



Appendix N.5

Beaver Dam Gold Project - Haul Road Option 2 Archaeological
Reconnaissance Halifax Regional Municipality, Nova Scotia
March 2017

Completed for the Updated 2021 Beaver Dam Mine EIS

GHD

**BEAVER DAM GOLD PROJECT
HAUL ROAD OPTION 2
ARCHAEOLOGICAL RECONNAISSANCE
HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA
FINAL REPORT**

Submitted to:

GHD

and the

**Special Places Program of the
Nova Scotia Department of
Communities, Culture and Heritage**

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Heritage Research Permit Number: A2016NS044

CRM Group Project Number: 2014-0015-02

MARCH 2017



*The following report may contain sensitive archaeological site data.
Consequently, the report must not be published or made public without
the written consent of Nova Scotia's Coordinator of Special Places Program,
Department of Communities, Culture and Heritage.*

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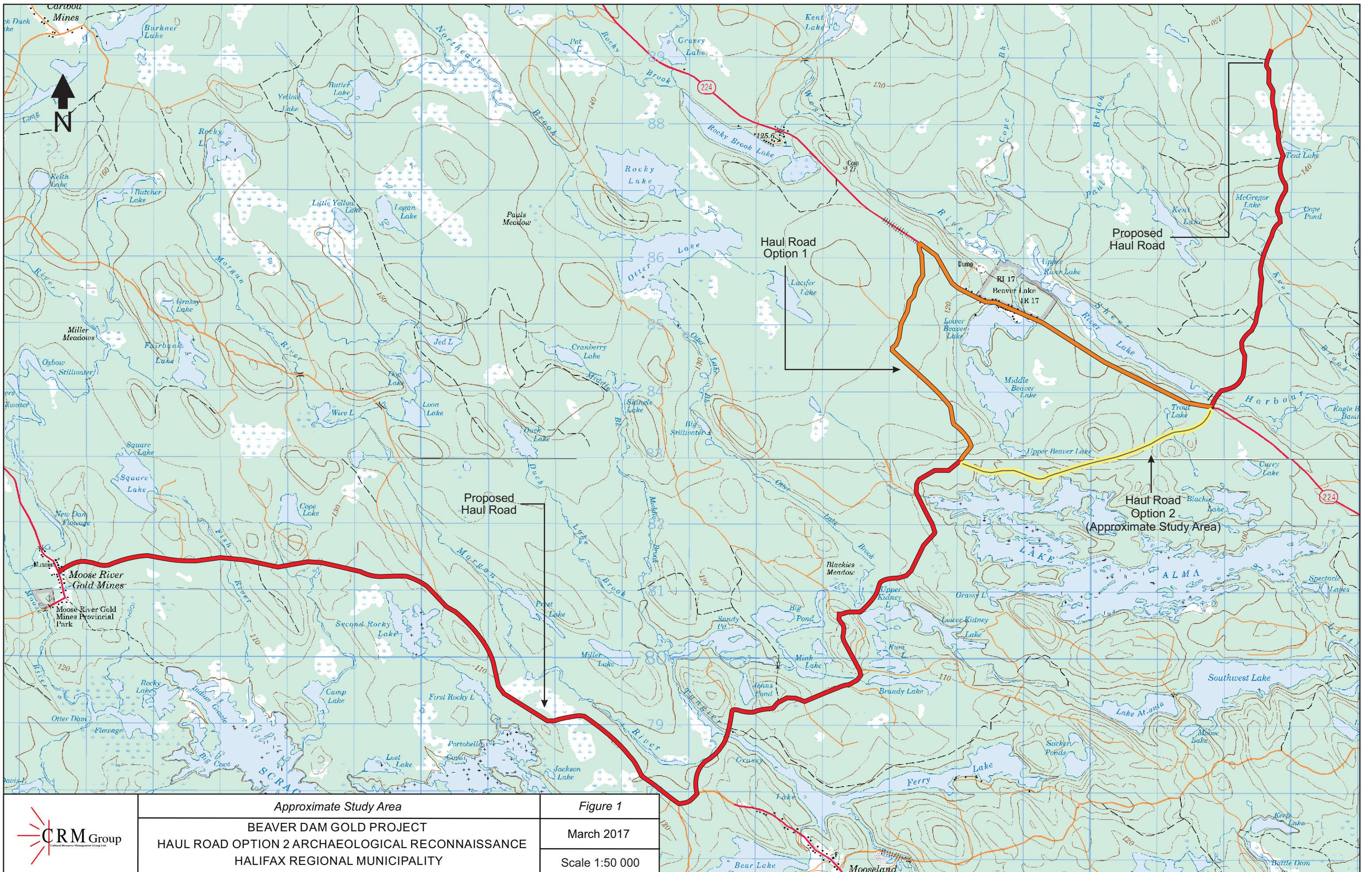
**BEAVER DAM GOLD PROJECT
HAUL ROAD OPTION 2
ARCHAEOLOGICAL RECONNAISSANCE
HALIFAX REGIONAL MUNICIPALITY
NOVA SCOTIA**

1.0 INTRODUCTION

Atlantic Gold Corporation (Atlantic Gold) is proposing to redevelop the Beaver Dam Gold Project located in the northeastern corner of Halifax Regional Municipality, approximately 21 kilometres northwest of Sheet Harbour (*Figures 1, 2 & 3*). In the fall of 2014, CRM Group was retained by GHD (formerly Conestoga-Rovers & Associates) on behalf of Atlantic Gold to undertake archaeological screening and reconnaissance of the proposed mine expansion. The archaeological investigation was conducted under to the terms of Heritage Research Permit A2014NS107 (Category 'C'), issued to Staff Archaeologist Kathryn J. Stewart through the Special Places Program (Special Places).

Subsequent changes to the layout of the proposed facility led to additional archaeological reconnaissance in the summer of 2015. Previously investigated mine features had shifted to different locations and new work areas were added to the project. The archaeological investigation was conducted according to the terms of Heritage Research Permit A2015NS043 (Category 'C'), issued to K. J. Stewart. No additional features were identified during this reconnaissance.

In the fall of 2015, CRM Group was retained to conduct archaeological screening and reconnaissance of the proposed haul road connecting the Beaver Dam Mine and the Touquoy Mine sites. The work was conducted under the terms of Heritage Research Permit A2015NS101 by Archaeologist Kiersten Green with the assistance of K. J. Stewart. The primary focus of the study was to assess the potential for encountering archaeological resources during upgrading of the haul road. No archaeological resources were identified during this reconnaissance. In the spring of 2016, a second option was proposed for the section of the haul road located to the west of Highway 224. The reconnaissance work was conducted under the terms of Heritage Research Permit A2016NS044 by K. J. Stewart with the assistance of Archaeologist Kyle G. Cigolotti. This report describes the archaeological reconnaissance of the second option for the proposed haul road, presents the results of these efforts and offers cultural resource management recommendations.



Approximate Study Area

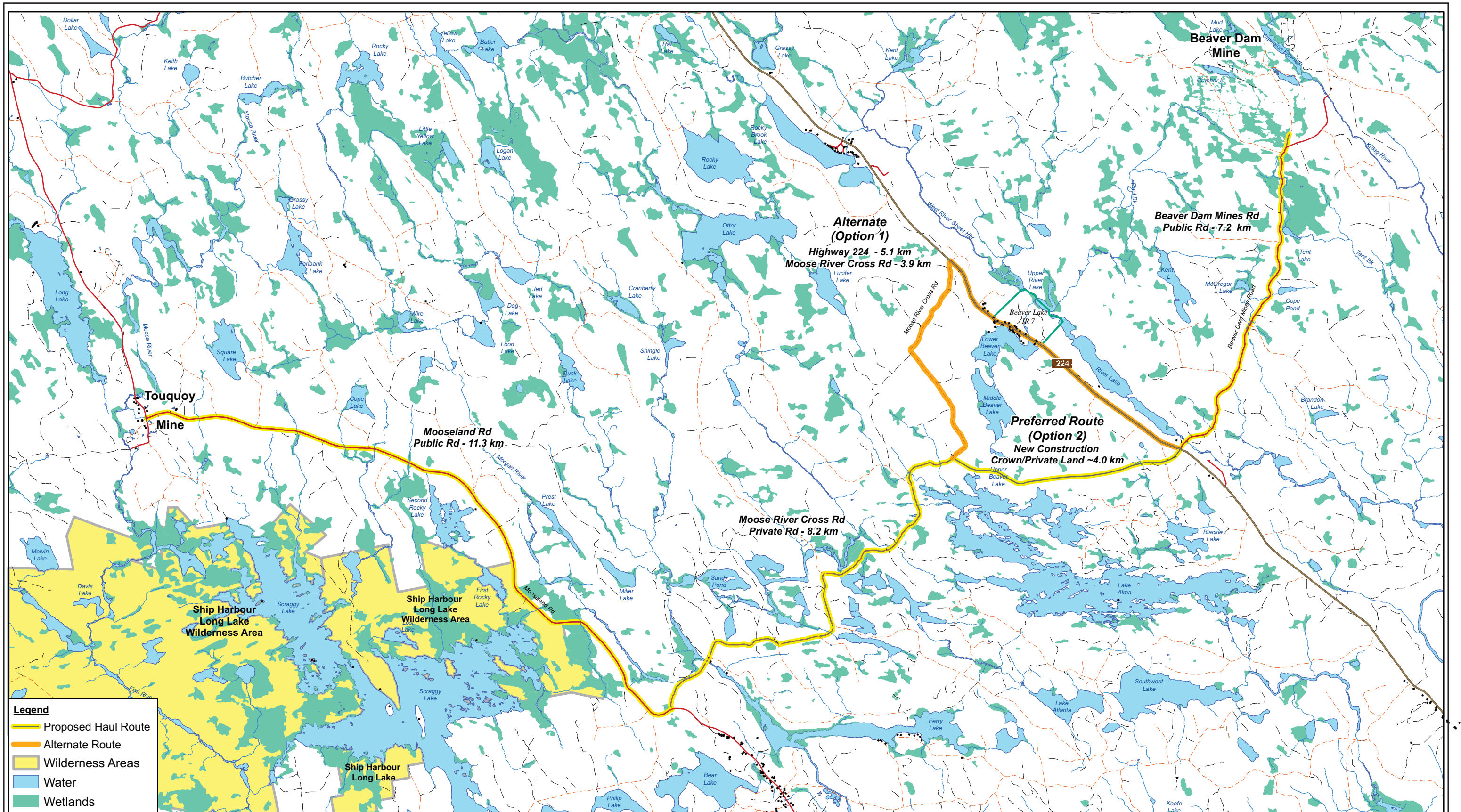
BEAVER DAM GOLD PROJECT
 HAUL ROAD OPTION 2 ARCHAEOLOGICAL RECONNAISSANCE
 HALIFAX REGIONAL MUNICIPALITY

Figure 1

March 2017

Scale 1:50 000



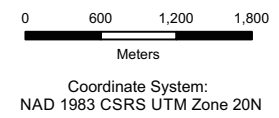


Source: Service Nova Scotia (Water, Wetlands, Roads), NS Environment (Protected Areas), Atlantic Gold (Route)



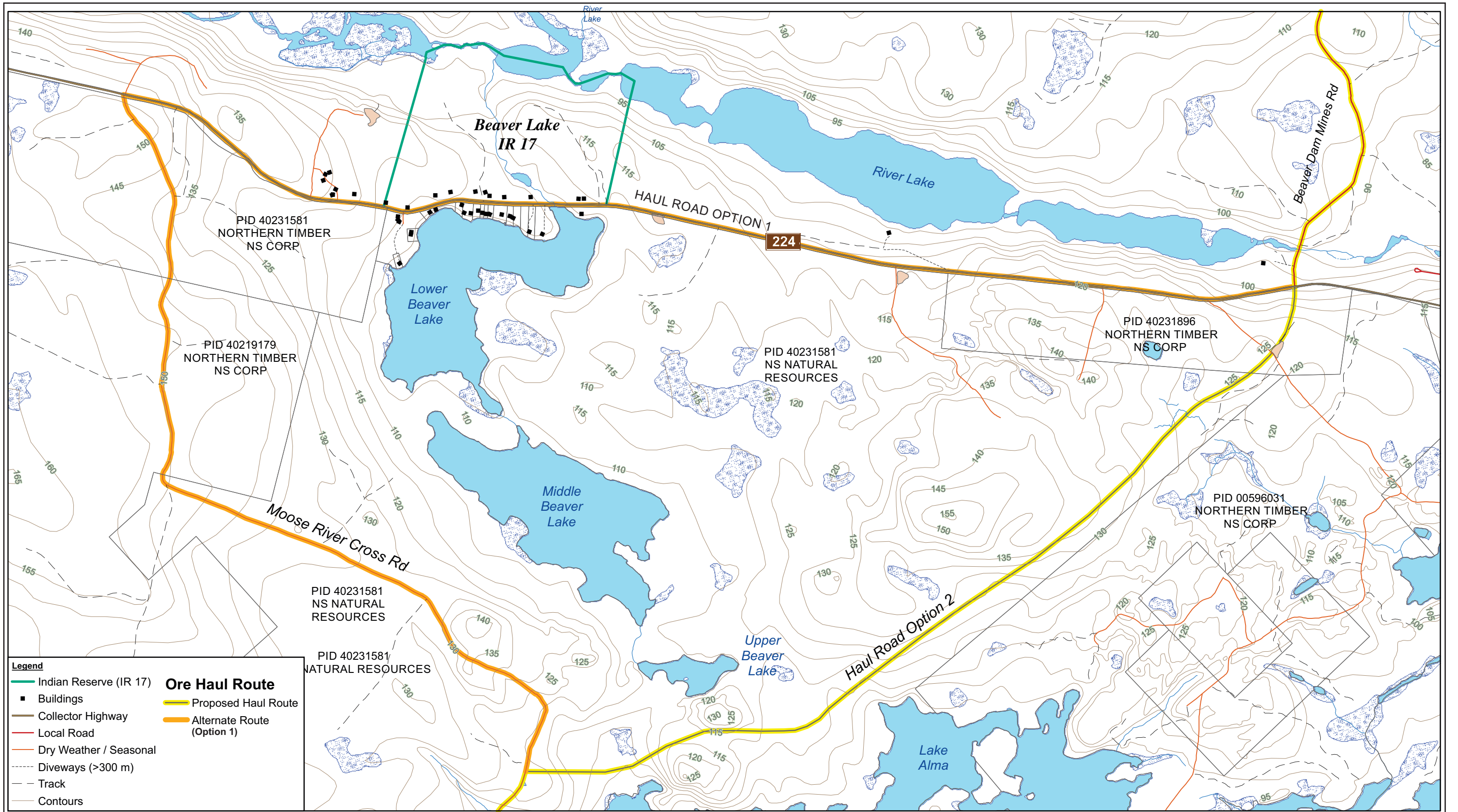
Haul Road with Option 2
 BEAVER DAM GOLD PROJECT
 HAUL ROAD OPTION 2 ARCHAEOLOGICAL RECONNAISSANCE
 HALIFAX REGIONAL MUNICIPALITY

Figure 2
 March 2017



ATLANTIC GOLD CORPORATION
 MARINETTE, HALIFAX CO., NOVA SCOTIA
 BEAVER DAM MINE - HAUL ROAD OPTION 2
 HAUL ROAD CONFIGURATION

088664
 Jun 7, 2016



Legend

- Indian Reserve (IR 17)
- Buildings
- Collector Highway
- Local Road
- Dry Weather / Seasonal
- - - Diveways (>300 m)
- - - Track
- Contours

Ore Haul Route

- Proposed Haul Route
- Alternate Route (Option 1)

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2.0 STUDY AREA

The Beaver Dam Gold Project mine site is located on the western side of Killag River in the northeastern corner of Halifax Regional Municipality, approximately 21 kilometres northwest of Sheet Harbour (*Figure I*). Access to the property can be gained by following Highway 224 approximately 17 kilometres northwest from Highway 7 to Beaver Dam Mines Road, then following Beaver Dam Mines Road north. Option 2 for the haul road overlaps with Beaver Dam Mine Road, which is the access road to the mine, then crosses Highway 224 to follow a new alignment for 4 kilometres before connecting with Moose River Cross Road (so called for this project), the haul road meanders for 8.4 kilometres along gravel roads heading southwest toward Mooseland Road. Upon reaching Mooseland Road, it turns northwest again, reaching the Touquoy Mine site after 11.2 kilometres.

As the other sections of the haul road have already been subject to archaeological reconnaissance, only Option 2 of the haul road was addressed under this permit.



PLATE 1: The beginning of the Haul Road Option 2 alignment off Highway 224. The orange flagging tape denotes the alignment. Facing west. June 23, 2016.

3.0 METHODOLOGY

GHD retained CRM Group to undertake archaeological reconnaissance of the proposed haul road connecting the Beaver Dam Mine and Touquoy Mine sites. To address the potential of encountering significant archaeological resources within the proposed haul route, CRM Group developed a work plan consisting of the following components: background research; archaeological reconnaissance of the area to be impacted by development activities; and, preparation of a report summarizing the results of the field survey, as well as recommending strategies for assessment and management of areas exhibiting high archaeological potential and/or features.

3.1 Background Research

This component of the archaeological screening and reconnaissance was designed to explore the land use history of the study area, and provide information necessary to evaluate the area's archaeological potential. To achieve this goal, CRM Group utilized the resources of various institutions including documentation available through Nova Scotia Archives, the Department of Natural Resources (DNR) and Crown Land Information Management Centre.

The background study included a review of relevant historic documentation incorporating land grant records, legal survey and historic maps, as well as local and regional histories. This data facilitated the identification of environmental and topographic features, which would have influenced human settlement and resource exploitation patterns. The historical and cultural information was integrated with the environmental and topographic data to identify potential areas of archaeological sensitivity. In preparation for the archaeological reconnaissance, the information obtained from this suite of research materials was reviewed to facilitate the interpretation of any archaeological features encountered within the study area.

3.2 Field Reconnaissance

The goals of the archaeological field reconnaissance were to conduct visual inspection of the study area, document any areas of archaeological sensitivity or archaeological sites identified during the course of visual inspection, and design a strategy for testing areas of archaeological potential, as well as any archaeological resources identified within the study area. Although the ground search did not involve sub-surface testing, the researchers were alert for topographic or vegetative anomalies that might indicate the presence of buried archaeological resources. The process and results of the field reconnaissance were documented in field notes and photographs.

A hand-held Global Positioning System (GPS) unit was used to record UTM coordinates (NAD 83) for all survey areas, as well as any identified diagnostic artifacts, formal tools, isolated finds and site locations.

4.0 RESULTS OF SCREENING AND RECONNAISSANCE

4.1 Background Study

The following discussion details the environmental and cultural setting of the study area. This background study provides a framework for the evaluation of archaeological potential and the initial interpretation of any resources encountered during the field component of the assessment.

4.1.1 Environmental Setting

A number of environmental factors such as water sources, physiographic features, soil types and vegetation have influenced settlement patterns and contribute to the archaeological potential of the area.

Water Sources

The Beaver Dam Gold Project property is drained by way of the Killag River, a tributary of West River Sheet Harbour that flows south across the eastern portion of the study area. The Killag River has been dammed creating a reservoir along the eastern edge of the study area, known as Cameron Flowage. The second option for the haul road runs between Lake Alma and Upper Beaver Lake. It also crosses an unnamed stream feeding into Blackie Lake. Proximity to water, for both drinking and transportation, is a key factor in identifying Precontact and historic Native, as well as early Euro-Canadian, archaeological potential.

Topography

The study area is located within the greater terrestrial region known as the Quartzite Barrens Unit – Guysborough (Davis & Browne 1996: 56). This region is characterized by rocks belonging to the Meguma supergroup, which in this region is greywacke dating to between the Cambrian and Ordovician periods (White & Barr 2010; Davis & Browne 1996: 44). The topography of the bedrock-dominated barrens could be described as "ridge-swamp-swale". The area is almost completely covered by a quartzite till that ranges in thickness from 1 to 10 metres (Davis & Browne 1996: 56). The general topography of the Beaver Dam region is described as rolling, and elevation within the study area ranges from approximately 95 metres to 145 metres above sea level (Hilchey et al. 1964; 134).

Soils

The Beaver Dam area is covered by *Gibraltar* (ST2) and *Halifax Series* soils (ST2, ST14) (Keys 2007: 8). The parent material of *Gibraltar Series* soils has a sandy loam texture derived from granite. It is a shallow soil, with poor moisture-holding capabilities and is extremely stony (MacDougall et al. 1963: 34). *Halifax Series* soils are well drained but typically shallow, stony and porous. The parent material is olive to yellowish-brown sandy loam to gravelly sandy loam glacial till derived primarily from quartzite. In general, *Halifax Series* soils are too stony for agriculture (MacDougall et al. 1963: 32-33).

Vegetation

The forest growth within this ecological region includes Balsam Fir, Red Spruce, White Spruce, Eastern Hemlock and Yellow Birch. Slow-moving streams are bordered by broad swampy areas populated with Red Maple and Black Spruce. The nature of the soils found within the study area does not encourage heavy forest growth (Davis & Browne 1996: 56-57).

4.1.2 Native Land Use

The land within the study area was once part of the greater Mi'kmaq territory known as *Eskikewa'kik*, meaning 'skin dressers territory'. The rivers in the surrounding area would have been important transportation corridors and a resource base for the Mi'kmaq and their ancestors for millennia prior to the arrival of European settlers. The West River Sheet Harbour in particular, which the previously assessed section of the haul road crosses at an established bridge, would have been part of a transportation route facilitating travel inland from Sheet Harbour on the Atlantic Ocean.

A review of the Maritime Archaeological Resource Inventory, a provincial archaeological site database maintained by the SPP, determined that there are no registered archaeological sites within or close to the study area. The lack of archaeological data for the area may reflect a lack of archaeological investigation, rather than an absence of archaeological sites. According to an environmental screening prepared by the SPP (Ogilvie 2008), the greater project area, which is dense with lakes and watercourses, is considered to exhibit moderate to high potential for encountering Precontact archaeological sites. It should be noted, however, that the project area as reviewed by the SPP encompassed a larger area than that subjected to archaeological screening and reconnaissance by CRM Group.

Based on available historic documentation, there is evidence to suggest a historic Mi'kmaq presence in the Beaver Dam area. The following account was related to Harry Piers by Jeremiah Bartlett Alexis (Jerry Lonecloud) in 1918 (Whitehead 1991: 310):

The death occurred at Stewarts, Upper Musquodoboit, on 31st, August, of an old and well-known Indian, John Cope, at the age of 71 years, he having been born at Beaver Dam, Halifax County, in April 1847, son of old Molly Cope who is said to have been 113 years of age when she passed away about 13 years ago . . . John Cope had considerable fame as a hunter, at least judging by the number of moose he shot, and acted as a guide for various Halifax sportsmen some thirty years ago. He used to hunt back of Beaver Dam and Moose Head [?] with Captain C. LeStrange, who was formerly well-known here. One winter, probably about forty years ago, Cope by himself killed eighteen moose . . . The meat of these he sold to Fifteen-Mile Stream gold camp, which was then in operation.

Based on the environmental setting and Native land use, the Beaver Dam Gold Project Haul Road Option 2 is ascribed elevated potential for encountering Precontact and/or early historic Native archaeological resources.

4.1.3 Property History

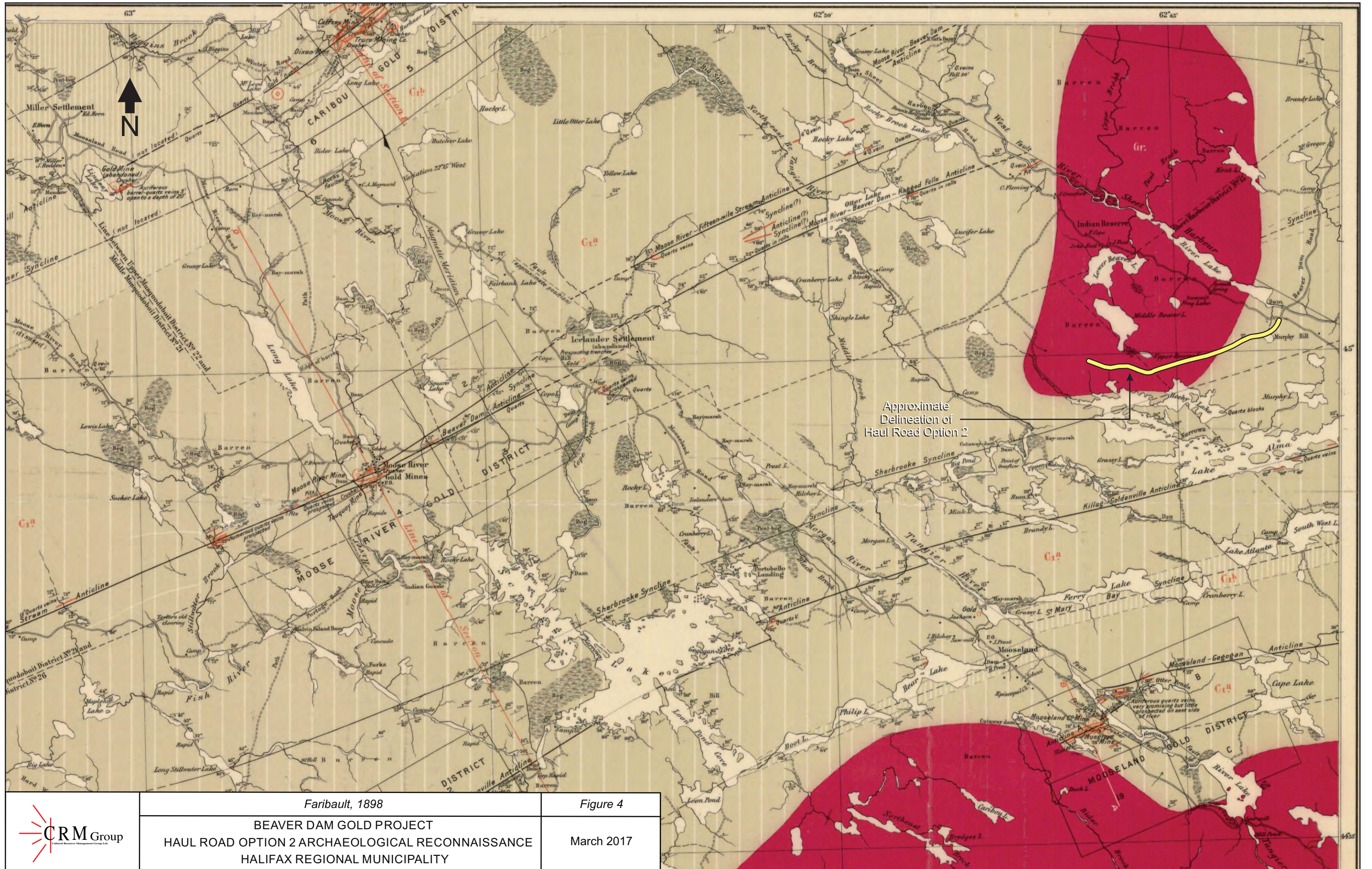
The Beaver Dam Development property has a long history of industrial use. Gold was discovered in the Beaver Dam district in 1868. By 1871, two belts of veins had been opened and a 15-stamp mill erected (Malcolm 1976: 57). However, the property remained largely inactive until 1886, when extensive prospecting and development work began. A 4-stamp mill run by water power was constructed at this time. In 1891, the Beaver Dam Mining Company acquired the site. This new company expanded operations on the property with the construction of a 10-stamp mill. Four years later, the property was leased to G.M. Christie and William Tupper, who employed fifteen men at the Beaver Dam Mine. In 1896, the mine was acquired by J. H. Austin, who erected a 10-stamp mill. Work at the Beaver Dam Mine site continued intermittently until the late 80s, changing mining rights at least a dozen times (Jacques Whitford 1986). More recently, a number of other companies, including Seabright Resources Inc., have conducted extensive exploration on the property.

Euro-Canadian settlement of the Beaver Dam area began in the second half of the nineteenth century and

centered on mining activities. A cursory examination of historic mapping revealed that the study area, including the haul road, occupies portions of at least two dozen historic lots (Crown Land Grant Sheet 89). An examination of the 1865 A. F. Church map of Halifax County identifies three structures around Blackie Lake, though they do not appear to be within the study area. The 1898 Faribault map indicates the presence of approximately seven features within the mine study area but no features along or adjacent to the haul road (**Figures 3**). Four of those features in the mine study area, however, are depicted as overlying a quartz vein located near the centre of the Pit study area. This area was subsequently mined and the abandoned pit is now partially flooded. The other three features are depicted in the vicinity of another quartz vein running along the northern shore of Crusher Lake.

The DNR Abandoned Mine Opening (AMO) Database was used to identify where open mine shafts were located. The data was used both as a safety measure and for identifying areas more likely to contain archaeological features. According to the database, 20 AMOs are associated with Beaver Dam Mine site, and no AMOs are associated with the haul road (Stewart and Cigolotti 2015).

Based on the historical setting within the study area, the Beaver Dam Mine Project Haul Road Option 2 is ascribed low potential for encountering historic Euro-Canadian archaeological resources.



Faribault, 1898

Figure 4

BEAVER DAM GOLD PROJECT
 HAUL ROAD OPTION 2 ARCHAEOLOGICAL RECONNAISSANCE
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4.2 Field Reconnaissance

CRM Group archaeologists conducted fieldwork, consisting of a visual inspection of the study area, on June 23, 2016 under sunny and muggy conditions (*Plate 2*). The primary goals of the reconnaissance were to assess the archaeological potential of the proposed Haul Road Option 2 area and to investigate any topographical and cultural features, identified as areas of elevated potential during the background research.

CRM Group archaeologists started at Highway 224 (*Plate 1*) and walked the 4 kilometre length of Haul Road Option 2, eventually meeting up with Moose River Cross Road (*Plate 3*). The terrain through Option 2 was a mix of low lying wet and marshy areas, undulating boulder fields and steep slopes (*Plates 4 & 5*).

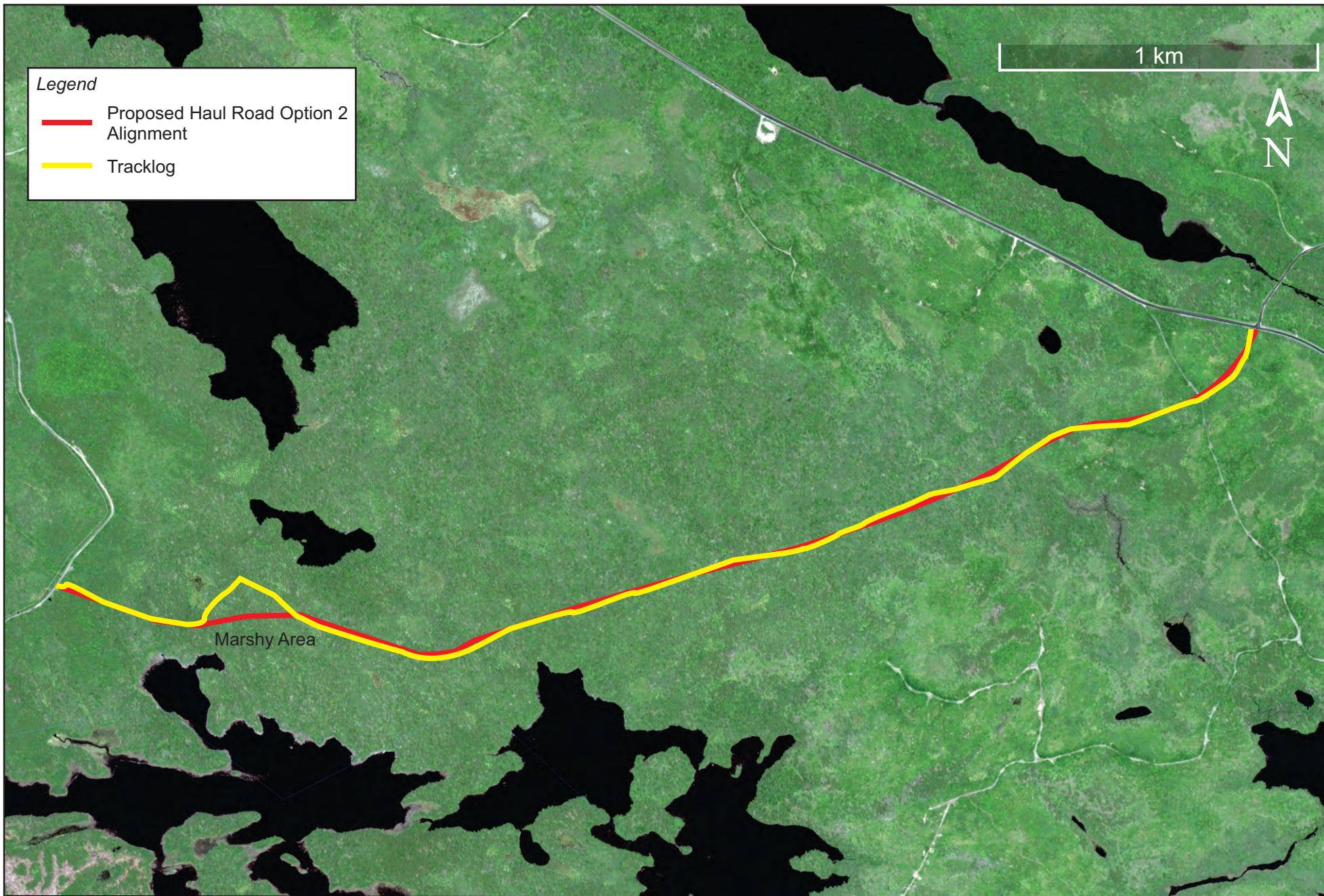
Option 2 crossed several small brooks, too small to appear on any mapping or aerial photographs (*Plate 6*). Although the haul road passed between Lake Alma and Upper Beaver Lake, these bodies of water were still at least 80 metres from the alignment.

Within the first 400 metres of Option 2 from Highway 224, two recent roads were encountered, both likely associated with logging operations in the area by Northern Timber Nova Scotia Corporation. One of the roads, oriented northwest-southeast, was heavily used and had been recently regraded. The second road, oriented northeast-southwest, was overgrown with young saplings and brush and constructed of crushed stone (*Plate 7*). This road is an off-shoot of the other road, though no longer in use.

During the reconnaissance for the Beaver Dam Mine Haul Road Option 2, no areas were ascribed high archaeological potential.



Plate 2: Haul Road Option 2; facing southwest. June 23, 2016.



Tracklog

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HAUL ROAD OPTION 2 ARCHAEOLOGICAL RECONNAISSANCE
HALIFAX REGIONAL MUNICIPALITY

Figure 5

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Plate 3: Option 2 connecting with Moose River Cross Road; facing east. June 23, 2016.



Plate 4: Mossy boulder field; facing southwest. June 23, 2016.



Plate 5: Typical terrain within the study area; facing southwest. June 23, 2016.



Plate 6: Small water crossing; facing west. June 23, 2016.



Plate 7: Disused logging road; facing southeast. June 23, 2016.

5.0 CONCLUSIONS AND RECOMMENDATIONS

In the spring of 2016, CRM Group was retained by GHD to conduct archaeological screening and reconnaissance of the proposed Haul Road Option 2 connecting Highway 224 to Moose River Cross Road. Archaeological reconnaissance was conducted on June 23, 2016 under sunny and muggy conditions. Visual inspection of the study area did not identify any areas exhibiting high archaeological potential.

Based on these results, CRM Group offers the following management recommendations for the study area:

1. It is recommended that the alignment of the haul road, as specified in this report, be cleared of any requirement for further archaeological investigation.
2. In the event that archaeological deposits or human remains are encountered during any ground disturbance associated with the Beaver Dam Gold Project haul road, all work in the associated area(s) should be halted and immediate contact made with the Special Places Program (Sean Weseloh-McKeane: 902-424-6475).

6.0 REFERENCES CITED

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Heritage Research Permit (Archaeology)

Office Use Only
Permit Number:

A2016NS044

Special Places Protection Act 1989

(Original becomes Permit when approved by
Communities, Culture and Heritage)

Greyed out fields will be made publically available. Please choose your project name accordingly

Surname Stewart

First Name Kathryn

Project Name Beaver Dam Gold Project Haul Road Option 2 Archaeological Screening and
Reconnaissance

Name of Organization Cultural Resource Management Group Ltd

Representing (if applicable) GHD (formerly Conestoga Rovers & Associates)

Permit Start Date June 15, 2016

Permit End Date December 31, 2016

General Location: Beaver Dam, Halifax Regional Municipality

Specific Location: (cite Borden numbers and UTM designations where appropriate and as described separately in accordance with the attached
Project Description. Please refer to the appropriate Archaeological Heritage Research Permit Guidelines for the appropriate Project Description
format)

Permit Category:

Please choose one

Category A – Archaeological Reconnaissance

Category B – Archaeological Research

Category C – Archaeological Resource Impact Assessment

I certify that I am familiar with the provisions of the *Special Places Protection Act* of Nova Scotia and that I have read, understand and will abide by the terms and conditions listed in the Heritage Research Permit Guidelines for the above noted category.

Signature of applicant

Date June 2, 2016

Approved by
Executive Director

Date June 13-16