the type(s) of water use(s) being applied for.

- ✓ *To obtain water for camp/ municipal purposes*
- ✓ *To obtain water for industrial purposes*
- ✓ *To cross a watercourse*
- ✓ *To alter the flow of, or store water*
- ✓ *Other: to build winter ice roads, dust suppression, recycling of contact water.*
- ☐ To divert a watercourse
- ☐ To modify the bed or bank of a watercourse
- ☐ Flood control

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.

Name of water source(s) (show location(s) on map):

Every effort is made to maximize reuse of water including water once it has come in contact with Project Components and/or Activities. Contact water from surface and underground operations will be collected and used/recycled as much as possible. Initiation and make up water is needed from freshwater sources for industrial uses. Freshwater sources are also needed for domestic supply. A combination of sources is proposed to meet operational needs and minimize environmental footprint. Sources are primarily Patch Lake, Windy Lake, and other area lakes with surface area > 15,000 m^2 (as required) for freshwater.

Describe the quality of the water source(s) and the available capacity:

See "Madrid Advanced Exploration Program Type B Water Licence Application Supplemental Information Report" Section 5.0

Provide the overall estimated quantity of water to be used:

Freshwater Use		***Daily Rate***	***Annual Rate***
Domestic	*Office, medical facilities*	*Up to 5 m^3/day*	
Industrial	*Drilling (surface, underground, quarry)*	*Up to 290 m^3/day*	
	Dust Suppression (seasonal)		
	Ice Roads (seasonal) - including berms, ramps, temporary water crossings, and portages		
Total		***Up to 295 m^3/day***	***295 × 365 = 108,000 m^3/year***

Note that water usage will be managed in such a way that cumulative peak daily usage for this Project will not exceed 295 m^3/day from freshwater sources. Therefore TMAC requests a total annual volume approval of 108,000 m^3/year.

Describe the method of extraction(s):

A truck mounted pump with intake hose (screened to meet DFO Guidelines) will be used to pump water from Patch and Windy Lakes into a truck mounted tank for transportation to Madrid North or Madrid South. For drill water, a portable pump with intake hose and storage tank will be used to pump water from other lake sources. See "Madrid Advanced Exploration Program Type B Water Licence Application Supplemental Information Report" *Section 6.0*

Estimated quantity(s) of water returned to source(s)

No water will be returned directly the to the water sources.

Describe the quality of water(s) returned to source(s):

No water used will be returned to their sources, however, all contact/waste water will be returned to the environment, with effluent discharge complying with MMER criteria. Contact water that does not comply with discharge criteria will be trucked to Doris North Project and disposed in TIA.

14. **WASTE** – Check the appropriate box(s) to indicate the types of waste(s) generated and deposited.

- ✓ *Sewage*
- ✓ *Solid Waste*
- ✓ *Hazardous*
- ✓ *Bulky Items/Scrap Metal*
- ✓ *Waste oil*
- ✓ *Greywater*
- ✓ *Sludges (drill cuttings)*
- ✓ *Contaminated soil and/or water*
- ☐ Animal Waste
- ✓ *Other (describe):*
- *Contact water on surface and underground*
- *Drilling effluent and cuttings from active drill locations and sumps*

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.

Type of Waste	*Composition*	*Quantity Generated*	*Treatment Method*	*Disposal Method*
Sewage	*Portable toilet wastes will be combined with greywater waste*	*< 10 m^3/d (sewage and grey water)*	*Collected for transport to the Doris North Project Camp waste water treatment plant*	*Disposal as per approved 2AM-DOH1323 wastewater treatment management plan*
Greywater	*Grey water from wash trucks will be combined with sewage waste*	*<10 m^3/d (sewage and grey water)*	*Collected for transport to the Doris North Project Camp waste water treatment plant*	*Disposal as per approved 2AM-DOH1323 wastewater treatment management plan*
Solid Waste	*Mixed non-hazardous waste typically generated at a work site*	*< 5 m^3/d*	*Collected for transport to the Doris North Project Camp*	*Disposal as per approved 2AM-DOH1323 waste management plan*
Waste Oil	*Waste oil generated from mobile and stationary equipment*	*< 1 m^3/d*	*Collected for transport to the Doris North Project Camp*	*Disposal as per appropriate approved 2AM-DOH1323 waste management plan*
Hazardous Waste, Scrap metal, and Contaminated soil and/or water	*Waste generated from drilling activities and accidents*	*Unknown*	*Collected for transport to the Doris North Project Camp*	*Disposal as per approved 2AM-DOH1323 waste management plan and Spill Contingency Plan*

Type of Waste	Composition	Quantity Generated	Treatment Method	Disposal Method
Contact Waste Water	Water that has come in contact with surface infrastructure and underground workings and collected in Pollution Control Pond	Up to 40k m^3/year on average (from Madrid South with groundwater) and up to 6.5k m^3/year (from Madrid North) transported to TIA or reused. Up to 94k m^3/year maximum (Madrid South) and 15k m^3/year (Madrid North) to be reused or transported to TIA.	Discharged to the tundra in area of Pollution Control Pond; any contact water that does not meet discharge criteria, trucked to Doris North Project for disposal in TIA.	Discharge to designated location at a distance of at least 31 m from the ordinary high water mark of any adjacent water body, where direct flow into a water body is not possible and no additional impacts are created. At TIA, disposal as per approved 2AM-DOH1323 water management plan.
Fuel Storage Contact Water	Water that accumulates in the containment area of the fuel storage areas	Unknown	Water that does not meet discharge criteria, will either be treated using oil/water separator until criteria met, or trucked to Pollution Collection Pond or to the TIA.	Discharge to designated location at a distance of at least 31 m from the ordinary high water mark of any adjacent water body, where direct flow into a water body is not possible and no additional impacts are created.

Type of Waste	*Composition*	*Quantity Generated*	*Treatment Method*	*Disposal Method*
Drill Cuttings/Brine	*Drill waste, including water, chips, muds and salts (CaCl2) from land-based and on-ice diamond drilling*	*unknown*	*Cuttings are dewatered, and the separated water or brine is recycled back into the drilling process*	*Saline cuttings: removed from the drill site and deposited in a contained location (ie: designated sump or waste rock pile) where runoff is captured for treatment or disposal to an appropriate facility (ie: TIA).* *Non-saline cuttings: disposed in a sump or natural depression proximal to the drill where direct flow into a water body is not possible and no additional impacts are created. May be used for reclamation purposes.* *Excess Brine: removed from the drill site and deposited onto waste rock piles, into Pollution Control Ponds, or discharged to the TIA.*

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: *None Required*_____

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.

See "Madrid Advanced Exploration Program Type B Water Licence Application Supplemental Information Report" *Section 10.0*

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.

No adversely affected persons or properties anticipated

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).

None

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.

See "Madrid Advanced Exploration Program Type B Water Licence Application Supplemental Information Report" *Section 11.0*

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.

See "Madrid Advanced Exploration Program Type B Water Licence Application Supplemental Information Report" *Section 9.0*

22. FINANCIAL INFORMATION

Provide a statement of financial responsibility.

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

If the applicant is a business entity attach a copy of the Certificate of Incorporation or evidence of

registration of the company name.

See "Madrid Advanced Exploration Program Type B Water Licence Application Supplemental Information Report" *Section 3.0*

23. STUDIES UNDERTAKEN TO DATE - List and attach copies of studies, reports, research, etc.

To date, studies have been completed within the Hope Bay Belt to determine environmental baseline conditions, develop project activities and components, identify water use and the predicted environmental effects and proposed mitigation measures. The reference lists within the Supplemental Information Report, within Appendix 4 (Project Description) and within Appendix 5 (Environmental Baseline Report) provide a list of studies completed to date used to develop the Madrid Advanced Exploration Program.

See "Madrid Advanced Exploration Program Type B Water Licence Application Supplemental Information Report", References, *Appendix 4 and Appendix 5.*

24. PROPOSED TIME SCHEDULE – Indicate the proposed start and completion dates for each applicable phase of development (construction, operation, closure, and post closure).

TMAC requests that the term of the licence be 10 years. This includes preparation and construction activities over a period of 2 to 3 years, operation for 2 to 3 years, closure 1 to 2 years, and post closure of 2 years. If the additional time is needed to accommodate further post closure monitoring, the water license will be renewed and amended at that time. The requested issuance would be Q2 2015 so procurement can occur in Q3 2015 and work start Q4 2015-Q1 2016. The bulk sample program at Madrid South and Madrid North is currently planned to be completed sequentially with initial work completed at Madrid North. Surficial exploration diamond drilling will occur throughout the 10 year Project life.

	Madrid North		*Madrid South*	
	Proposed Start	*Proposed Completion*	*Proposed Start*	*Proposed Completion*
Construction	*Year 1*	*Year 2*	*Year 2*	*Year 4*
Operation	*Year 3*	*Year 5*	*Year 5*	*Year 6*
Closure	*Year 6*	*Year 7*	*Year 7*	*Year 8*
Post-Closure	*Year 8*	*Year 10*	*Year 8*	*Year 10*

For each applicable phase of development indicate which season(s) activities occur.

Construction

☐ Winter ☐ Spring ☐ Summer ☐ Fall ☒ *All season*

Operation

☐ Winter ☐ Spring ☐ Summer ☐ Fall ☒ *All season*

Closure

☐ Winter ☐ Spring ☐ Summer ☐ Fall ☒ *All season*

Post - Closure

☐ Winter ☐ Spring ☐ Summer ☐ Fall ☒ *All season*

25. PROPOSED TERM OF LICENCE

Number of years (maximum of 25 years): *10 years*

Requested Date of Issuance: *06/2015* (month/year) Requested Expiry Date: *05/2026* (month/year)

(The requested date of issuance must be at least three (3) months from the date of application for a type B water licence and at least 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 *Guide 5: Processing Water Licence Applications* for more information)

26. **ANNUAL REPORTING –** If not using the NWB's *Standardized Form for Annual Reporting*, provide details regarding the content of annual reports and a proposed outline or template of the annual report.

Annual reporting for Madrid Advanced Exploration Program will use the current outline and template of other NWB licences issued to TMAC.

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 *Land Use Plan not in place*

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

☐ Yes ☒ *No* If no, date expected *Screening application submitted with this application package*

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 _____

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 _____

28. SIGNATURE

John Roberts	**VP Environmental Affairs**		**Dec 8, 2014**
Name (Print)	**Title (Print)**	**Signature**	**Date**