



Water Resources Division  
Resource Management Directorate  
Nunavut Regional Office  
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Your file - Votre référence  
2BE-ABP1823

Our file - Notre référence  
GCDOCS#97237490

August 26, 2021

Richard Dwyer  
Manager of Licensing  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU, X0B 1J0  
Sent via E-mail: [licensing@nwb-oen.ca](mailto:licensing@nwb-oen.ca)

**Re: Crown-Indigenous Relations and Northern Affairs Canada's (CIRNAC) Review of  
Arcadia Bay Property, Water Licence Assignment Application for Type "B" Water  
Licence No. 2BE-ABP1823**

Dear Mr. Dwyer,

Thank you for the August 6, 2021 invitation to review the water licence-assignment application, submitted by West Kitikmeot Gold (WKG) for the Arcadia Bay Property Type "B" Water Licence No. 2BE-ABP1823.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) examined the application pursuant to its mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Crown-Indigenous Relations and Northern Affairs Act*. Please find CIRNAC's comments and recommendations in the attached Technical Memorandum.

If there are any questions or concerns, please contact me at (867) 975-4689 or [john.onita@canada.ca](mailto:john.onita@canada.ca) or Andrew Keim at (867) 975-4550 or [andrew.keim@canada.ca](mailto:andrew.keim@canada.ca).

Sincerely,

John Onita,  
Regional Water Coordinator



## **Technical Review Memorandum**

**Date:** August 26, 2021

**To:** Richard Dwyer – Manager of Licensing, Nunavut Water Board

**From:** John Onita – Regional Water Coordinator, CIRNAC

**Subject:** Crown-Indigenous Relations and Northern Affairs Canada's (CIRNAC)  
Review of Arcadia Bay Property Water Licence Assignment Application  
for Type B Water Licence No. 2BE-ABP1823

**Region:** ☒ Kitikmeot ☐ Kivalliq ☐ Qikiqtani

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### **A. BACKGROUND**

As described in section 1.4 of the Abandonment and Restoration Plan:

*“The Arcadia Bay Property is a gold mineral exploration property located within the Kitikmeot region of Nunavut. The Property is located on the shore of Arcadia Bay, on the Coronation Gulf, approximately 160 kilometers (km) east of Kugluktuk, 200 km west of Hope Bay, and 305 km southwest of Cambridge Bay. The Property is within Inuit Owned Land (IOL) Parcel CO-31. The proposed exploration activities on the Project will include general exploration activities (such as prospecting, geological mapping, geochemical sampling and geophysical surveys) and diamond drilling, totaling approximately 2,500 to 5,000 meters (m), annually. A small (12-person) seasonal camp will be required to support the exploration activities at the Project. The camp will be located approximately 2 km south of the barge landing, at a historic site used by Orofino Resources Ltd in the late 1980's”*

Section 2.0 of the Abandonment and Restoration Plan further states;

*“The annual exploration programs are projected to start in late spring/early summer with the mobilization of equipment, supplies and fuel by barge. It is anticipated that camp construction/opening will take approximately one week. General exploration and drilling activities are anticipated to commence when the camp is operational, which could be as early as June 1 or as late as September 1 (depending on barge schedules and when weather and ground conditions are acceptable to support the activities) and run for approximately 60 days. Prior to each year's program commencement, all regulatory authorities will be notified and supplied with updated schedules and locations of activities”*

Therefore, the licensee explains in section 1.5 of the Spill Contingency and Fuel Management Plan that:

*“The Arcadia Bay Property is owned and operated by a partnership between Nunavut Resources Cooperation (NRC) and Transition Metals Corporation (Transition). In 2019,*



*NRC assigned its interest in the partnership to its subsidiary West Kitikmeot Gold (WKG). WKG has become the operator of the property and is currently applying to assign all permits and licences from Transition to WKG”*

CIRNAC provides the following comments and recommendations pertaining to the application package. A summary of CIRNAC's recommendations can be found in Table 1. Documents reviewed as part of this submission can be found in Table 2 of Section B. Detailed technical review comments can be found in Section C.

**Table 1: Summary of Recommendations**

Recommendation Number	Subject
R-01	Time-Table for implementation
R-02	GPS Co-ordinates for all water use sources
R-03	Install Flow meters
R-04	GPS Co-ordinates for waste disposal sites
R-05	Sediment and erosion concerns

## **B. DOCUMENTS REVIEWED AND REFERENCED**

The following table (Table 2) provides a list of the documents reviewed under the submission and reference during the review.

**Table 2: Documents Reviewed and Referenced**

Document Title	Author, File No., Rev., Date
180619 2BE-ABP1823 Approved Licence-OKTE	NWB; June 19, 2018
210806 2BE-ABP1823 Water Licence Assignment Dist-OMLE	NWB; August 6, 2021
210714 2BE-ABP1823 Arcadia Bay Waste Management Plan-IMLE	Transition Metals; June 1, 2017
210714 2BE-ABP1823 Arcadia Bay Spill Contingency & Fuel Management Plan-IMLE	Apex Geosciences Limited; April 21, 2021
210714 2BE-ABP1823 Arcadia Bay Environmental Management Plan-IMLE	Transition Metals; June 1, 2017
210714 2BE-ABP1823 Arcadia Bay Emergency Response Plan-IMLE	Transition Metals; June 1, 2017
210714 2BE-ABP1823 Application Submission Update-IMLE	NWB; July 14, 2021
210507 2BE-ABP1823 Water Licence Assignment Application-IMLE	NWB; April, 2013
210507 2BE-ABP1823 Summary English-IMLE	Apex Geosciences Limited; April 21, 2021



Document Title	Author, File No., Rev., Date
210507 2BE-ABP1823 Assignment Statement & Certificate of Capacity of WKG-IMLE	Tara Gunson, Apex Geosciences Limited; April 21, 2021.
210507 2BE-ABP1823 Assignment Impact Confirmation Letter-IMLE	Tara Gunson, Apex Geosciences Limited; April 21, 2021.
210507 2BE-ABP1823 Arcadia Camp Removal 3rd Party Estimate-IMLE	Discovery Mining Services; April 28, 2021
210507 2BE-ABP1823 Annual Report 2020-IMLE	Transition Metals Corporation; 2020
210507 2BE-ABP1823 Annual Report 2019-IMLE	Transition Metals Corporation; 2019
210507 2BE-ABP1823 Annual Report 2018-IMLE	Transition Metals Corporation; 2018
210507 2BE-ABP1823 Abandonment & Restoration Plan-IMLE	Apex Geosciences Limited; April 21, 2021
210507 2BE-ABP1823 2018-2020 Water Use Fee Calculation-IMLE	Tara Gunson; Apex Geosciences Limited; March, 16, 2021

## C. RESULTS OF REVIEW

### 1. Time-table for implementation

#### **Comment:**

Part B, Item 5, of water licence 2BE-ABP1823 requires the licensee to provide a proposed timetable for implementation of all management plans submitted with the water licence assignment application. Hence, Part B, Item 5 states that, *“The licensee shall, for all Plans submitted under this licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the licensee in writing of acceptance, rejection or alteration of the Plan”*

CIRNAC acknowledges reviewing the following management plans that were submitted by the licensee:

- i. Abandonment and Restoration Plan (ARP)
- ii. Emergency Response Plan (ERP)
- iii. Environmental Management Plan (EMP)
- iv. Spill Contingency and Fuel Management Plan (SCFMP)
- v. Waste Management Plan (WMP)



Part B, Item 8 of the water licence states that, *“Every Plan to be carried out pursuant to the terms and conditions of this licence shall become a part of this licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this licence. All terms and conditions of the licence should be contemplated in the development of a Plan where appropriate”*.

Based on Part B, Items 5 and 8 water licence conditions, CIRNAC observes that the licensee did not include a timetable for implementation as part of this water licence assignment application for all five (5) management plans listed here. Therefore, CIRNAC is concerned that, without a timetable for implementation that provides information on the proposed time and date a particular activity is scheduled to occur, it would negatively affect CIRNAC’s abilities to plan and schedule inspections for the Arcadia Bay Project.

**Recommendation:**

(R-01) CIRNAC recommends that the licensee provide within 30 days, the timetable for implementation, highlighting proposed activities, with dates for:

- a) All described activities in the Abandonment and Restoration Plan (ARP)
- b) All described activities in the Emergency Response Plan (ERP)
- c) All described activities in the Environmental Management Plan (EMP)
- d) All described activities in the Spill Contingency and Fuel Management Plan (SCFMP)
- e) All described activities in the Waste Management Plan (WMP)

**2. GPS Co-ordinates for all water use sources**

**Comment:**

As part of the water use and management conditions, Part C, Item 1 of water licence 2BE-ABP1823 states that, *“The licensee shall obtain all water for domestic use from the river adjacent to the Arcadia Bay Project Camp, not exceeding two (2) cubic meters per day. Water use for drilling and associated uses shall be obtained as required from sources proximal to the drilling targets and shall not exceed forty (40) cubic metres per day. The total volume of water for all purposes under this licence shall not exceed forty-two (42) cubic metres per day”*

Appendix 2, Figure 2 of the Emergency Response Plan, shows the potential field areas of the Arcadia Bay Property. The figure shows several freshwater bodies and Twenty (20) designated “gold occurrence” areas within the Arcadia Bay Property. CIRNAC is concerned that if the designated “gold occurrence” areas in Figure 2 are potential drilling target areas, it would translate to 20 potential water withdrawal stations for drilling and associated operations. Therefore, CIRNAC reasons that the multiple water withdrawal stations might pose some problems to monitoring and keeping of water use records over the course of the operations if proper planning and coordination are not put in place.



For effective water use monitoring in the Arcadia Bay Property area, Part J, Item 2 of the water licence states that, *“The licensee shall provide the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where sources of water are utilized for all purposes”*. This information would aid CIRNAC’s Inspector in monitoring compliance to Part C, Item 1 condition of the water licence during the exploration and operational phases of the Arcadia Bay project.

**Recommendation:**

(R-02) CIRNAC recommends that the licensee provides, within 30 days, an exploration drawing, indicating each designate drill site with a proximal source of water use within the Arcadia Bay Property, to include GPS coordinates for each potential water use source.

**3. Install Flow Meters**

**Comment:**

CIRNAC is concerned that the multiple nature of potential water use sources approved for drilling and associated uses for the Arcadia Bay Property project, would result in missed or inadequate measuring of the daily quantities of water obtained from each of the water use sources.

Part B, Item 4, of the water licence states that, *“The licensee shall install flow meters or other such devices, or implement suitable methods required for the measuring of Water volumes as required under Part J, Items 1”*

With multiple water withdrawal sources being considered, CIRNAC is unsure of the number and locations of flow meters that would be installed in the Arcadia Bay Property area and requests information regarding when these flow meters would be installed to enable a CIRNAC Inspector’s validation process to take place.

**Recommendation:**

(R-03) CIRNAC recommends that the licensee;

- a) include in an exploration drawing, designate flow meter installation sites, to include GPS coordinates for potential flow meter installation locations,
- b) provide information on the installation timeline for these flow meters within 30 days.

**4. GPS Co-ordinates for waste disposal sites**

**Comment:**

CIRNAC understands that the Arcadia Bay Property exploration activities would involve drilling activities at multiple drill targets. Understandably, this would mean waste generation at multiple drilling target sites with the Arcadia Bay Property.





As part of the monitoring conditions for water licence 2BE-ABP1823, Part J, Item 3 states that, *“The licensee shall determine the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where Wastes associated with the Arcadia Bay Project are deposited”*

**Recommendation:**

(R-04) CIRNAC recommends that the licensee include in an exploration drawing, designate waste deposition sites, to include GPS coordinates for these waste deposit locations.

**5. Sediment and erosion concerns**

**Comment:**

The licensee states in section 1.4, paragraph 5 of the Abandonment and Restoration Plan that, *“The proposed exploration activities on the Project will include general exploration activities (such as prospecting, geological mapping, geochemical sampling and geophysical surveys) and diamond drilling, totaling approximately 2,500 to 5,000 meters (m), annually”*

CIRNAC is concerned that these proposed exploration activities (involving prospecting, geological mapping, geochemical sampling and geophysical surveys) would cause severe erosion and sediment build up at the banks of water bodies proximal to drilling targets within the Arcadia Bay project area. This is because each of the proposed exploration activities mentioned here would involve some form of excavation / opening of the earth or disturbing the natural environment to drill holes which would alter the topography of the ground around drill target sites and ultimately exposes the sites to erosion. More importantly, the multiplicity of the drill target sites within the Arcadia Bay Property area, would worsen and escalates the incidences of erosion occurring during and after the proposed exploration activities.

Part C, Item 8 of the water licence 2BE-ABP1823 states that;

*“The licensee shall not cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion”*

Part C, Item 9 of the water licence 2BE-ABP1823 further states that;

*“Sediment and erosion control measures shall be implemented prior to and maintained during the operation to prevent entry of sediment into Water”*

Based on Part C, Item 9 licence conditions, CIRNAC observes that the licensee did not provide an erosion and sediment control / mitigation plan with the licence assignment application. CIRNAC reasons that the provision of an erosion and sediment control / mitigation plan by the licensee is important because it qualifies as a “prior control measure



to be implemented and maintained” before the commencement of exploration activities according to Part C, Item 9 conditions of the water licence.

### **Recommendation:**

(R-05) CIRNAC recommends that the licensee provide within 60 days;

- a) an erosion and sediment mitigation plan for a number of large and numerous small lakes and swamps occupying the majority of low lying areas within the Arcadia Bay Property proximal to drill target sites.
- b) answers to the following questions:
  - i. Explain this statement adapted from section 4.3, paragraph 2, line 6; of the Environmental Management Plan; *“Areas that have patterned ground, clay-rich soil and or wetlands will be avoided”*. What happens in a scenario when one or more gold occurrence targets are detected from prospecting activities or geophysical surveys in these areas; if the licensee’s decision would mean to drill the targets in these areas, how would the erosion and sediment problems be mitigated from impacting the water bodies in these areas?
  - ii. Explain another adapted statement from section 4.3, paragraph 2, line 8; of the Environmental Management Plan; *“Earth may be required to be moved in order to construct sumps in camp and at drill sites; however natural depressions and areas free of vegetation will be used whenever possible”*. How would you (licensee) reconcile this statement with the initial quote in “Recommendation 05b(i)” that, *“Areas that have patterned ground, clay-rich soil and or wetlands will be avoided”*? Does it mean that you (licensee) would go ahead and drill the gold occurrence targets discovered in natural depressions and areas free of vegetation? If that would be the case, CIRNAC requests that the licensee provides “Recommendation 05(a)” within 60 days.

## **D. REFERENCES**

Department of Crown-Indigenous Relations and Northern Affairs Act (2000)

Nunavut Water Board Type “B” Water Licence 2BE-ABP1823; NWB, June 19, 2018

Nunavut Waters and Nunavut Surface Rights Tribunal Acts (2016); *Nunavut Water Board*

2BE-ABP1823 Water Licence Assignment Dist-OMLE; NWB, August 6, 2021





2BE-ABP1823 Arcadia Bay Waste Management Plan-IMLE; Transition Metals; June 1, 2017

2BE-ABP1823 Arcadia Bay Spill Contingency & Fuel Management Plan-IMLE; Apex Geosciences Limited; April 21, 2021

2BE-ABP1823 Arcadia Bay Environmental Management Plan-IMLE; Transition Metals; June 1, 2017

2BE-ABP1823 Arcadia Bay Emergency Response Plan-IMLE; Transition Metals; June 1, 2017

2BE-ABP1823 Application Submission Update-IMLE; NWB; July 14, 2021

2BE-ABP1823 Water Licence Assignment Application-IMLE; NWB; April, 2013

2BE-ABP1823 Summary English-IMLE; Apex Geosciences Limited; April 21, 2021

2BE-ABP1823 Assignment Statement & Certificate of Capacity of WKG-IMLE; Tara Gunson, Apex Geosciences Limited; April 21, 2021.

2BE-ABP1823 Assignment Impact Confirmation Letter-IMLE; Tara Gunson, Apex Geosciences Limited; April 21, 2021.

2BE-ABP1823 Arcadia Camp Removal 3rd Party Estimate-IMLE; Discovery Mining Services; April 28, 2021

2BE-ABP1823 Annual Report 2020-IMLE; Transition Metals Corporation; 2020

2BE-ABP1823 Annual Report 2019-IMLE; Transition Metals Corporation; 2019

2BE-ABP1823 Annual Report 2018-IMLE; Transition Metals Corporation; 2018

2BE-ABP1823 Abandonment & Restoration Plan-IMLE; Apex Geosciences Limited; April 21, 2021

2BE-ABP1823 2018-2020 Water Use Fee Calculation-IMLE; Tara Gunson; Apex Geosciences Limited; March, 16, 2021