



Appendix A.2

Fifteen Mile Stream Gold Project Archaeological Screening &
Reconnaissance 2018 Final Report,
Cultural Resource Management Group Limited

McCALLUM ENVIRONMENTAL LIMITED

**FIFTEEN MILE STREAM GOLD PROJECT
ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2018
HALIFAX REGIONAL MUNICIPALITY
NOVA SCOTIA**

FINAL REPORT

Submitted to:

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

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Heritage Research Permit Number A2018NS054

CRM Group Project Number: 2017-0019-02

APRIL 2019



*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Consequently, the report must not be published or made public without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,
Department of Communities, Culture and Heritage.*

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**FIFTEEN MILE STREAM GOLD PROJECT
ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2018
HALIFAX REGIONAL MUNICIPALITY
NOVA SCOTIA**

1.0 INTRODUCTION

Atlantic Mining Nova Scotia Corporation (Atlantic Gold) is proposing to redevelop an open pit mine to access known gold deposits at the Fifteen Mile Stream Gold Project site, located in the north-eastern corner of Halifax Regional Municipality, approximately 25 kilometres north of Sheet Harbour. Atlantic Gold is proposing to expand the historic open pit for the purposes of mining, crushing and ore processing. Specific infrastructure to be constructed includes crushing, concentrator and maintenance facilities, as well as ore stock piles, a waste rock storage facility, a tailings management facility, fuel storage, office infrastructure and haul roads. Seloam Brook will also be diverted to the north of the proposed open pit will also be conducted (Atlantic Mining Nova Scotia Corporation 2018: 3).

In order to address the potential for encountering archaeological resources during development of the Fifteen Mile Stream property, Acadian Mining retained Cultural Resource Management (CRM) Group in 2008 to undertake archaeological screening and reconnaissance within the proposed development footprint that was established at that time. The fieldwork was directed by Sara Beanlands, CRM Group Staff Archaeologist and Historical Researcher, with the assistance of CRM Group Senior Consultant W. Bruce Stewart. The archaeological investigation was conducted according to the terms of Heritage Research Permit A2008NS88 (Category 'C'), issued to Beanlands through the Special Places Program of the Nova Scotia Department of Communities, Culture and Heritage (Special Places). That work identified six historic Euro-Canadian sites related to previous mining activities within the Fifteen Mile Stream property. These sites were located to the south of Seloam Brook along Seloam Lake Road, which transects the study area.

In 2017, CRM Group staff revisited the Fifteen Mile Stream property at the request of Atlantic Gold to inspect the six historic Euro-Canadian sites identified in the 2008 archaeological screening and reconnaissance. The Special Places Program was contacted prior to the visit and it was agreed that an archaeological research permit would not be required. These sites were relocated, assessed for their stability, and marked with flagging tape. Updated UTM coordinate were taken.

Atlantic Gold's revised development plans for the Fifteen Mile Stream property required additional archaeological work in order to assess potential for encountering archaeological resources outside of the original 2008 study area. In order to investigate this potential, CRM Group was retained by McCallum Environmental Limited (McCallum), on behalf of Atlantic Gold, to undertake additional archaeological screening and reconnaissance of the proposed mine redevelopment site.

The archaeological screening and reconnaissance was directed by CRM Group Archaeologist, Kathryn J. Stewart. Stewart was assisted during the field reconnaissance by Archaeological Technician, J. Cranton Phillips and Archaeologist, Kyle G. Cigolotti. Technical input on the project was provided by CRM Group President and Senior Technical Advisor, W. Bruce Stewart. The archaeological investigation was conducted according to the terms of Heritage Research Permit A20018NS054 (Category 'C'), issued to Stewart through the Special Places Program. This report describes the archaeological screening and reconnaissance of the proposed development area, presents the results of these efforts and offers cultural resource management recommendations that build upon those initially issued in 2008.

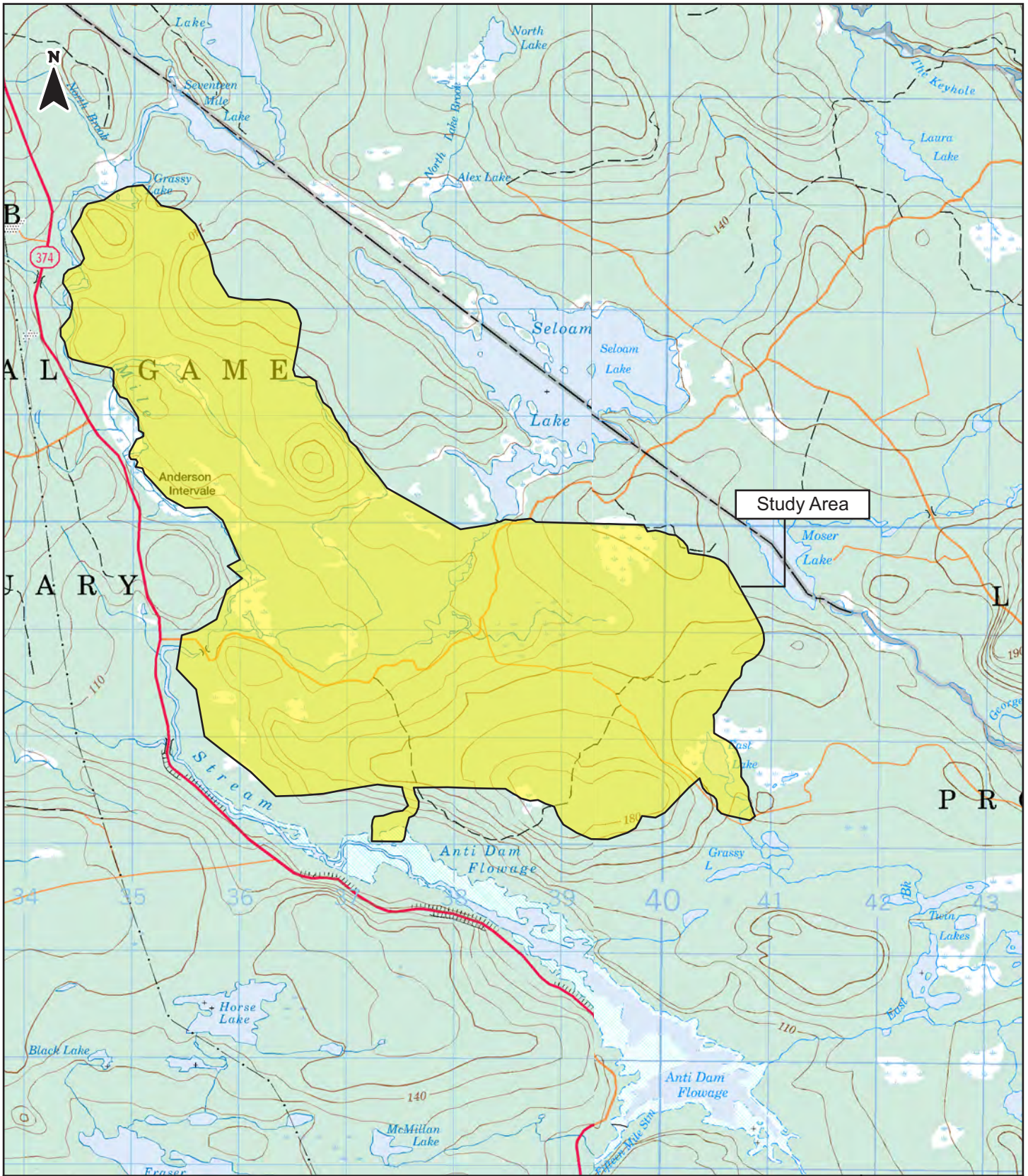
2.0 STUDY AREA

The Fifteen Mile Stream Gold Project study area is located in the northeastern corner of Halifax Regional Municipality, approximately 25 kilometres north of Sheet Harbour and approximately 17 kilometres southeast of Tralgar (*Figure 1*). The property is located to the north of the Anti Dam Flowage section of Fifteen Mile Stream and to the south of Seloam Lake. Highway 374 borders the western side of the property which extends to the southern end of Grassy Lake.

The property comprises the eastern two thirds of the historic Fifteen Mile Stream Gold District and can be characterised as unpopulated, gently undulating and forested (*Plate 1*). Access to the study area can be gained by following Seloam Lake Road off of Highway 374 (*Figure 2*).



PLATE 1: Fifteen Mile Stream Anti-Dam Flowage. Facing southeast; July 4, 2018.



Study Area

**FIFTEEN MILE STREAM GOLD PROJECT
 ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2018
 GUYSBOROUGH COUNTY, NOVA SCOTIA**

Figure 1

April 2019

Scale 1:50 000

Prepared For:



Fifteen Mile Stream EIS Study Area

Location Trafalgar, NS

- Project Area Driveable Roads
- Collector
- Local
- Dry Weather / Seasonal
- Field Delineated Watercourses
- Field Delineated Wetlands
- NSE Wetlands
- TMF Option Alternative
- Preferred Infrastructure
- Property Boundaries
- EIS Project Area Boundary



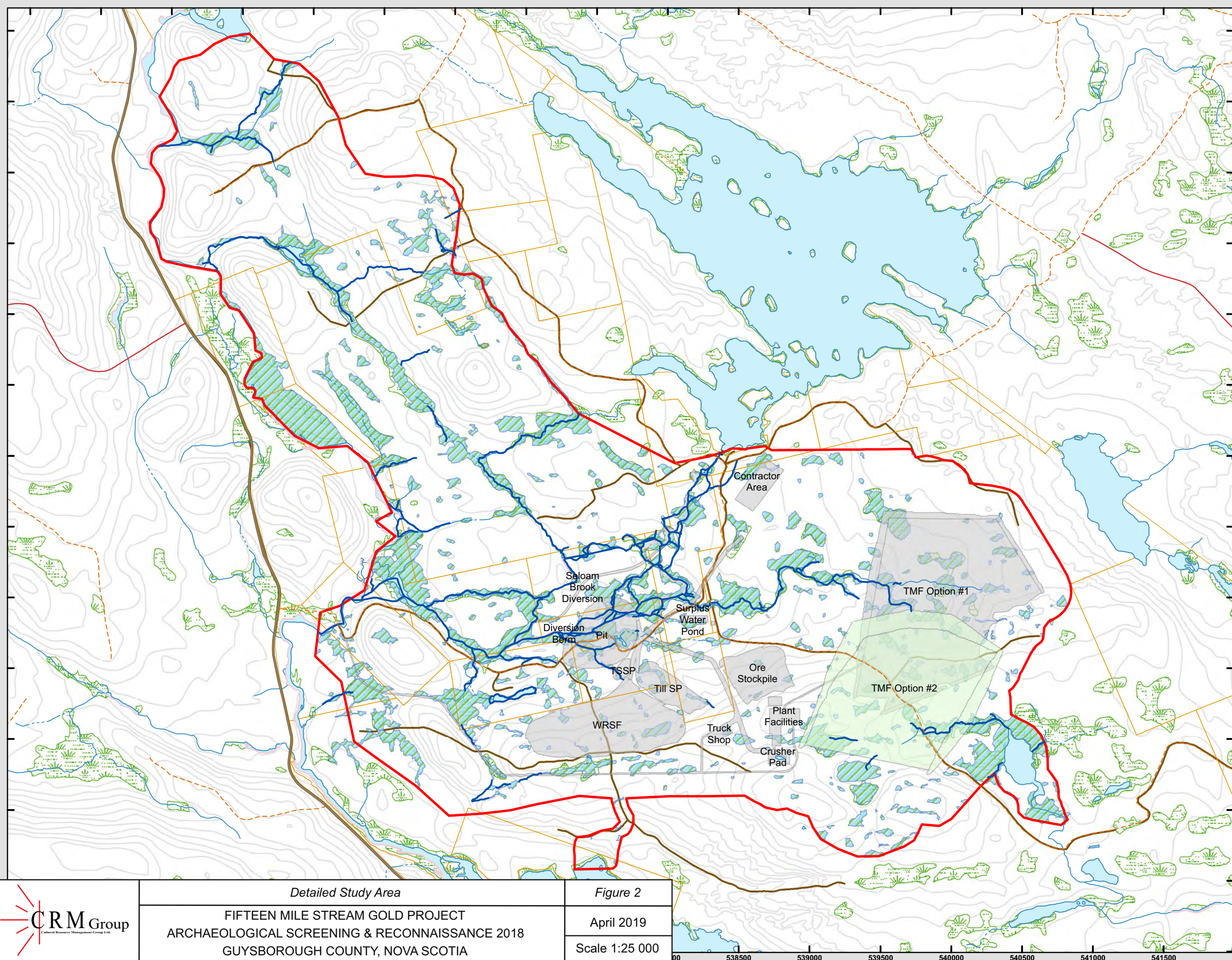
Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter



0 250 500 1,000 m

1:25,000 Scale when printed @ 11" x 17"

Drawn By: LP Date: 2018-08-15



Detailed Study Area

FIFTEEN MILE STREAM GOLD PROJECT
ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2018
GUYSBOROUGH COUNTY, NOVA SCOTIA

Figure 2

April 2019

Scale 1:25 000



McCallum Environmental Ltd.

Document Name: 180809_FMS_Updated Infra Map

3.0 METHODOLOGY

In the summer of 2018, McCallum retained CRM Group on behalf of Atlantic Gold to undertake archaeological screening and reconnaissance of the proposed Fifteen Mile Stream Gold Project site. The objective of the archaeological assessment was to build upon the archaeological screening and reconnaissance conducted in 2008 to evaluate archaeological potential within the reconfigured footprint of the proposed mine project that may be disturbed by proposed development activities (**Figure 3**). To address this objective, CRM Group developed a work plan consisting of the following components: a background study of relevant site documentation (including the results of the 2008 and 2017 CRM Group fieldwork) to identify areas of high archaeological potential; Mi'kmaw engagement; archaeological reconnaissance of the additional areas that may be impacted by development activities; and preparation of a report summarizing the results of the background research and field survey, as well as providing cultural resource management recommendations.

3.1 Background Study

The archival research 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 these goals, CRM Group utilized the resources of various institutions including documentation available through the Nova Scotia Archives, the Nova Scotia Land Information Centre, the Department of Natural Resources, the Nova Scotia Registry of Deeds and the Nova Scotia Museum.

The background study included a review of relevant historic documentation incorporating land grant records, legal survey and historic maps, local and regional histories and previous archaeological reports. Topographic maps and aerial photographs, both current and historic, were also used to evaluate the study area. Satellite, LiDAR and Bathymetric data were reviewed to aid in establishing historic shorelines, preview historic infrastructure and evaluate topography. These data facilitated the identification of environmental and topographic features that 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 Mi'kmaw Engagement

Although there were no known Mi'kmaq resources located within this study area, CRM Group contacted the Kwi'lmu'lw Maw-klusuaqn Negotiation Office's Archaeological Research Division (KMKNO's ARD) to see if they had any information pertaining to traditional or historical Mi'kmaw use of the study area. Millbrook and Sipekne'katik First Nations were also approached regarding potential traditional or historic Mi'kmaw use of the area.

3.3 2017 Site Revisit

On September 25, 2017 CRM Group conducted a site visit to the Fifteen Mile Stream Gold Project site. Special Places was contacted in advance of the visit and it was agreed that due to the nature of the site visit, an archaeological research permit was not required.

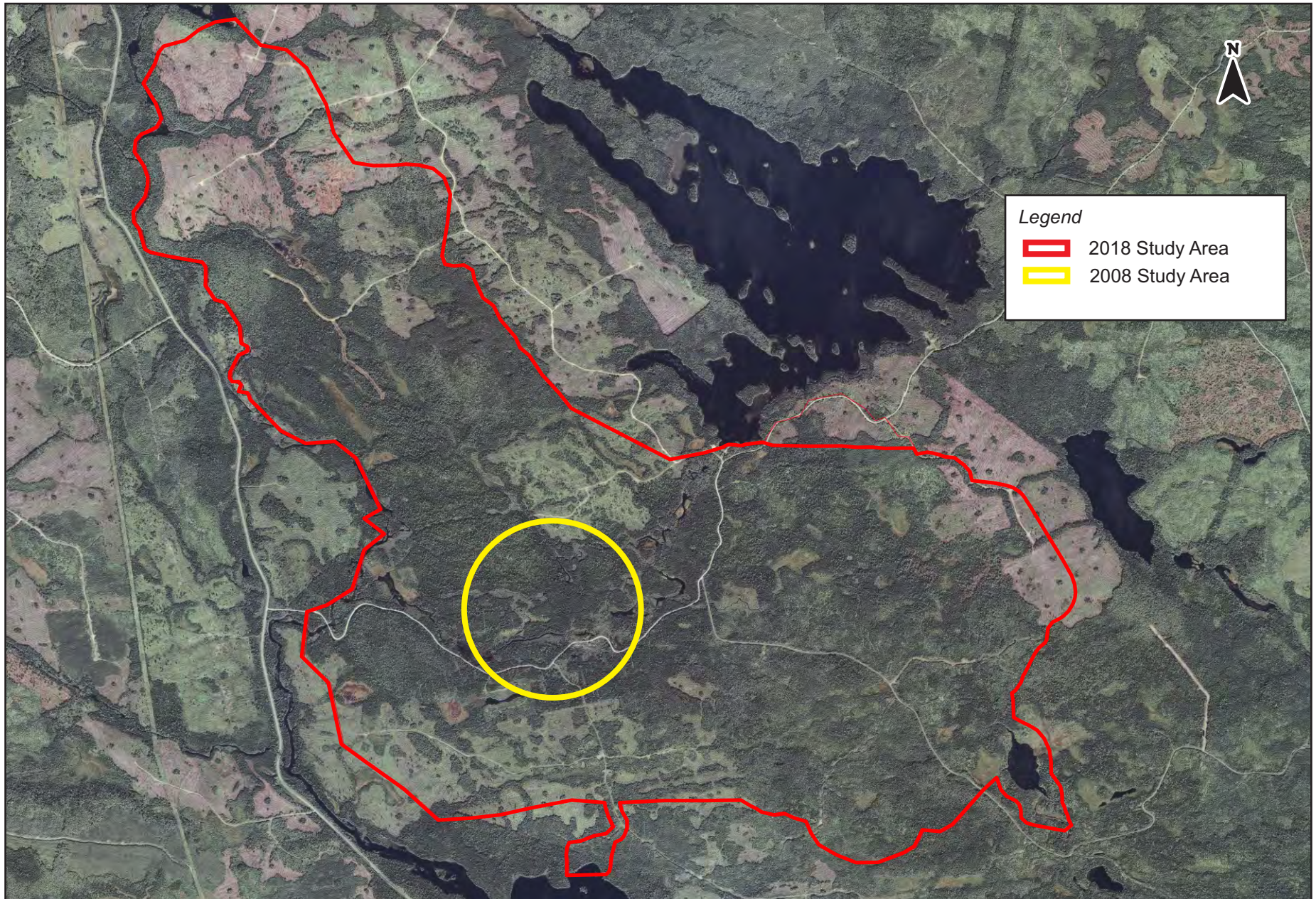
The 2017 site visit was conducted in order to inspect the condition of cultural features documented during the archaeological screening and reconnaissance undertaken in 2008. The features were

assessed for their stability and marked with flagging tape. Updated UTM coordinates were taken. Field identification of the features was crucial in light of exploratory drilling that was proposed for the mine site.

3.4 Field Reconnaissance

The goals of the archaeological field reconnaissance were to conduct a visual inspection of the revised study area, document any additional areas of archaeological sensitivity or archaeological sites identified during the course of the background study or the visual inspection, and design a strategy for testing areas of archaeological potential, as well as any archaeological resources identified within the study area. Although this stage of the archaeological assessment did not involve sub-surface testing, the researchers were watchful 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 with photographs.

Hand-held Global Positioning System (GPS) units were used to record track logs and UTM coordinates for all survey areas, as well as any identified diagnostic artifacts, formal tools, isolated finds and site locations.



Legend

- 2018 Study Area
- 2008 Study Area



<i>2008 & 2018 Study Areas</i>
FIFTEEN MILE STREAM GOLD PROJECT ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2018 GUYSBOROUGH COUNTY, NOVA SCOTIA

<i>Figure 3</i>
April 2019
Scale Bar



4.0 RESULTS

4.1 Background Study

The following discussion details the environmental and cultural setting of the study area, as well as previous archaeological research conducted in the general 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 Fifteen Mile Stream Gold Project property is drained by way of Seloam Brook, the primary outflow of Seloam Lake, that flows southwest across the property and into Fifteen Mile Stream. Fifteen Mile Stream flows southward into the Atlantic Ocean at Sheet Harbour by way of the East River Sheet Harbour. The water levels of Seloam Lake and the Fifteen Mile Stream Anti Dam Flowage are regulated by Nova Scotia Power for the generation of power at stations on Governor Lake. Bathometric data provided by McCallum shows the natural levels of the shorelines during dam draw downs (*Figure 4*).

In addition to numerous wetland areas, other significant bodies of water include Grassy Lake in the northwestern corner of the study area and East Lake in the southeastern corner of the study area. Proximity to water, for drinking, transportation and game (hunting and fishing) is a key factor in identifying Precontact and historic Mi'kmaq, as well as early Euro-Canadian, archaeological potential.

Topography

The study area is located within the greater terrestrial region known as the Atlantic Interior – Quartzsite Barrens (Guysborough) Unit (Davis & Browne 1996: 134). The bedrock-dominated topography can be generally described as undulating to rolling. Elevation within the study area ranges from approximately 110 metres to 175 metres above sea level. Low-lying areas are typically swampy, although flood events may in part be related to the earlier construction of a dam on nearby Seloam Lake. The Fifteen Mile Stream Gold Project property is located within the Goldenville Formation of the Meguma Group of southern Nova Scotia, a sequence of Cambro-Ordovician-aged metasedimentary rocks and granitoid intrusives. Gold deposits are present throughout much of the exposed stratigraphy of the Goldenville Formation (Sangster & Smith 2007). LiDAR data from 2014 (GeoNova, 2017) illustrates the undulating nature of the study area (*Figure 5*).

Soils

The Fifteen Mile Stream area is covered primarily by *Danesville* (ST3) and *Halifax* (ST2, ST14) series soils (Keys 2007: 8). ST3 is mainly associated with moist, coarse-loamy soils dominated by sandy loam texture, but also includes moist sandy soils. ST3 is the imperfectly drained equivalent of ST2 and is found in association with these better drained soils throughout the province (usually in lower slope positions and level areas). ST3 is generally poor to medium in fertility (Keys, Neily and Quigley 2011: 38). ST2 is generally poor to medium in fertility with moisture limited during the growing season (Keyset al. 2011: 36). ST14 is mainly associated with thick organic layers derived from wetland vegetation. Drainage is poor to very poor with fertility ranging from poor to rich, both depending on seepage inputs or ground water quality (Keys et al. 2011: 60).

Flora

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 Balsam Fir, 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 Mi'kmaw Land Use

The land within the study area was once part of the greater Mi'kmaw territory known as *Eskikewa'kik*, meaning 'skin dressers territory' (Rand 1875). The surrounding area is dense with lakes and watercourses that 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. Fifteen Mile Stream in particular, located to the southwest of the study area, would have been part of a transportation route facilitating travel inland from Sheet Harbour and the Atlantic Ocean.

In Nova Scotia, information regarding archaeological sites is stored in the Maritime Archaeological Resource Inventory (MARI), a provincial archaeological site database, maintained by the Nova Scotia Museum. This database contains information on archaeological sites registered with the province within the Borden system. The Borden system in Canada is based on a block of latitude and longitude. Each block is referenced by a four-letter designator. Sites within a block are numbered sequentially as they are recorded. The study area is located within the BgCp Borden Block.

A review of MARI determined that there are no registered archaeological sites located within the study. The lack of archaeological data for the area may reflect a lack of archaeological investigation, rather than an absence of archaeological sites. The nearest registered archaeological sites are BhCp-01, BfCo-01, BfCo-02, BfCo-03, BgCp-01, BgCp-02, BgCp-03 and BgCp-04. BhCp-01, the site of a historic Mi'kmaw burial, is located approximately 1.3 kilometres northeast of the study area and recorded by Harry Piers in 1900. According to Piers, Seloam Lake was named after Matteo Seloam, a local Mi'kmaq resident, who buried his wife on one of the islands in the lake. BfCo-01 and 02 located, approximately 15.5 kilometres from the study area, are both Precontact lithic finds identified during a survey of the Nova Scotia Power Incorporated (NSPI) Malay Falls Reservoir conducted by Darryl Kelman in 2013 while water levels in the Reservoir were below normal seasonal levels. BfCo-03 is a historic complex consisting of a road, three foundations and a slipway, all identified during the same survey at Malay Falls. BgCp-01 through BgCp-04, located approximately 8.8 kilometres south of the study area, are all Precontact lithic finds identified during a survey of NSPI's water drawn down related to the Malay Falls Dam. These were identified in 2013 by Darryl Kelman near Marshall Falls while water levels were below seasonal levels.

CRM Group contacted KMKNO's ARD requesting information regarding traditional or historic Mi'kmaq use of the study area. They kindly provided information that was taken into consideration when preparing the archaeological assessment. This information is confidential in nature and cannot be reproduced in this report.

Based on the environmental setting and Mi'kmaw land use, the Fifteen Mile Stream Development site is ascribed elevated potential for encountering Precontact and/or early historic Mi'kmaw archaeological resources.

4.1.3 Historic Land Use

The Fifteen Mile Stream study area has a long history of mining. Gold was first discovered in this remote district in 1867. Although several lodes were opened up in the year 1868 and two water

powered crushers were erected in 1869, the first reported mining was undertaken between 1874 and 1878 on the Jackson Lead, located in the southwestern corner of the study area (Malcolm 1929: 83) (**Figure 6**). Several mining companies explored and operated various small, shallow mines/shafts during this period. The bulk of production occurred between 1883 and 1911 in the areas historically referred to as the Old Egerton Mine Area and the Mother Seigel Mine Area. Both historic mine sites are located in the central portion of the study area. The Egerton Gold Mining Company, active between 1887 and 1889, was replaced by the New Egerton Gold Mining Company in 1890 (**Plate 2**). The new company expanded their operations on the property with the construction of a 15-stamp mill. Also incorporated in 1890 was the Stanley Gold Mining Company. They built a 10-stamp mill run by water power. These companies amalgamated in 1893 and erected a new 30-stamp mill in 1896. Open-cut work began in 1898 but was halted by an underground cave-in at the Mother Seigel Mine site (Malcolm 1929: 84). Intermittent drilling and exploration work continued until 1938, when the provincial government began a rehabilitation project. The project was terminated in 1941, reportedly due to wartime shortages of men and materials (Hudgins 2008: 16). Subsequent exploration work has taken place on the property between 1973 and 2018.

Euro-Canadian settlement in the area began at what would become the community of Trafalgar (approximately 17 kilometers northeast of Fifteen Mile Stream) in the early nineteenth century following the establishment of an inn by Joseph Langley in 1810 near St. Mary's River Bridge (PANS 1967: 680-681). Though Langley was forced to leave the area in 1813, John Nelson settled in the area in the mid-nineteenth century, acquired a 500 acre land grant and established a sawmill, hotel and postal office (PANS 1967:681). It was at this time that the name, "Trafalgar", was established following a visit to the area by a hunting party composed of military officers from Halifax who stayed at Nelson's hotel (PANS 1967:681). The name paid homage to Admiral Lord Nelson and the famed battle of Trafalgar.

Euro-Canadian settlement in the area of Fifteen Mile Stream did not begin until the second half of the nineteenth century and developed as mining activity increased. A cursory examination of historic mapping revealed that the study area occupies portions of at least five historic lots. These properties were granted to, or otherwise obtained by, E. W. Chipman, H. P. Fish, J. McDougald, J. Hudson and D. Hattie (Crown Land Grant Sheet 89). The 1899 Faribault map indicates the presence of approximately nine features associated with the New Egerton Gold Mining Company, including a school house (**Figure 7**). The school house was built in 1890, but was closed in 1904 due to a decrease in mining activity in the area (PANS 1967: 209).

The 1899 Faribault map does not illustrate any additional features outside those areas investigated in the 2008 archaeological reconnaissance except for an isolated structure identified as the "Stanley Crusher". This structure is indicated as being located immediately east of the confluence of Seloam Brook and Fifteen Mile Stream (**Figure 8**). Being a structure associated with the Stanley Mining Company (1890-1893), the crusher was most likely water powered since the map illustrates a narrow channel diverting a portion of Fifteen Mile Stream toward the crusher.

Based on its historical setting, the Fifteen Mile Stream Gold Project study area is ascribed elevated potential for encountering historic Euro-Canadian archaeological resources.

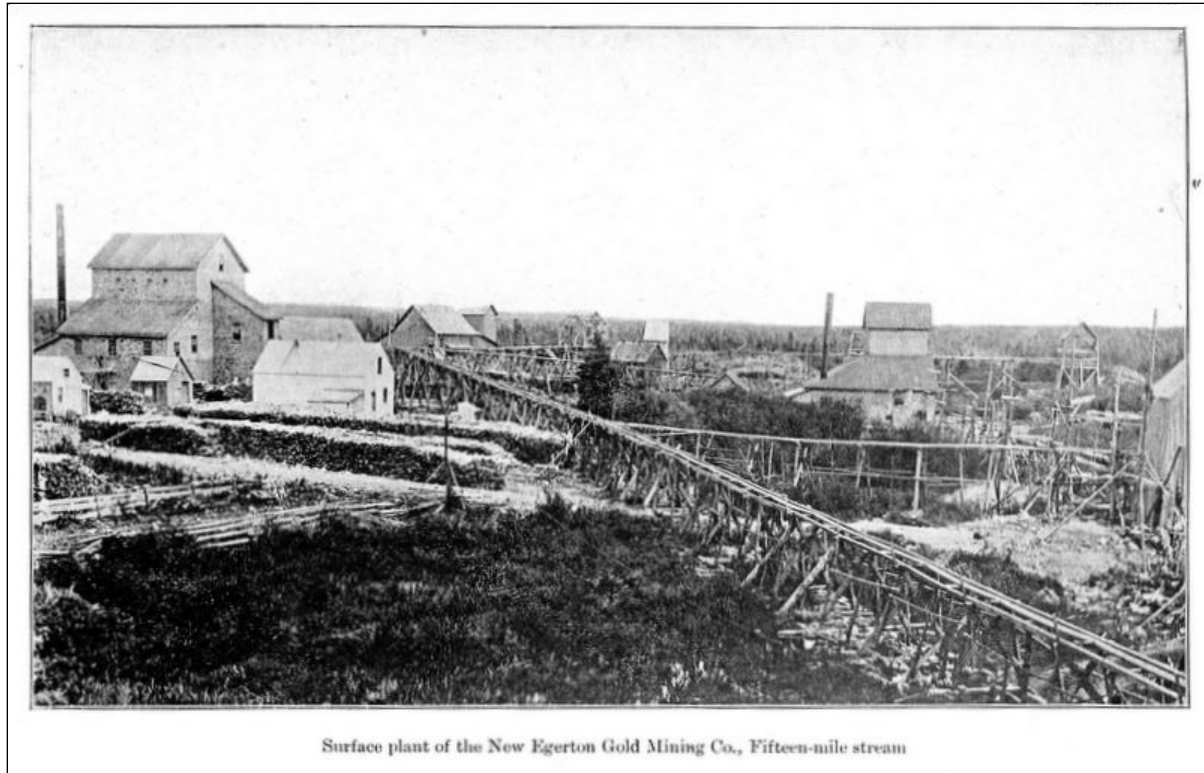
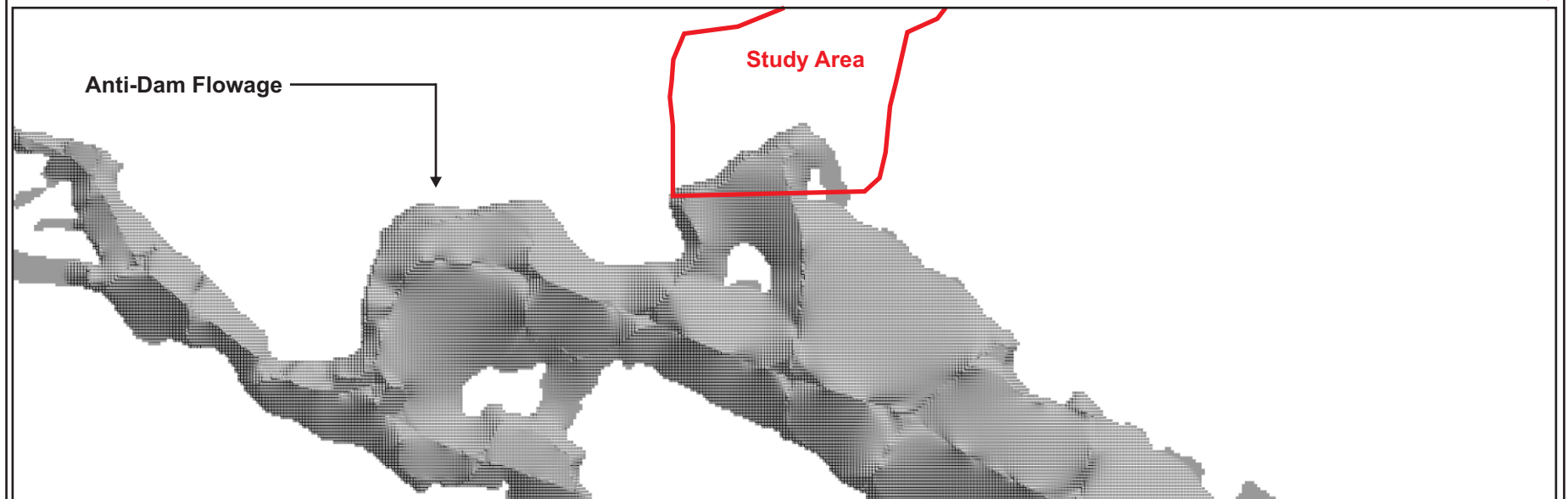
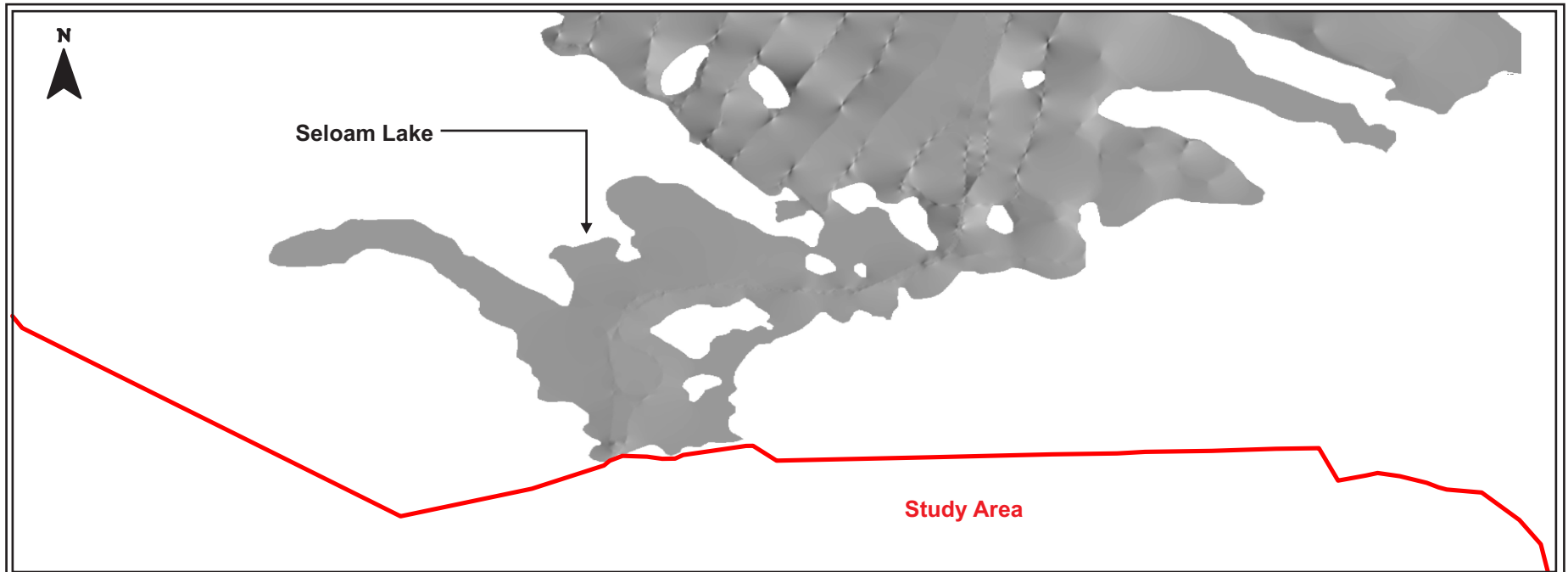

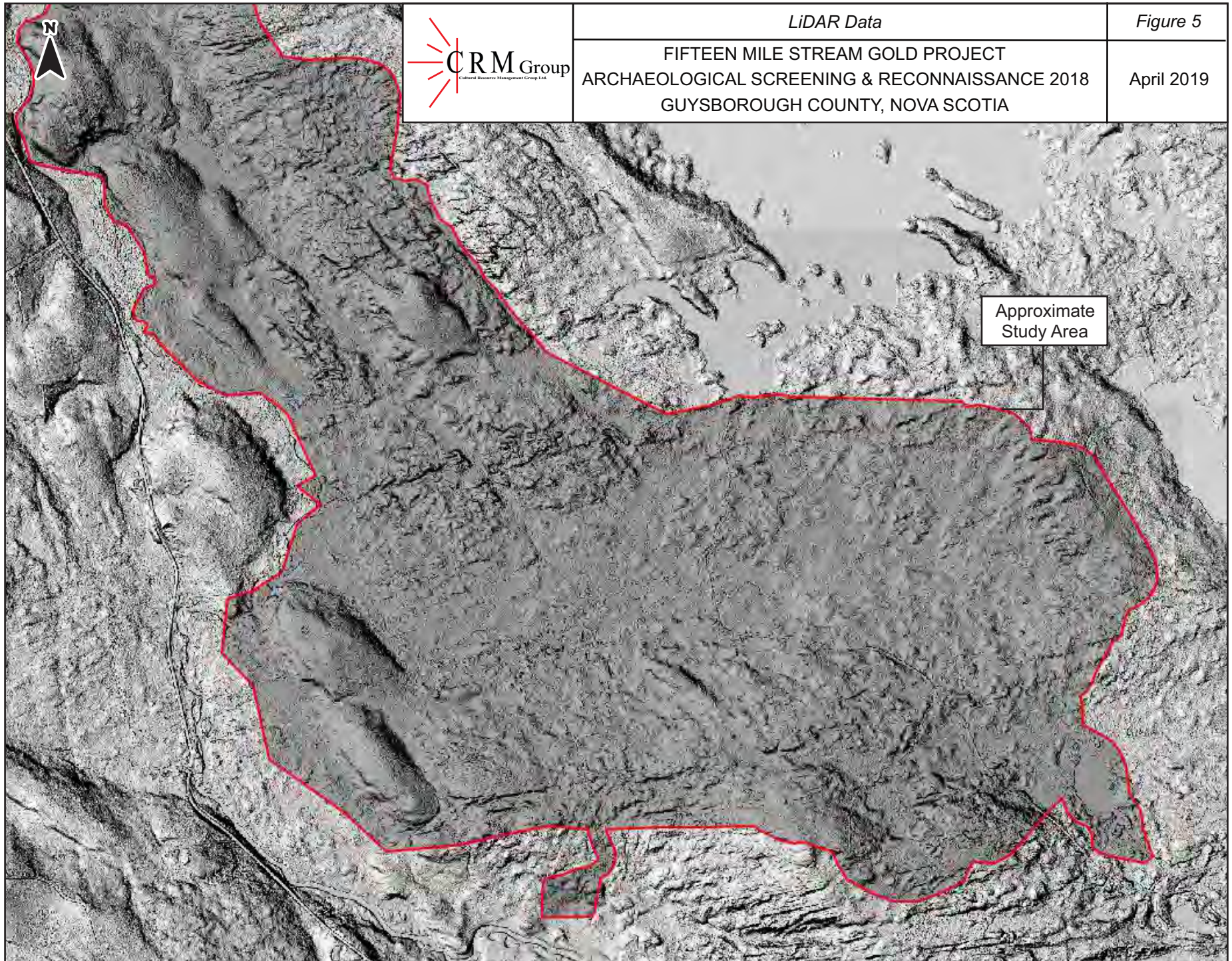


PLATE 2: Historic photograph of the New Egerton Gold Mining Company surface plant.



	<i>Bathymetric Data</i>	<i>Figure 4</i>
	FIFTEEN MILE STREAM GOLD PROJECT ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2018 GUYSBOROUGH COUNTY, NOVA SCOTIA	April 2019
		Not to Scale





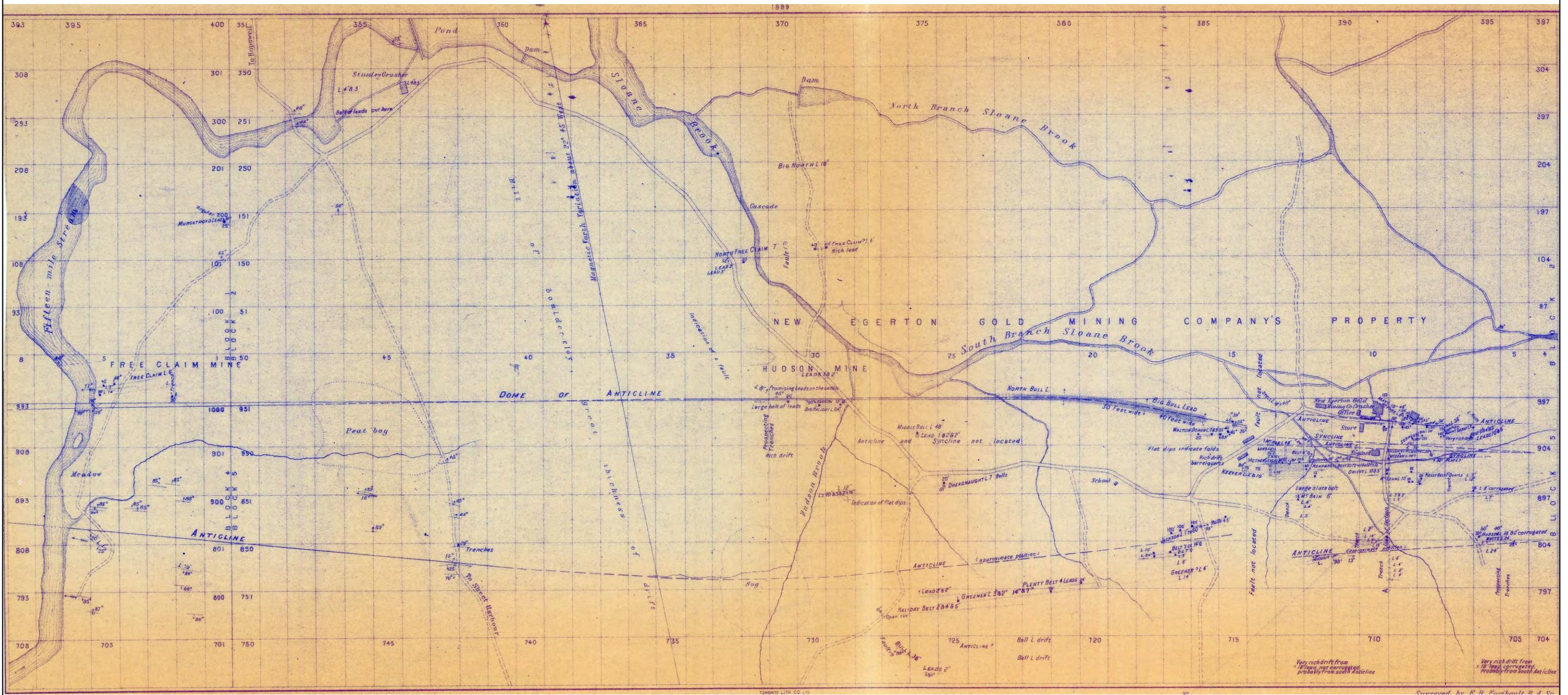
Faribault Map, 1897

Figure 6

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 GUYSBOROUGH COUNTY, NOVA SCOTIA

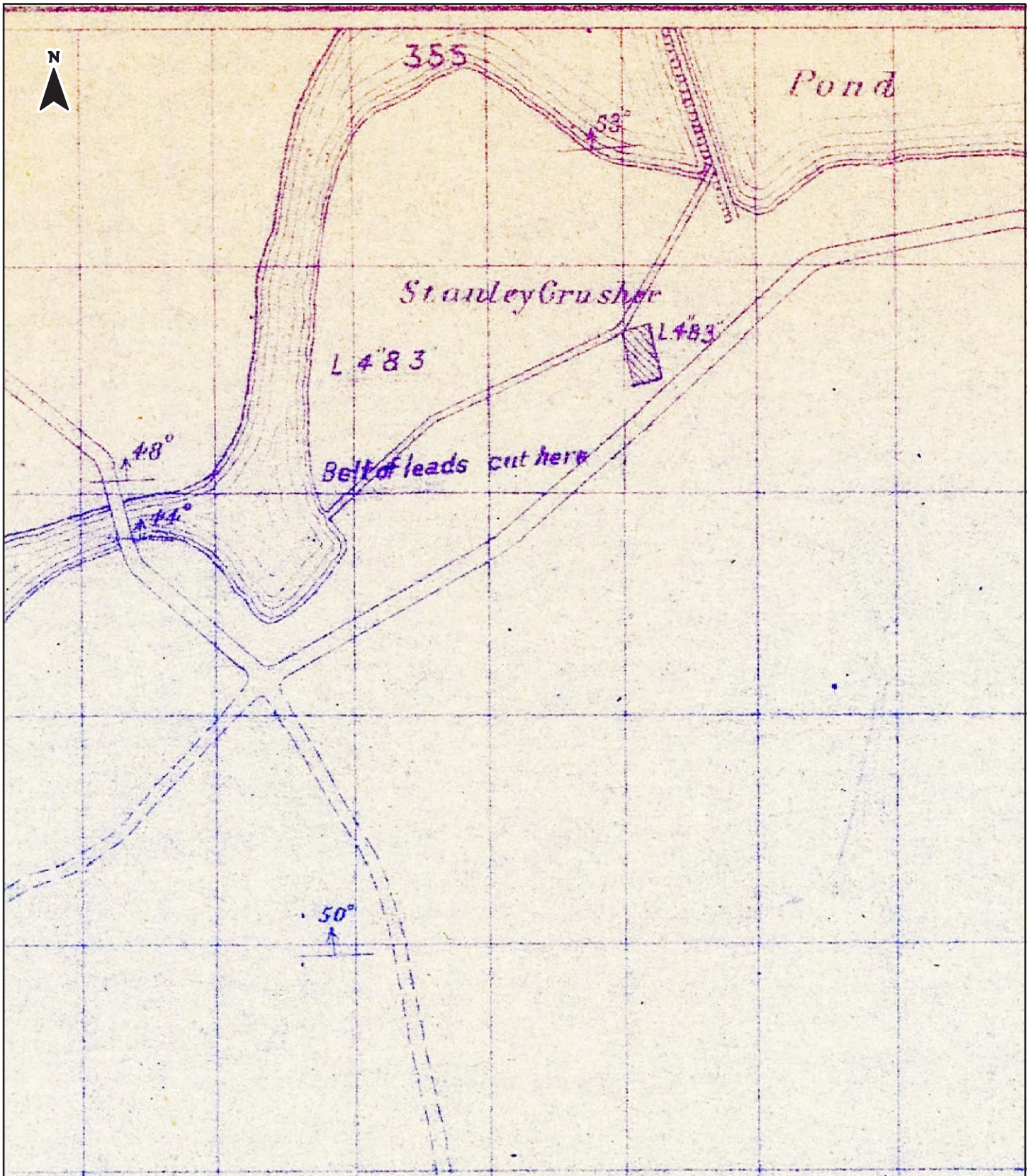
April 2019





Faribault, 1899
FIFTEEN MILE STREAM GOLD PROJECT
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GUYSBOROUGH COUNTY, NOVA SCOTIA

Figure 7
April 2019



Close-up of Stanley Crusher - Faribault Map, 1899

Figure 8

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 ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2018
 GUYSBOROUGH COUNTY, NOVA SCOTIA

April 2019



4.2 2017 Site Revisit

On September 25, 2017 CRM Group revisited the Fifteen Mile Stream Gold Project site. The purpose of the revisit was to re-evaluate the condition of cultural features documented during the archaeological screening and reconnaissance undertaken in 2008 (*Figure 9*). The features were assessed for their stability and marked with flagging tape. Updated UTM coordinates were taken. Field identification of the features was crucial in light of exploratory drilling that was proposed for the mine site (*Table 1*). All six features initially identified during the 2008 reconnaissance were located. No additional features of archaeological concern were identified during the site visit

The site visit was conducted by CRM Group Staff Archaeologist Kathryn J. Stewart in the company of CRM Group President and Senior Technical Advisor, W. Bruce Stewart, and Archaeological Field Technician, J. Cranton Phillips.

4.2.1 Features Identified in 2008 and Relocated in 2017

What follows is a comparison of the results of the revisit conducted on September 25, 2017 with those obtained from the archaeological reconnaissance conducted in 2008.

Site 1

Site 1 is relocated on the southern side of Seloam Lake Road, which transects the study area. Based on its location, the feature was identified as the nineteenth-century school house visible on the 1899 Faribault map. The remains of the wooden sill foundation identified in 2008 were not visible during the 2017 visit. However, forest and moss growth is likely the cause. As is evident in the following photos (*Plates 3 & 4*), the integrity of the site remains intact; no disturbance or damage was noted to the feature or the surrounding area. The site was marked with orange flagging tape and updated UTM coordinates were taken (*Table 1*).



PLATE 3: Site 1, as seen during 2008 reconnaissance. Facing north.



PLATE 4: Site 1, intact. Facing north; September 25, 2017.

Site 2

Site 2 is located on the southern side of Seloam Lake Road, approximately 50 metres southeast of Site 1. The site includes the remains of a wooden sill foundation. Although it does not appear to be associated with any structures depicted on early mapping, the feature may represent remains of a domestic structure or industrial building related to the first reported mining of the area - the Jackson Lead. No disturbance or damage was noted to the feature during the 2017 revisit (*Plates 5 & 6*). The site was delineated with orange flagging tape and updated UTM coordinates were taken (*Table 1*).



PLATE 5: Site 2, remains of a moss-covered log sill foundation as seen in 2008. Facing east.



PLATE 6: Site 2, remains of foundation and stove pipe. Facing east; September 25, 2017.

Site 3

Site 3 is located on the southern side of Seloam Lake Road, approximately 30 metres southeast of Site 2. The site includes the remains of a moss-covered sill foundation and an associated depression. Although not directly associated with any structures depicted on the Faribault map, early twentieth century artifacts noted during the 2008 reconnaissance suggest the structure may have been associated with mining activities. The feature is located near the Jackson Lead, the first area of reported mining in the district. No disturbance or damage was noted to the feature and the site remains as heavily overgrown as it was in 2008 (*Plates 7 & 8*). The site was delineated with orange flagging tape and updated UTM coordinates were taken (*Table 1*).



PLATE 7: Site 3, as seen during 2008 reconnaissance. Facing northwest.



PLATE 8: Site 3. Facing northwest; September 25, 2017.

Site 4

Site 4 is located on the southern side of Seloam Lake Road, approximately 20 metres northeast of Site 3. Site 4 includes the remains of remains of a partially in-filled cellar, as well as a smaller depression identified as a potential privy. It does not appear as though the features are directly associated with any features depicted on the 1899 Faribault map. However, the feature is located near the first reported area of mining in the district - the Jackson Lead. Comparing photos taken during the 2008 reconnaissance to images taken during the 2017 re-visit it is clear that no disturbance or damage has occurred to the site (*Plates 9 & 10*). It was delineated with orange flagging tape and updated UTM coordinates were taken (*Table 1*).



PLATE 9: Site 4. 2008 photo of depression and stones representing potential cellar hole. Facing northwest.



PLATE 10: Site 4. depression and stone feature. Facing northwest; September 25, 2017.

Site 5

Site 5 is located on the northern side of Seloam Lake Road, which transects the study area. Some building demolition rubble and the remains of a partially infilled cellar hole were noted in the area. Comparison of the area with the Faribault map suggests that Site 5 represents the New Egerton Gold Mining Company office. Although no significant damage to the feature was noted, disturbance was noted in and around the cellar including modern garbage disposal (*Plates 11 & 12*). The site was delineated with orange flagging tape and updated UTM coordinates were taken (*Table 1*).



PLATE 11: Site 5 as seen during 2008 reconnaissance. Facing south.



PLATE 12: Site 5. Facing northeast; September 25, 2017.

Site 6

Site 6 is located on the southern side of Seloam Lake Road, approximately 50 metres southeast of Site 5. Based on the 1899 Faribault mapping, this feature was identified as the New Egerton Gold Mining Company store. The 2017 revisit found the site to be heavily disturbed by exploration drilling. In addition, a concrete manhole structure was located approximately ten metres south of the feature associated with Site 6 (*Plates 13 & 14*). The site was delineated with orange flagging tape and updated UTM coordinates were taken (*Table 1*).



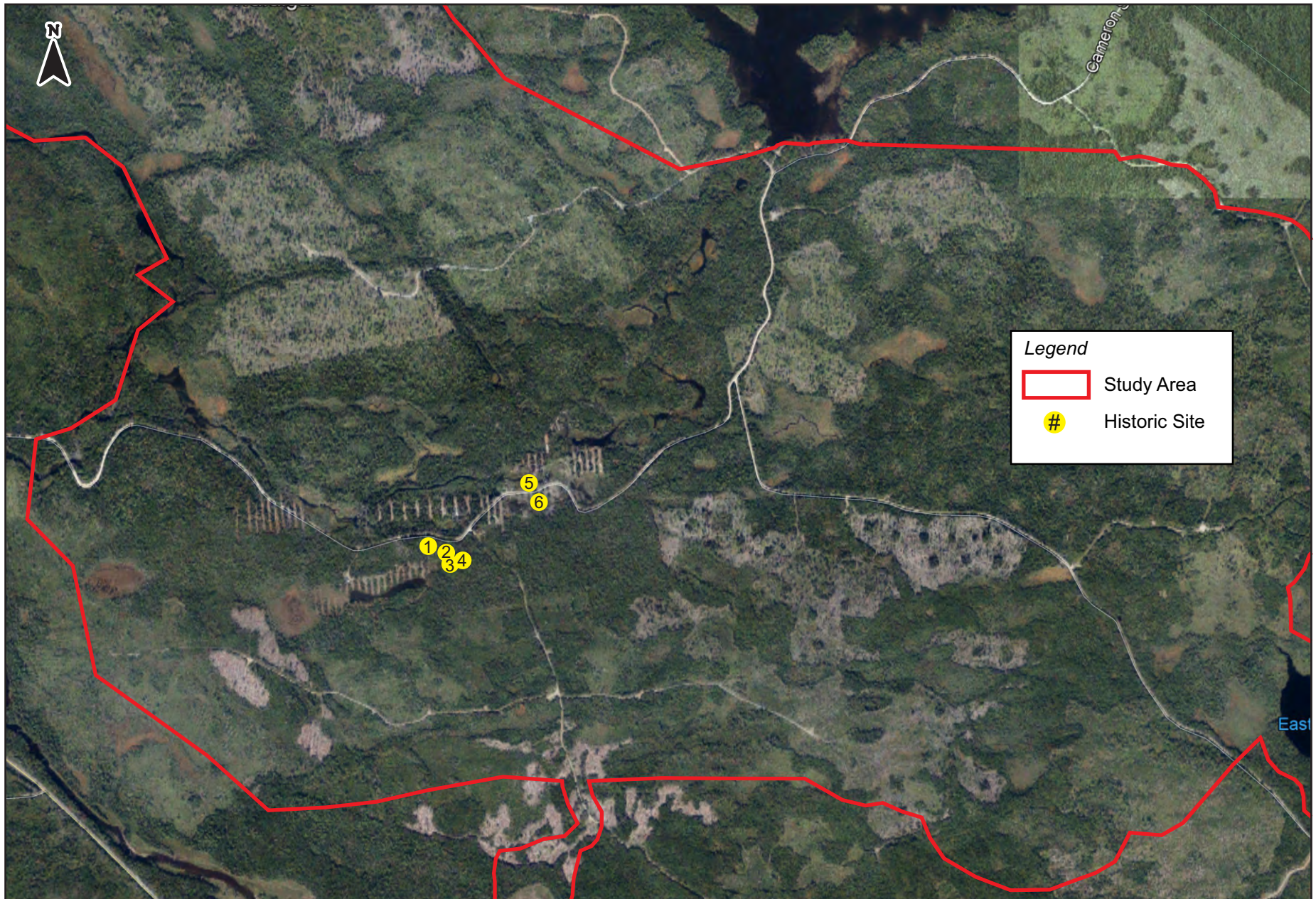
PLATE 13: Site 6, as seen during 2008 reconnaissance. Facing northwest.



PLATE 14: Site 6, showing recent disturbance including leveling and soil movement. Facing northwest; September 25, 2017.

TABLE 1: Site UTM Coordinates

SITE #	UTM COORDINATES
1	20 T 537091.41 m E 4998515.07 m N
2	20 T 537134.99 m E 4998485.44 m N
3	20 T 537136.65 m E 4998456.79 m N
4	20 T 537182.12 m E 4998479.61 m N
5	20 T 537480.34 m E 4998721.43 m N
6	20 T 537523.64 m E 4998671.48 m N



Legend

Study Area

Historic Site



Locations of Historic Sites 1-6

FIFTEEN MILE STREAM GOLD PROJECT
 ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2018
 GUYSBOROUGH COUNTY, NOVA SCOTIA

Figure 9

April 2019

1 km

4.3 Field Reconnaissance

CRM Group archaeologists conducted a visual inspection of the study area on July 4 and 5, and December 6, 2018 (**Figure 10**). In July, fieldwork was conducted under sunny, hot and humid conditions and in December, fieldwork was conducted under cool and overcast conditions. The primary purpose of the visit was to assess the archaeological potential of the newly proposed development areas, focusing on specific infrastructure locations, and to investigate various topographical and cultural features that had been identified as areas of elevated potential during the background research. The secondary purpose of the visit was to further assess any disturbance to Sites 5 and 6.

Access to the study area was gained by following Seloam Lake road, which extends east across the study area from Highway 374. Various gravel roads connected to Seloam Lake Road were utilized to reach all areas within the study area allowing extensive coverage of the property (**Plate 15**).

4.3.1 Reconnaissance of Study Area

The terrain remained consistent throughout the study area, consisting primarily of ridge-and-valley topography (**Plate 16**). Low lying areas across the property tended to be hummocky, wet and marshy. The water table in many areas tended to be at or just below ground level. Standing water was often found surrounding gaps between soil and exposed boulders and roots. Soil development in general was quite shallow with moss covered boulder fields appearing regularly across the study area. Vegetation consisted of a mix of young to mature hardwood and softwood species, typical of Nova Scotian forests (**Plate 18**). Ground cover consisted of a mix of moss, ferns, and small shrubs (**Plate 19**).

Several water bodies were encountered during the reconnaissance. These included Grassy, Seloam, and East lakes, as well as Seloam Brook and Fifteen Mile Stream. Areas surrounding these water bodies tended to be low lying, wet, marshy and hummocky (**Plate 17**). In some areas these watercourses were bordered by steep slopes, particularly the area surrounding the southern shore of Grassy Lake. In addition to the Nova Scotia Power dam located at the southern outflow of Seloam Lake, a dyke had been constructed along its southern bank.

Some evidence of historic mining and twentieth century forestry activities was noted outside of the features identified in the 2008 archaeological reconnaissance. This included several linear water-filled trenches at the centre of the study area (**Plate 20**). The trenches, which measured approximately 2 metres by 10 metres, may represent features related to mineral exploration and/or extraction activities. Areas of young to mature forest re-growth intermixed with old tree stumps were suggestive of mid to late twentieth century logging activities. These areas were noted in the eastern portion of the study area. Several soil push-offs were also identified in the area and were likely associated with the earlier forestry activities (**Plate 21**).

Several areas had been cleared of trees by modern skid-steers following current forest harvesting practices (**Plate 22**). Additionally, some sections, particularly those located at the centre of the study area, exhibited clear cutting and ground disturbance due to recent exploratory drilling.



PLATE 15: Example of roads connecting to Seloam Lake Road. Facing west; July 4, 2018.



PLATE 16: Example of the topography within the study area. Facing north; July 5, 2018.



PLATE 17: Example of an area of wetland near East Lake. Facing east; July 4, 2018.



PLATE 18: Example of typical vegetation within the study area; recently clear cut with new re-growth. Facing northeast; July 4, 2018.



PLATE 19: Example of typical ground covering within the study area. Facing east; July 4, 2018.



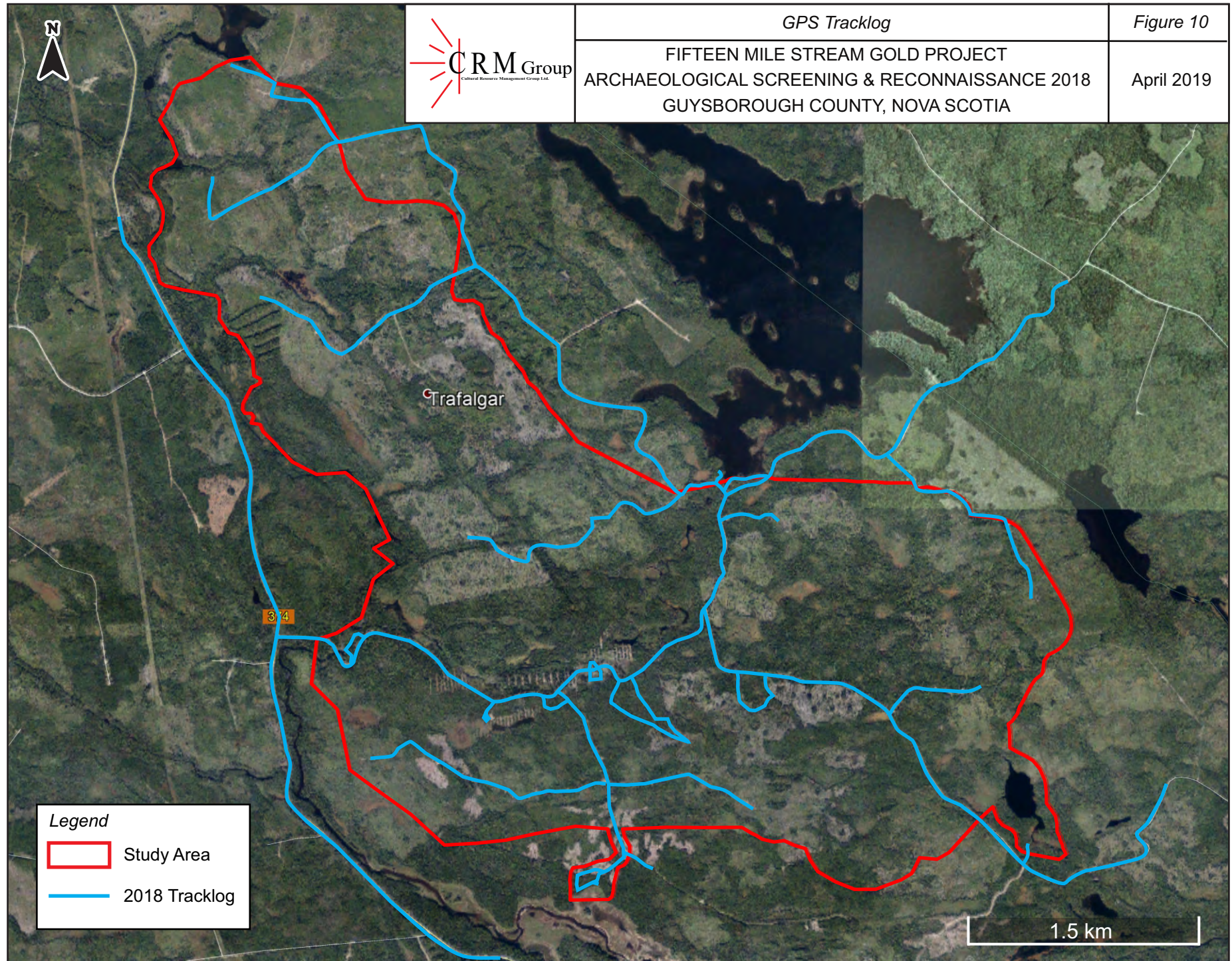
PLATE 20: Linear water-filled trench likely related to previous mining activities. Facing east; July 5 2018.



PLATE 21: Soil push-off associated with previous forestry activities. Facing north; July 4, 2018.



PLATE 22: An example of recent forestry activity near Fifteen Mile Stream. Facing southeast; July 4, 2018.



4.3.2 Historic Sites

Site 5, the New Egerton Gold Mining Company office, displayed some nearby disturbance in and around the cellar including modern garbage disposal, although no significant damage was noted to the feature. A north-south oriented road has been developed on the eastern edge of the site, with a vehicle parking spot located at the northern edge of the site. A ten metre archaeological buffer zone was flagged off around the site to prevent further disturbance. The buffer follows the road edge on the east and south of the tree stand but extends further to the north and west to enclose a larger area in those directions (*Plate 23*).

Site 6, the New Egerton Gold Mining Company store, had displayed some disturbance during the 2017 revisit, including a parking area just south of the mine access road. In addition, a concrete manhole structure was located approximately ten metres south of the feature associated with Site 6. The 2018 site visit determined that additional fill material has been spread over some areas around the feature and the parking area seems to have been expanded (*Plate 24*). Several concrete structures were still evident on the surface. It is anticipated that elements of the company store remain preserved under the fill materials. An archaeological buffer was flagged off with tape to avoid any further disturbance (*Plate 25*).

An additional site related to the historic Fifteen Mile Stream Gold District was identified during the 2018 reconnaissance. Site 7 is located on the western side of the of Seloam Lake Road, approximately 500 metres east of the Highway 374 access point (*Table 2*). Based on historic mapping and documentation, this feature is identified as the "Stanley Crusher", which was a 10-stamp water powered mill built by the Stanley Gold Mining Company between 1890 and 1893 (*Plate 26*). Site 7 comprised of some standing masonry, likely support for the ore crusher, over disarticulated wooden cribwork with iron components. The eastern foundation footing is tiered stone, running north-south and thirty metres in length (*Plate 27*). At the western edge of the footprint, intact wooden beams and iron fittings run north-south. A historic road runs parallel to the current mine access road. To the north of the crusher, a wooden channel is cut into the topography, running approximately 50 metres to one side of an oxbow in Fifteen Mile Stream (*Plate 28*). According to historic mapping, this portion of the stream was dammed and diverted to provide water to power the crusher.

Running southwest from the crusher is another trench or tailrace for the outflow of water. This returns the water back to the river on the opposite side of the oxbow, approximately 110 metres from the crusher (*Figure 11*). The sides of this trench appear to be built-up with waste rock from the crusher or from the digging of the trench, with some areas being tiered stone walls (*Plate 29*).

TABLE 2: Site 7 UTM Coordinates

SITE #	UTM COORDINATES
7	20 T 535816.00 m E 4998895.00 m N



PLATE 23: Site 5 as seen during 2018 reconnaissance. Facing northwest; December 8, 2018.



PLATE 24: Site 6 as seen during 2018 reconnaissance showing parking area. Facing southeast; December 8, 2018.



PLATE 25: Site 6 as seen during 2018 reconnaissance showing intact concrete. Facing southeast; December 8, 2018.



PLATE 26: Site 7 as seen during 2018 reconnaissance showing intact tiered stone from crusher. Facing west; December 8, 2018.



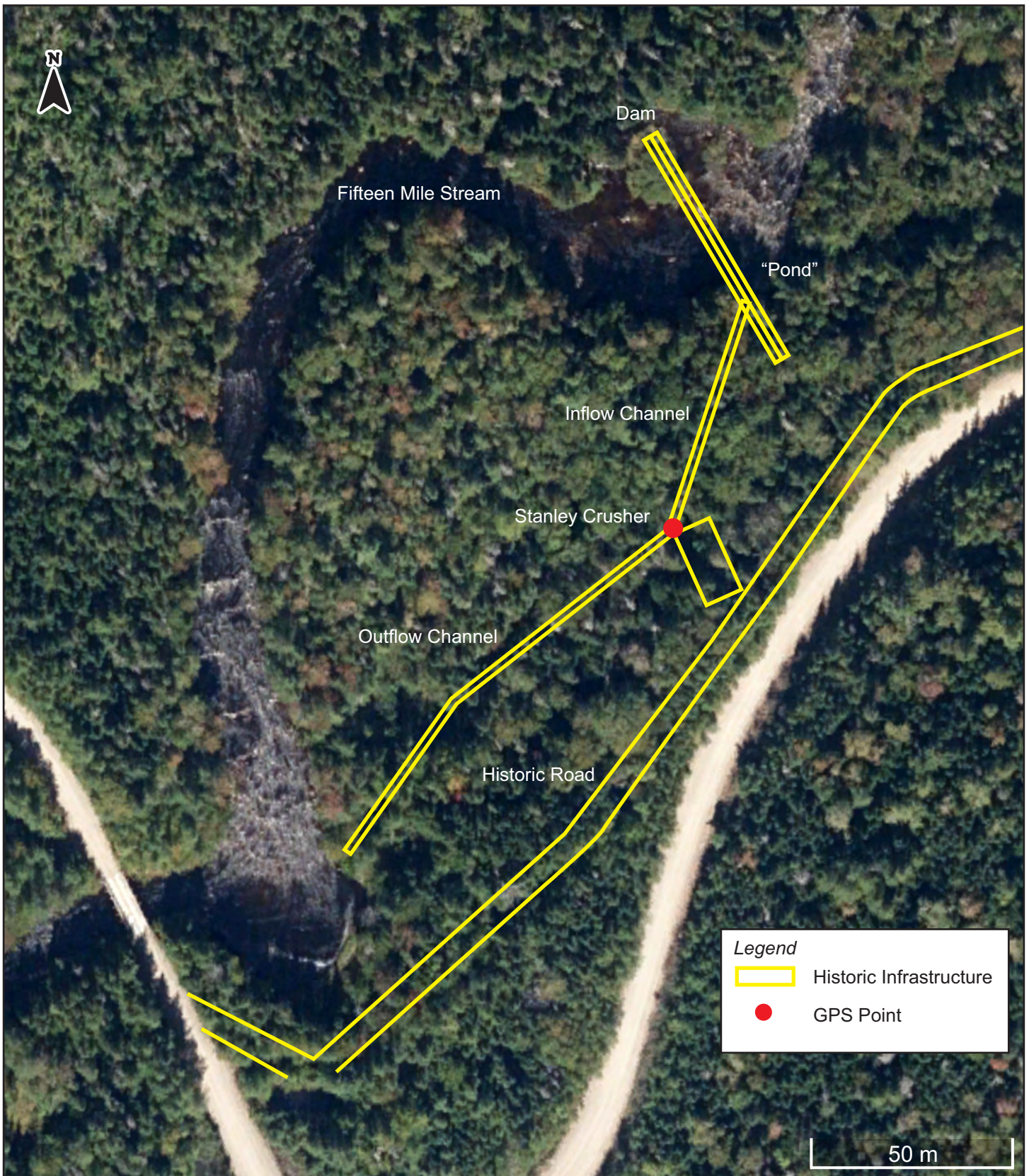
PLATE 27: Site 7 as seen during 2018 reconnaissance showing foundation of mill. Facing northeast; December 8, 2018.




PLATE 28: Site 7 as seen during 2018 reconnaissance showing intact wooden channel leading to crusher. Facing north; December 8, 2018.



PLATE 29: Site 7 as seen during 2018 reconnaissance showing tiered stone channel leading from crusher. Facing north; December 8, 2018.



	<i>Details of Stanley Crusher from 1899 Faribault Map on Satellite Image</i>	<i>Figure 11</i>
	FIFTEEN MILE STREAM GOLD PROJECT ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2018 GUYSBOROUGH COUNTY, NOVA SCOTIA	April 2019

4.3.3 Areas of Elevated Archaeological Potential

Field reconnaissance demonstrated that the terrain surrounding the majority of the water bodies within the study area was generally unsuitable for settlement/encampment. However, three small relatively flat and dry areas were identified during reconnaissance as exhibiting characteristics suggesting elevated archaeological potential (**Table 3**). This included: 1 - an elevated plateau bordering the northern shore of the Fifteen Mile Stream's Anti-Dam Flowage; 2 - a flat, dry area along the southwest shore of Seloam Lake; and, 3 - a level dry area bordering the southeast corner of Grassy Lake (**Figure 12**).

TABLE 3: Areas of Elevated Archaeological Potential UTM Coordinates

Area #	UTM COORDINATES
1	20 T 537514.00 m E 4997201.00 m N
2	20 T 538574.00 m E 5000027.00 m N
3	20 T 535048.00 m E 5002914.00 m N

Elevated Potential Area 1

Elevated Potential Area 1 is located within the far southwest extension of the study area where it intersects with the Anti-Dam Flowage section of Fifteen Mile Stream. Due to its close proximity to a significant body of water and its relatively high and flat location, this area was identified as having elevated potential for encountering Mi'kmaw archaeological resources.

During reconnaissance, Elevated Potential Area 1 was characterized as a predominately flat and dry plateau bordering the Anti-Dam Flowage section of Fifteen Mile Stream (**Plate 23 & 24**). Approximate dimensions of this plateau were 30 metres by 30 metres. This plateau was bordered by low potential areas characterized by steep slopes, boulder fields and hummocky sections. Low lying areas adjacent to the water course had visible standing water between the boulders and moss. To access the small plateau required a steep climb from the shoreline or approximately 10 metres over a distance of approximately 30 metres.

Upon reviewing satellite imagery and bathymetric data for the Anti-Dam Flowage, it is clear that the actual shoreline of Fifteen Mile Stream lies approximately 400 metres south of the area identified as having elevated potential. Approximately 250 metres of this area would likely have been a low, boggy marsh, further reducing the likelihood that the plateau would ever have been accessed or actually occupied. For this reason, Area 1 was reclassified as reflecting low archaeological potential.



PLATE 30: Elevated Potential Area 1: Relatively flat and dry plateau. Facing southwest; July 4, 2018.



PLATE 31: Elevated Potential Area 1: Slope to the south of plateau. Facing south; July 4, 2018.

Elevated Potential Area 2

The 2018 layout proposed for the mine infrastructure included a short section of Seloam lakeshore. This area is located along the southern portion of Seloam Lake, near the outlet of the lake and Nova Scotia Power's Hydro system dam. A dyke has been constructed along the edge of the lake with local material, as is evident by a large borrow-pit located just southwest of the NSPI dam. An area approximately 80 metres by 20 metres between the dyke and Seloam Lake Road was identified as exhibiting characteristics of elevated potential for encountering Mi'kmaw archaeological resources (**Plate 25**). The area of relatively high and level terrain lies within close proximity (20 metres) of a water source for hunting and travel and near the outlet of said water source. (**Plates 26 & 27**).

Upon reviewing historic mapping and bathymetric data for Seloam Lake, it is clear that original shoreline of the lake outflow lies approximately 125 metres northeast of the area identified as having elevated potential. Approximately 100 metres of this area would likely have been a low and wet terrain. Given the proximity to the sole outflow drainage of Seloam Lake and the physical characteristics of the surrounding topography, this area is ascribed elevated potential for encountering archaeological resources.



PLATE 32: Elevated Potential Area 2: Relatively flat lying and dry area with recently cut old growth trees. Facing southwest; July 4, 2018.



PLATE 33: Elevated Potential Area 2: Relatively flat lying and dry south of dyke. Facing southeast; December 6, 2018.



PLATE 34: Elevated Potential Area 2, showing Seloam Lake at high water level and dyke. Facing east; July 4, 2018.

Elevated Potential Area 3

Elevated Potential Area 3 is located at the northwestern end of the study area along the southeastern shoreline of Grassy Lake (*Plate 28*). Due to its close proximity to a significant body of water, this area was highlighted during the background research as an area most likely to exhibit elevated potential for encountering Mi'kmaw archaeological resources. Although this area falls outside of currently proposed structural impacts, it was investigated as part of the general study area.

Elevated Potential Area 3 was characterized by a small flat dry area, triangular in shape, that measured approximately 20 metres by 20 metres (*Plate 29*). This area was bordered by steep slopes and lower areas of marshy boulder fields that were identified as low potential (*Plate 30*).



PLATE 35: Elevated Potential Area 3: Flat dry area bordering the southeast shoreline of Grassy Lake. Facing south; July 5, 2018.

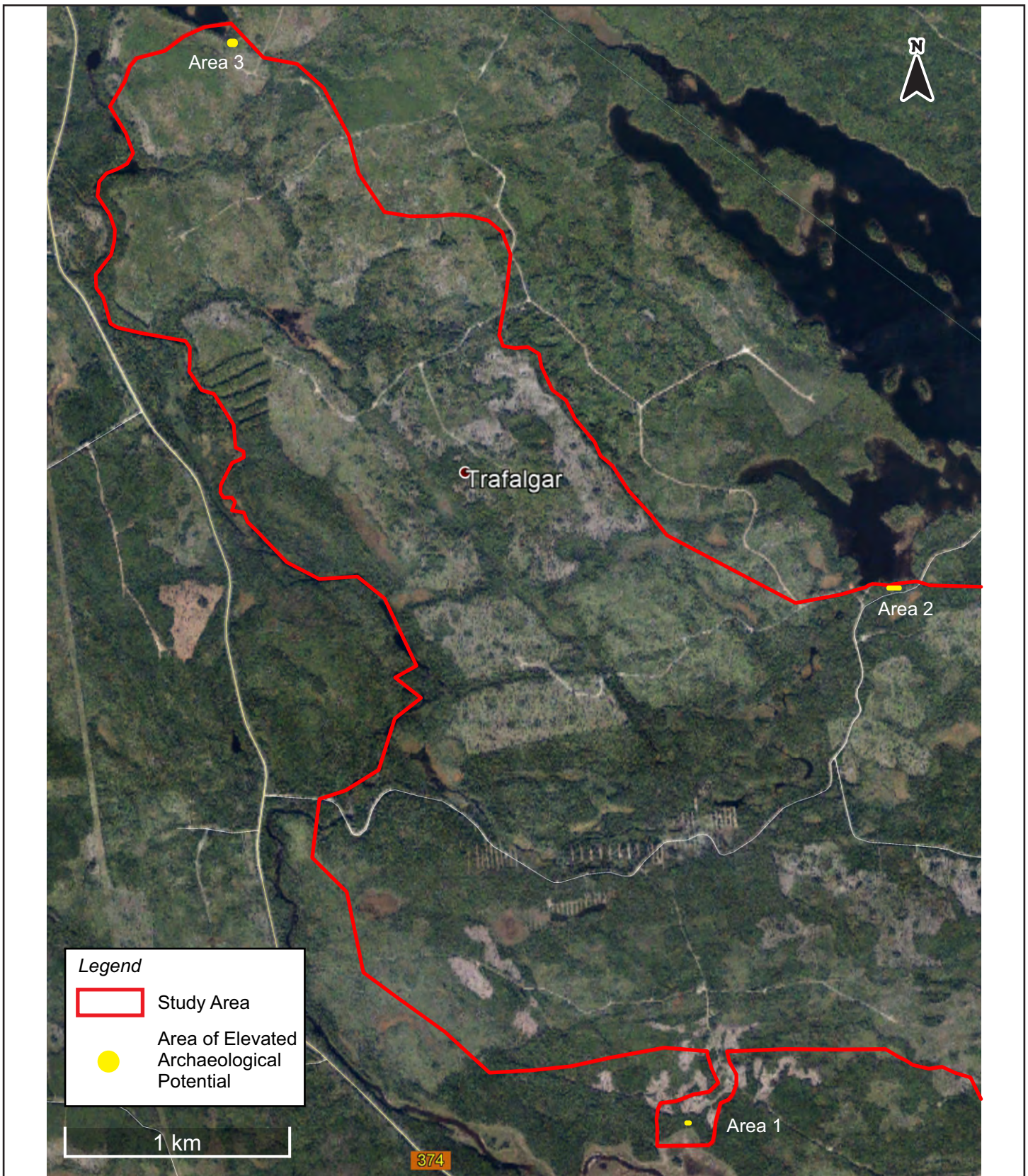


PLATE 36: Elevated Potential Area 3: Flat dry area bordering the southeast shoreline of Grassy Lake. Facing southeast; July 5, 2018.



PLATE 37: Elevated Potential Area 3, showing Grassy Lake and associated wetlands. Facing northeast; July 5, 2018.

Based on the various components of the background study, including environmental setting, Mi'kmaw land use, property history and field reconnaissance, the proposed Fifteen Mile Stream Gold Project site is considered to exhibit moderate potential for encountering Precontact and/or early historic Mi'kmaw archaeological resources and elevated potential for encountering historic Euro-Canadian archaeological resources.



Legend

- Study Area
- Area of Elevated Archaeological Potential

1 km

374



Areas of Elevated Archaeological Potential
 FIFTEEN MILE STREAM GOLD PROJECT
 ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2018
 GUYSBOROUGH COUNTY, NOVA SCOTIA

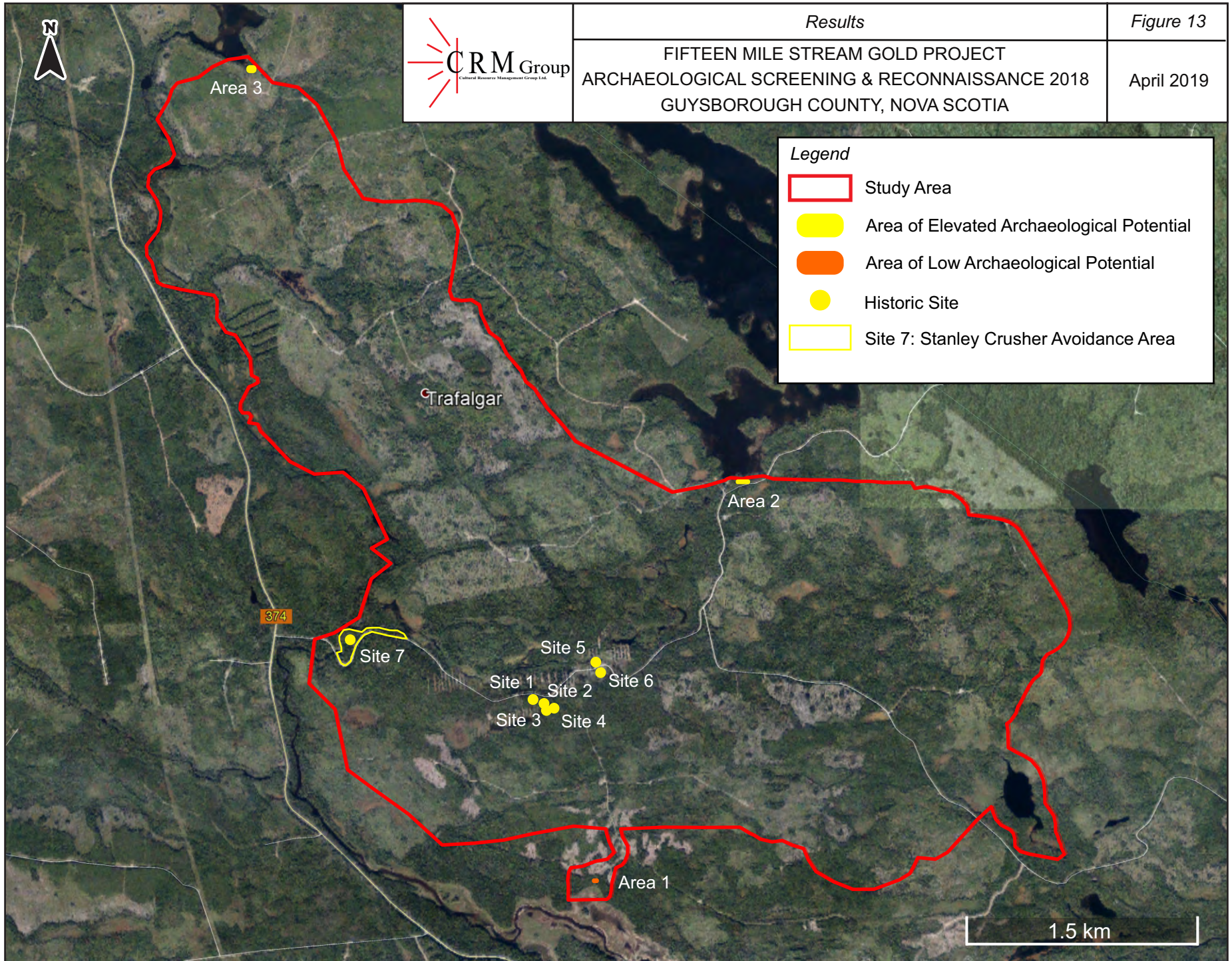
Figure 12
 April 2019

5.0 CONCLUSIONS AND RECOMMENDATIONS

The 2018 archaeological screening and reconnaissance of the Fifteen Mile Stream Gold Project property consisted of historical background research and a visual inspection. Subsurface testing was not undertaken at this stage of the archaeological assessment process. This work built upon the 2008 archaeological screening and reconnaissance and 2017 site revisit conducted by CRM Group archaeologists. The preliminary archaeological background research and field reconnaissance conducted in 2008 identified 6 sites that exhibited elevated potential for historic archaeological resources. An additional historic site was located in 2018 that exhibits elevated potential for historic archaeological resources. Two areas of elevated archaeological potential for encountering Mi'kmaw archaeological resources were identified in 2018 based on their proximity to water sources and topographic features (*Figure 13*)

CRM Group recommends adhering to the recommendations below provided in the 2008 report as to the management of Sites 1 – 6, with the addition of Site 7.

1. It is recommended that the potential for archaeological impact be reviewed once the development site plan has been finalized.
2. It is recommended that areas of potential archaeological significance as identified in this report (Sites 1-7) be avoided if possible in the design and development of the Fifteen Mile Stream Gold Project.
3. It is recommended that areas of potential archaeological significance as identified in this report (Sites 1-7) that cannot be avoided in the design and development of the Fifteen Mile Stream Development be subjected to intensified historical research to provide a comprehensive context for interpreting features and a program of shovel testing to determine whether or not buried archaeological resources are present and/or to determine the age, function and significance of identified features.
4. It is recommended that detailed documentation of all historic industrial features that cannot be avoided in the design and development of the Fifteen Mile Stream Gold Project be subjected to detailed documentation. Documentation should include video, photography and surveyed plans.
5. It is recommended that if the areas of elevated archaeological potential (Areas 2 & 3) are to be impacted by future development, a program of shovel testing be undertaken to determine whether or not buried archaeological resources are present.
6. It is recommended that any additional construction related impacts not defined above (including access roads, staging areas etc.) be subjected to archaeological screening and reconnaissance prior to development.
7. In the event that archaeological deposits or human remains are encountered during construction activities associated with the Fifteen Mile Stream Development, 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).



<i>Results</i>	
FIFTEEN MILE STREAM GOLD PROJECT ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2018 GUYSBOROUGH COUNTY, NOVA SCOTIA	

<i>Figure 13</i>
April 2019

Legend

- Study Area
- Area of Elevated Archaeological Potential
- Area of Low Archaeological Potential
- Historic Site
- Site 7: Stanley Crusher Avoidance Area

1.5 km

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May 31, 2019

Kyle Cigolotti
Cultural Resource Management Group
Ten Mile House, 1519 Bedford Hwy
Bedford, NS B4A 1E3

Dear Mr. Cigolotti:

**RE: Heritage Research Permit Revised Report
A2018NS054 – Fifteen Mile Stream Gold**

We have received and reviewed your revised report on work conducted under the terms of Heritage Research Permit A2018NS054 for the archaeological resource impact assessment of the Fifteen Mile Stream Gold project in Guysborough County.

The report details the archaeological screening and reconnaissance of the proposed Fifteen Mile Stream Gold Project area near Seloam Lake, Guysborough County, by CRM Group Ltd. in the summer and fall of 2018. The screening and reconnaissance included the review of past archaeological work for the project area (A2008NS088), consideration of a 2017 site revisit, a review of background and historical research, a review of Indigenous land use, a review of environmental setting, and field reconnaissance. With a revised development plan for the Fifteen Mile Stream property, the 2018 project addressed the potential for encountering archaeological resources outside the original 2008 project footprint. No shovel testing took place.

Based on the above, the reporter states the 2018 archaeological work built on the screening and reconnaissance of the project area that took place in 2008 which resulted in the identification of 6 historic sites. In 2018, an additional historic site was identified that exhibits elevated potential for archaeological resources. Also, 2 areas of elevated potential for encountering Mi'kmaw archaeological resources were identified (Figure 12). The reporter recommends that the potential for archaeological impact be reviewed once the development plan has been finalized. It is recommended that site areas 1-7, as described in the report be avoided in the design and development of the 15 Mile Stream Gold Project. It is recommended areas of archaeological significance that cannot be avoided, be subjected to intensified historical research and a program of shovel testing to determine if archaeological resources are present, their age, function and significance. It is recommended that detailed documentation of all historic industrial features that cannot be avoided take place. Documentation should include video, photography and survey plans. It is recommended that if the areas of elevated archaeological potential (Areas 2 & 3), are to be impacted by development, a program of shovel testing take place to determine the presence of buried archaeological resources. It is recommended that any additional construction related impacts not defined in the report be subjected to archaeological screening and reconnaissance prior to development. Finally, in the event that archaeological deposits or human remains are encountered during construction activities, all work in the associated areas should stop and contact be made with the Coordinator of Special Places.

CCH Staff agrees with the recommendations and finds the revised report acceptable as submitted. Please do not hesitate to contact me should you have any questions or concerns.

Sincerely,

Sean Weseloh McKeane
Coordinator, Special Places



Appendix A.3

Fifteen Mile Stream Gold Project Archaeological Screening &
Reconnaissance 2019 Final Report,
Cultural Resource Management Group Limited

McCALLUM ENVIRONMENTAL LIMITED

**FIFTEEN MILE STREAM GOLD PROJECT
ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2019
HALIFAX REGIONAL MUNICIPALITY
NOVA SCOTIA**

FINAL REPORT

Submitted to:

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

Prepared by:

Cultural Resource Management Group Limited
1519 Bedford Highway
Bedford, Nova Scotia
B4A 1E3

Consulting Archaeologist: Kyle G. Cigolotti

Report Preparation: Kyle G. Cigolotti, Emily Redden & W. Bruce Stewart

Heritage Research Permit Number A2019NS075

CRM Group Project Number: 2017-0019-04

SEPTEMBER 2019



*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,
Department of Communities, Culture and Heritage.*

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**FIFTEEN MILE STREAM GOLD PROJECT
ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2019
HALIFAX REGIONAL MUNICIPALITY
NOVA SCOTIA**

1.0 INTRODUCTION

Atlantic Mining Nova Scotia Corporation, a wholly owned subsidiary of St. Barbara Ltd. (Atlantic Gold) is proposing to redevelop an open pit mine to access known gold deposits at the Fifteen Mile Stream Gold Project site, located in the north-eastern corner of Halifax Regional Municipality, approximately 25 kilometres north of Sheet Harbour. Atlantic Gold is proposing to reopen and expand the historic open pit site for the purposes of mining, crushing and processing gold bearing ores. Specific infrastructure to be constructed includes crushing, concentrator and maintenance facilities, as well as ore stock piles, a waste rock storage facility, a tailings management facility, fuel storage, office infrastructure and haul roads. Seloam Brook will also be diverted to the north of the proposed open pit (Atlantic Mining Nova Scotia Corporation 2018: 3).

In order to address the potential for encountering archaeological resources during development of the Fifteen Mile Stream property, Acadian Mining initially retained Cultural Resource Management (CRM) Group in 2008 to undertake archaeological screening and reconnaissance within the proposed development footprint that was established at that time. The fieldwork was directed by Sara Beanlands, CRM Group Staff Archaeologist and Historical Researcher, with the assistance of CRM Group Senior Consultant W. Bruce Stewart. The archaeological investigation was conducted according to the terms of Heritage Research Permit A2008NS88 (Category 'C'), issued to Beanlands through the Special Places Program of the Nova Scotia Department of Communities, Culture and Heritage (Special Places). This assessment identified six historic Euro-Canadian sites related to previous mining activities within the Fifteen Mile Stream property. These sites were located to the south of Seloam Brook along Seloam Lake Road, which transects the study area.

In 2017, CRM Group staff revisited the Fifteen Mile Stream property at the request of Atlantic Gold to inspect the six historic Euro-Canadian sites identified in the 2008 archaeological screening and reconnaissance. The Special Places Program was contacted prior to the visit and it was agreed that an archaeological research permit would not be required. These sites were relocated, assessed for their stability, and marked with flagging tape. Updated UTM coordinate were taken.

In 2018, Atlantic Gold revised development plans for the Fifteen Mile Stream property, requiring additional archaeological work to assess potential for encountering archaeological resources outside of the original 2008 study area. In order to investigate this potential, CRM Group was retained by McCallum Environmental Limited (McCallum), on behalf of Atlantic Gold, to undertake additional archaeological screening and reconnaissance of the proposed mine redevelopment site. The archaeological screening and reconnaissance was directed by CRM Group Archaeologist, Kathryn J. Stewart. Stewart was assisted during the field reconnaissance by Archaeological Technician, J. Cranton Phillips and Archaeologist, Kyle G. Cigolotti. Technical input on the project was provided by CRM Group President and Senior Technical Advisor, W. Bruce Stewart. The archaeological investigation was conducted according to the terms of Heritage Research Permit A20018NS054 (Category 'C'), issued to K. Stewart through the Special Places Program. This assessment identified an additional historic Euro-Canadian site related to previous mining activities within the Fifteen Mile Stream property. This site consisted of the remaining components of a historic stone crusher and historic road located near Fifteen Mile Stream in the western portion of the study area.

In 2019, Atlantic Gold expanded the Fifteen Mile Stream study area boundaries to incorporate revisions to the infrastructure layout. This expansion includes a proposed power transmission line and two proposed local traffic bypass roads. In order to investigate this potential, CRM Group was retained by McCallum, on behalf of Atlantic Gold, to undertake archaeological screening and reconnaissance of the proposed mine redevelopment site. The archaeological screening and reconnaissance was directed by CRM Group Archaeologist, Kyle G. Cigolotti. Cigolotti was assisted during the field reconnaissance by CRM Group Archaeologist, Emily Redden. Technical input on the project was provided by CRM Group President and Senior Technical Advisor, W. Bruce Stewart. The archaeological investigation was conducted according to the terms of Heritage Research Permit A2019NS075 (Category 'C'), issued to Cigolotti through the Special Places Program.

This report describes the archaeological screening and reconnaissance of the proposed development area, presents the results of these efforts and offers cultural resource management recommendations that build upon those initially issued in 2008 and 2018.

2.0 STUDY AREA

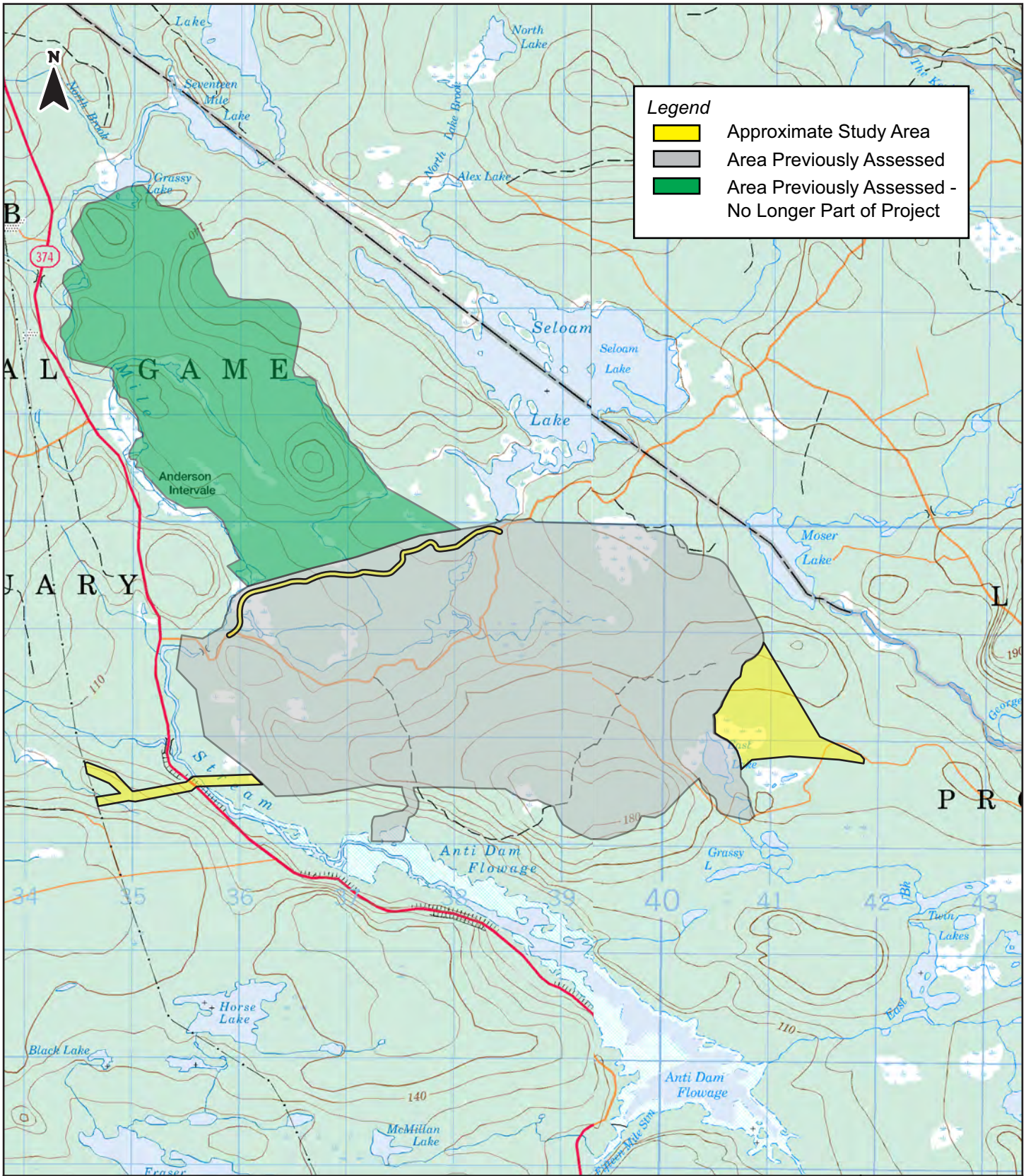
The Fifteen Mile Stream Gold Project study area is located in the northeastern corner of Halifax Regional Municipality, approximately 25 kilometres north of Sheet Harbour and approximately 17 kilometres southeast of Trafalgar (*Figure 1*). The property is located to the north of the Anti Dam Flowage section of Fifteen Mile Stream and to the south of Seloam Lake. Highway 374 borders the western side of the property.

The property comprises the eastern two thirds of the historic Fifteen Mile Stream Gold District and can be characterised as unpopulated, gently undulating and forested (*Plate 1*). Access to the study area can be gained by following Seloam Lake Road off of Highway 374 (*Figure 2*).

The specific proposed infrastructure included in this assessment are a local traffic bypass road on the eastern edge of the property, a local traffic bypass road on the northwestern edge of the property and a power transmission line at the southwestern corner of the property (*Figure 3*).



PLATE 1: Fifteen Mile Stream Study Area. Facing north; July 25, 2019.



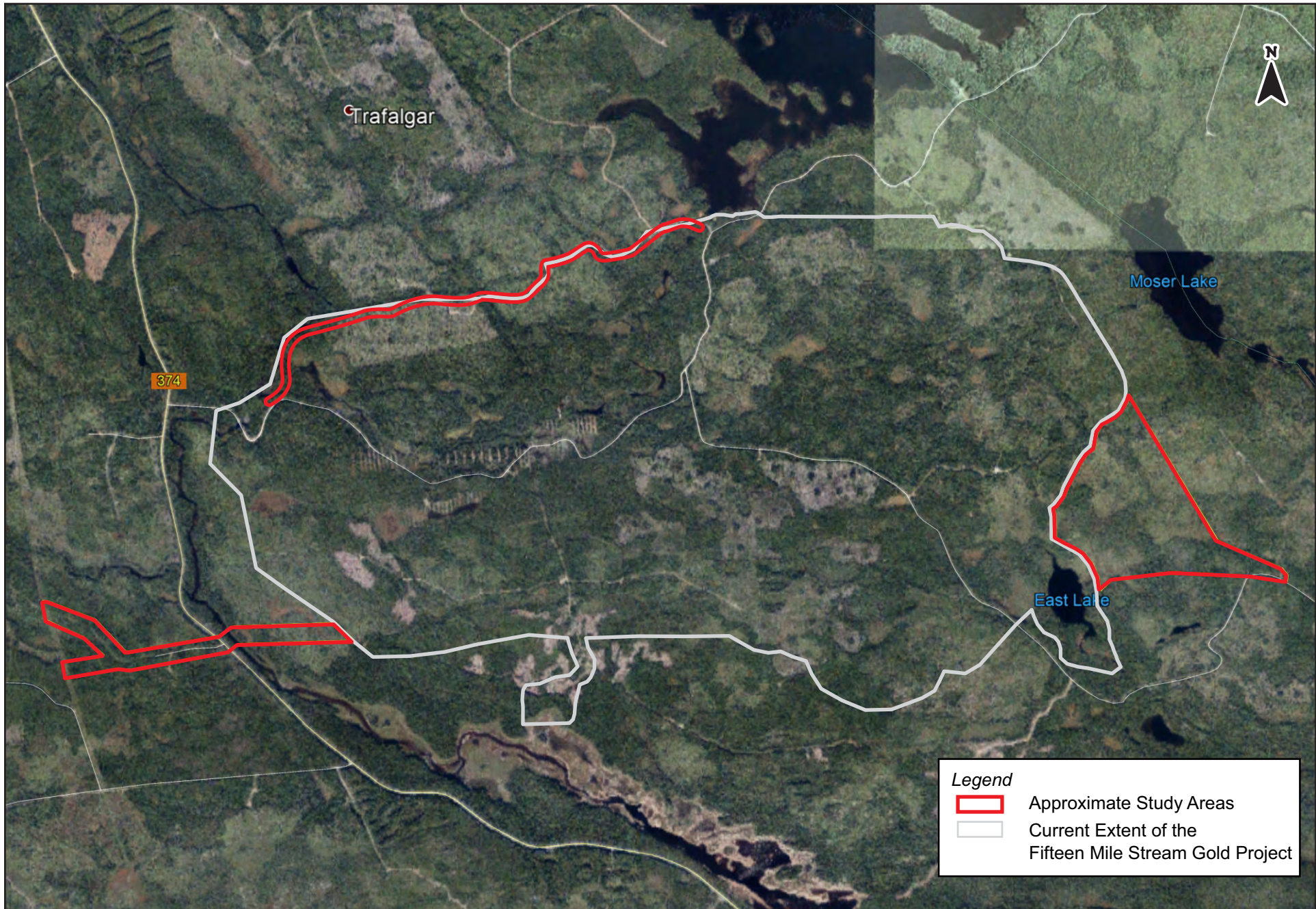
Approximate Study Area

**FIFTEEN MILE STREAM GOLD PROJECT
 ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2019
 HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA**

Figure 1

September 2019

Scale 1:50 000



Legend

- Approximate Study Areas
- Current Extent of the Fifteen Mile Stream Gold Project



Detailed Study Area

FIFTEEN MILE STREAM GOLD PROJECT
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Figure 2

September 2019

Scale Bar

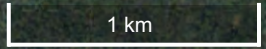


Image © 2019 Maxar Technologies

Prepared For:

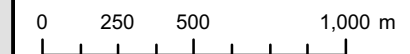


Fifteen Mile Stream EIS Infrastructure Layout Extended Area for Review

**Location
Trafalgar, NS**

- Areas Assessed - 2019
 - 190627_FMS_PA w TQ update
- Updated Infrastructure**
- Access Road
 - Collection Pond
 - Crusher Pad
 - Haul Road
 - LGSP
 - Open Pit
 - Organic Material Stockpile
 - Plant
 - Potential Borrow Site
 - Seloam Brook Diversion
 - TMF
 - Till Stockpile
 - Topsoil Stockpile
 - Transmission Spur Line
 - Transmission Spur Line option 2
 - Plant and Admin Building Footprint
 - Truck Shop
 - WRSF NPAG
 - WRSF PAG
 - Water Management
 - Field Delineated Wetlands
 - Open water sections

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter



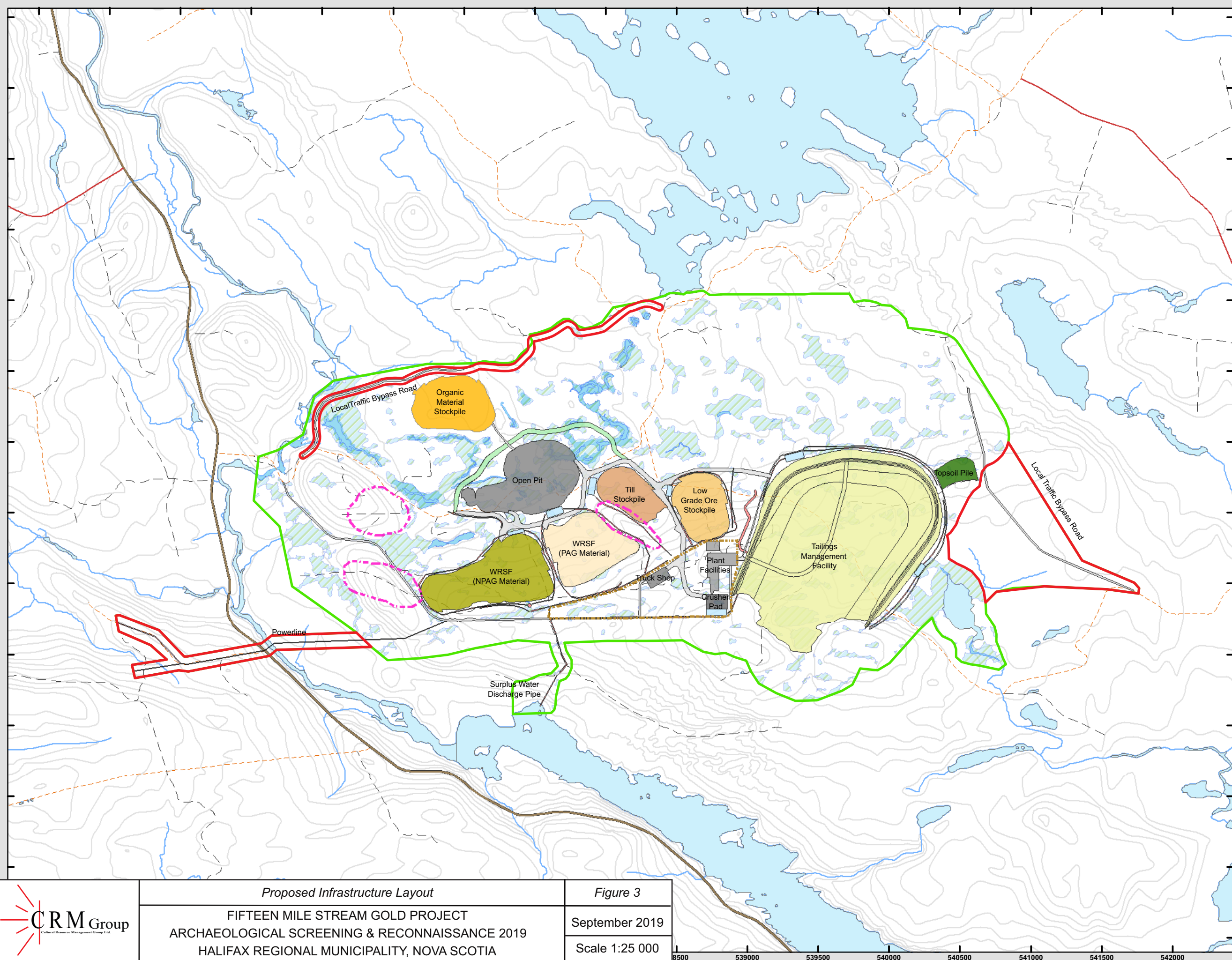
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Drawn By: LP Date: 6/28/2019



McCallum Environmental Ltd.

Document Name: 190620 INFRASTRUCTURE UPDATE



Proposed Infrastructure Layout
FIFTEEN MILE STREAM GOLD PROJECT
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HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA

Figure 3
September 2019
Scale 1:25 000

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4995500 4996000 4996500 4997000 4997500 4998000 4998500 4999000 4999500 5000000 5000500 5001000 5001500 5002000

3.0 METHODOLOGY

In the summer of 2019, McCallum retained CRM Group on behalf of Atlantic Gold to undertake archaeological screening and reconnaissance of revisions made to the footprint of the proposed Fifteen Mile Stream Gold Project site. The objective of the archaeological assessment was to build upon the archaeological screening and reconnaissance conducted in 2008, 2017 and 2018 to evaluate archaeological potential within the reconfigured footprint of the proposed mine project that may be disturbed by the development of a power transmission line and two proposed local traffic bypass roads (**Figure 3**). To address this objective, CRM Group developed a work plan consisting of the following components: a background study of relevant site documentation (including the results of the 2008, 2017 and 2018 CRM Group fieldwork) to identify areas of high archaeological potential; Mi'kmaw engagement; archaeological reconnaissance of the additional areas that may be impacted by development activities; and, preparation of a report summarizing the results of the background research and field survey, as well as providing cultural resource management recommendations.

3.1 Background Study

The archival research 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 these goals, CRM Group utilized the resources of various institutions including documentation available through the Nova Scotia Archives, the Nova Scotia Land Information Centre, the Department of Natural Resources, the Nova Scotia Registry of Deeds and the Nova Scotia Museum.

The background study included a review of relevant historic documentation incorporating land grant records, legal survey and historic maps, local and regional histories and previous archaeological reports. Topographic maps and aerial photographs, both current and historic, were also used to evaluate the study area. Satellite, LiDAR and bathymetric data were reviewed to aid in establishing historic shorelines, preview historic infrastructure and evaluate topography. These data facilitated the identification of environmental and topographic features that 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 Mi'kmaw Engagement

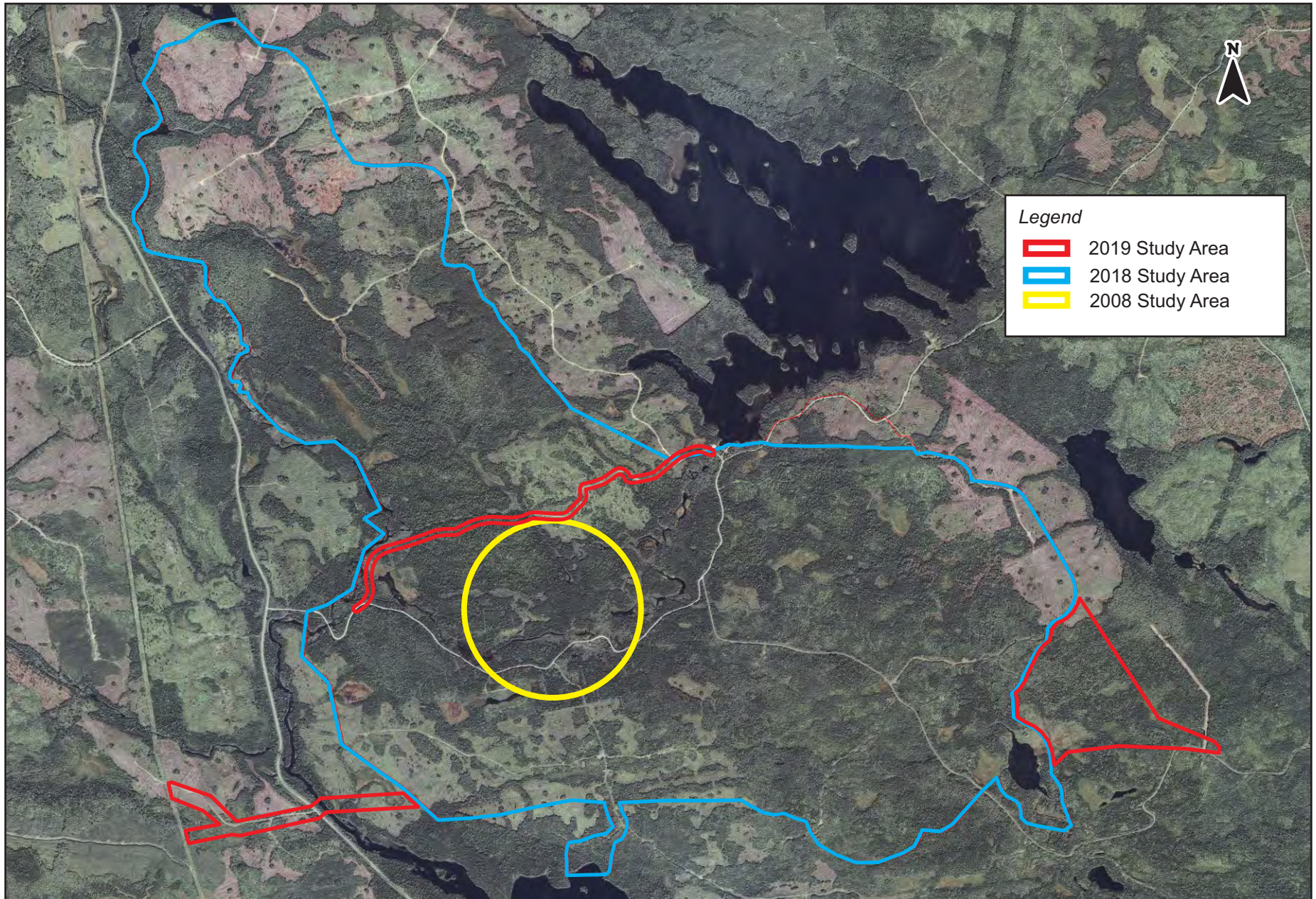
Although there were no known Mi'kmaq resources located within this study area, CRM Group contacted the Kwilmu'kw Maw-Klusuaqn Negotiation Office's Archaeological Research Division (KMKNO's ARD) to see if they had any information pertaining to traditional or historical Mi'kmaw use of the study area. Millbrook and Sipekne'katik First Nations were also approached regarding potential traditional or historic Mi'kmaw use of the area.

3.3 Field Reconnaissance

The goals of the archaeological field reconnaissance were to conduct a visual inspection of the revised study area, document any additional areas of archaeological sensitivity or archaeological sites identified during the course of the background study or the visual inspection, and design a strategy for testing areas of archaeological potential, as well as any archaeological resources identified within the study area. Although this stage of the archaeological assessment did not

involve sub-surface testing, the researchers were watchful 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 with photographs.

Hand-held Global Positioning System (GPS) units were used to record track logs and UTM coordinates for all survey areas, as well as any identified diagnostic artifacts, formal tools, isolated finds and site locations.



Legend

- 2019 Study Area
- 2018 Study Area
- 2008 Study Area



2008, 2018 & 2019 Study Areas

FIFTEEN MILE STREAM GOLD PROJECT
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HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA

Figure 4

September 2019

Scale Bar



4.0 RESULTS

4.1 Background Study

The following discussion details the environmental and cultural setting of the study area, as well as previous archaeological research conducted in the general 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 Fifteen Mile Stream Gold Project property is drained by way of Seloam Brook, the primary outflow of Seloam Lake, that flows southwest across the property and into Fifteen Mile Stream. Fifteen Mile Stream flows southward into the Atlantic Ocean at Sheet Harbour by way of the East River Sheet Harbour. The water levels of Seloam Lake and the Fifteen Mile Stream Anti Dam Flowage are regulated by Nova Scotia Power for the generation of power at stations on Governor Lake. Bathometric data provided by McCallum shows the natural levels of the shorelines during dam draw downs (*Figure 4*).

In addition to numerous wetland areas, other significant bodies of water include Grassy Lake in the northwestern corner of the study area and East Lake in the southeastern corner of the study area. Proximity to water, for drinking, transportation and food resources (hunting and fishing) is a key factor in identifying Precontact and historic Mi'kmaq, as well as early Euro-Canadian, archaeological potential.

Topography

The study area is located within the ecoregion known as the *Eastern Region (300)* (Neily, Basquill, Quigley & Keys 2018: 110). This geographically diverse ecoregion slopes gently toward the Atlantic Ocean and is made up of slate ridges, granite uplands, drumlin fields, wetlands and rolling glacial till plains (Neily et al. 2017: 110). Chains of lakes, streams and stillwaters comprise a significant portion of the ecoregion. These, along with large wetlands, provide headwaters for some of the ecoregion's longest rivers including the Sheet Harbour River (Neily et al. 2017: 110).

The study area's specific ecodistrict is known as the *Eastern Interior District (440)* (Neily et al. 2017: 121). This expansive tract of upland topography is a rolling till-plain comprised of generally gravelly and stony soils. Bedrock ridging is highly visible and the topography follows the gentle rise and fall of underlying bedrock and glacial deposits (Neily et al. 2017: 121). LiDAR data from 2014 (GeoNova, 2017) illustrates the undulating nature of the study area (*Figure 5*).

These hardwood covered hills and slopes are 150-300 metres above sea level, with elevations within the study area ranging from approximately 150 to 160 metres above sea level (Neily et al. 2017: 69). The higher steep-sloped hills are underlain with older, erosion resistant rocks. The lower more gradually sloping hills are underlain by coarse sandstone, shale and conglomerate (Neily et al. 2017: 70).

Soils

The Fifteen Mile Stream area is covered primarily by *Danesville (ST3)* and *Halifax (ST2, ST14)* series soils (Keys 2007: 8). ST3 is mainly associated with moist, coarse-loamy soils dominated by

sandy loam texture, but also includes moist sandy soils. ST3 is the imperfectly drained equivalent of ST2 and is found in association with these better drained soils throughout the province (usually in lower slope positions and level areas). ST3 is generally of poor to medium fertility (Keys, Neily and Quigley 2011: 38). ST2 is generally of poor to medium fertility with moisture limited during the growing season (Keys et al. 2011: 36). ST14 is mainly associated with thick organic layers derived from wetland vegetation. Drainage is poor to very poor with fertility ranging from poor to rich, both depending on seepage inputs or ground water quality (Keys et al. 2011: 60).

Flora

Within the *Eastern Interior* ecodistrict, there are several significant forest ecosystems: the Spruce Pine Forest Group, with black spruce; the Spruce Hemlock Forest Group, with red spruce, hemlock, yellow birch and red maple; and, a Tolerant Hardwood forest, with sugar maple, yellow birch and red maple (Neily et al. 2017: 123). The composition of the forests in this ecodistrict strongly reflects the depth of the soil profile. On shallow soils, scrub hardwoods are present underlain by a dense layer of ericaceous vegetation. On deeper soils, stands of red spruce are found. On crest and upper slopes of hills, drumlins and some hummocks, stands of tolerant hardwood occur. On the imperfectly and poorly drained soils, black spruce, tamarack and red maple dominate stand composition (Neily et al. 2017: 122).

4.1.2 Mi'kmaw Land Use

The land within the study area was once part of the greater Mi'kmaw territory known as *Eskikewa'kik*, meaning 'skin dressers territory' (Rand 1875). The surrounding area is dense with lakes and watercourses that 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. Fifteen Mile Stream in particular, located to the southwest of the study area, would have been part of a transportation route facilitating travel inland from Sheet Harbour and the Atlantic Ocean.

In Nova Scotia, information regarding archaeological sites is stored in the Maritime Archaeological Resource Inventory (MARI), a provincial archaeological site database, maintained by the Nova Scotia Museum. This database contains information on archaeological sites registered with the province within the Borden system. The Borden system in Canada is based on a block of latitude and longitude. Each block is referenced by a four-letter designator. Sites within a block are numbered sequentially as they are recorded. The study area is located within the BgCp Borden Block.

A review of MARI determined that there are no registered archaeological sites located within 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. The nearest registered archaeological sites are BhCp-01, BfCo-01, BfCo-02, BfCo-03, BgCp-01, BgCp-02, BgCp-03 and BgCp-04. BhCp-01, the site of a historic Mi'kmaw burial, is located approximately 1.3 kilometres northeast of the study area and recorded by Harry Piers in 1900. According to Piers, Seloam Lake was named after Matteo Seloam, a local Mi'kmaq resident, who buried his wife on one of the islands in the lake. BfCo-01 and 02 located, approximately 15.5 kilometres from the study area, are both Precontact lithic finds identified during a survey of the Nova Scotia Power Incorporated (NSPI) Malay Falls Reservoir conducted by Darryl Kelman in 2013 while water levels in the Reservoir were below normal seasonal levels. BfCo-03 is a historic complex consisting of a road, three foundations and a slipway, all identified during the same survey at Malay Falls. BgCp-01 through BgCp-04, located approximately 8.8 kilometres south of the study area, are all Precontact lithic finds identified during a survey of NSPI's Malay Falls Dam. These were identified in 2013 by Darryl Kelman near Marshall Falls while water levels were below seasonal levels.

CRM Group contacted KMKNO's ARD requesting information regarding traditional or historic Mi'kmaq use of the study area. They kindly provided information that was taken into consideration when preparing the archaeological assessment. This information is confidential in nature and cannot be reproduced in this report.

Based on the environmental setting and Mi'kmaq land use, portions of the Fifteen Mile Stream Development site are ascribed elevated potential for encountering Precontact and/or early historic Mi'kmaq archaeological resources.

4.1.3 Historic Land Use

The Fifteen Mile Stream study area has a long history of mining. Gold was first discovered in this remote district in 1867. Although several lodes were opened up in the year 1868 and two water powered crushers were erected in 1869, the first reported mining was undertaken between 1874 and 1878 on the Jackson Lead, located in the southwestern corner of the study area (Malcolm 1929: 83) (**Figure 5**). Several mining companies explored and operated various small, shallow mines/shafts during this period. The bulk of production occurred between 1883 and 1911 in the areas historically referred to as the Old Egerton Mine Area and the Mother Seigel Mine Area. Both historic mine sites are located in the central portion of the study area. The Egerton Gold Mining Company, active between 1887 and 1889, was replaced by the New Egerton Gold Mining Company in 1890 (**Plate 2**). The new company expanded their operations on the property with the construction of a 15-stamp mill. Also incorporated in 1890 was the Stanley Gold Mining Company. They built a 10-stamp mill run by water power. These companies amalgamated in 1893 and erected a new 30-stamp mill in 1896. Open-cut work began in 1898 but was halted by an underground cave-in at the Mother Seigel Mine site (Malcolm 1929: 84). Intermittent drilling and exploration work continued until 1938, when the provincial government began a rehabilitation project. The project was terminated in 1941, reportedly due to wartime shortages of men and materials (Hudgins 2008: 16). Subsequent exploration work has taken place on the property between 1973 and 2019.

Euro-Canadian settlement in the area began at what would become the community of Trafalgar (approximately 17 kilometers northeast of Fifteen Mile Stream) in the early nineteenth century following the establishment of an inn by Joseph Langley in 1810 near St. Mary's River Bridge (PANS 1967: 680-681). Though Langley was forced to leave the area in 1813, John Nelson settled in the area in the mid-nineteenth century, acquired a 500 acre land grant and established a sawmill, hotel and postal office (PANS 1967:681). It was at this time that the name, "Trafalgar", was established following a visit to the area by a hunting party composed of military officers from Halifax who stayed at Nelson's hotel (PANS 1967:681). The name paid homage to Admiral Lord Nelson and the famed battle of Trafalgar.

Euro-Canadian settlement in the area of Fifteen Mile Stream did not begin until the second half of the nineteenth century and developed as mining activity increased. A cursory examination of historic mapping revealed that the study area occupies portions of at least two historic lots, both granted to, or otherwise obtained by, James D. McGregor (Crown Land Grant Sheet 89). The 1899 Faribault map does not illustrate any features within the current study area, or anywhere outside those areas investigated in the 2008/2018 archaeological reconnaissance. Seven features associated with the New Egerton Gold Mining Company were identified outside the current study area during previous reconnaissance, including a school house and the Stanley Crusher (**Figure 7**). The school house was built in 1890, but was closed in 1904 due to a decrease in mining activity in the area (PANS 1967: 209). The crusher structure is indicated as being located immediately east of the confluence of Seloam Brook and Fifteen Mile Stream (**Figure 8**). Associated with the Stanley Mining Company (1890-1893), the crusher was most likely water powered since the map illustrates

a narrow channel diverting a portion of Fifteen Mile Stream toward the crusher.

Based on its historical setting, portions of the Fifteen Mile Stream Gold Project study area are ascribed elevated potential for encountering historic Euro-Canadian archaeological resources.

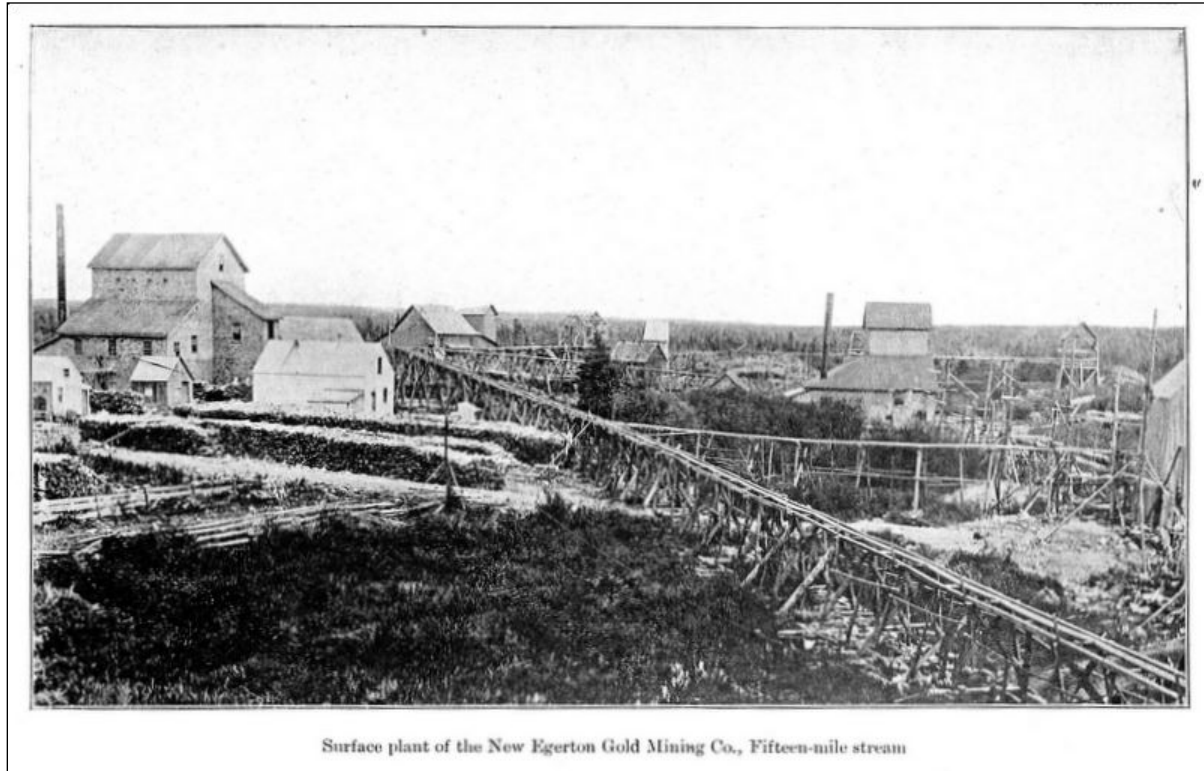
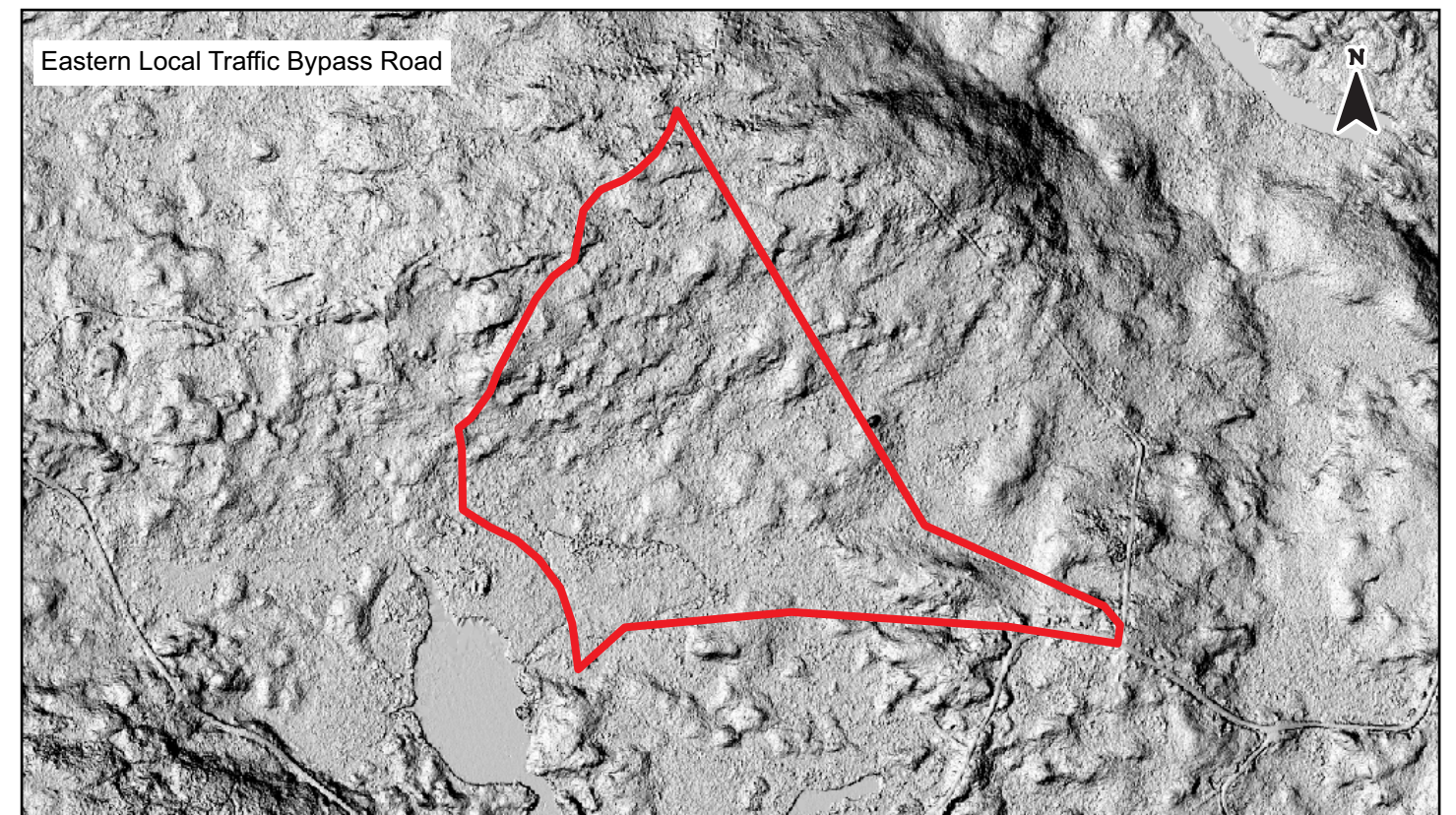
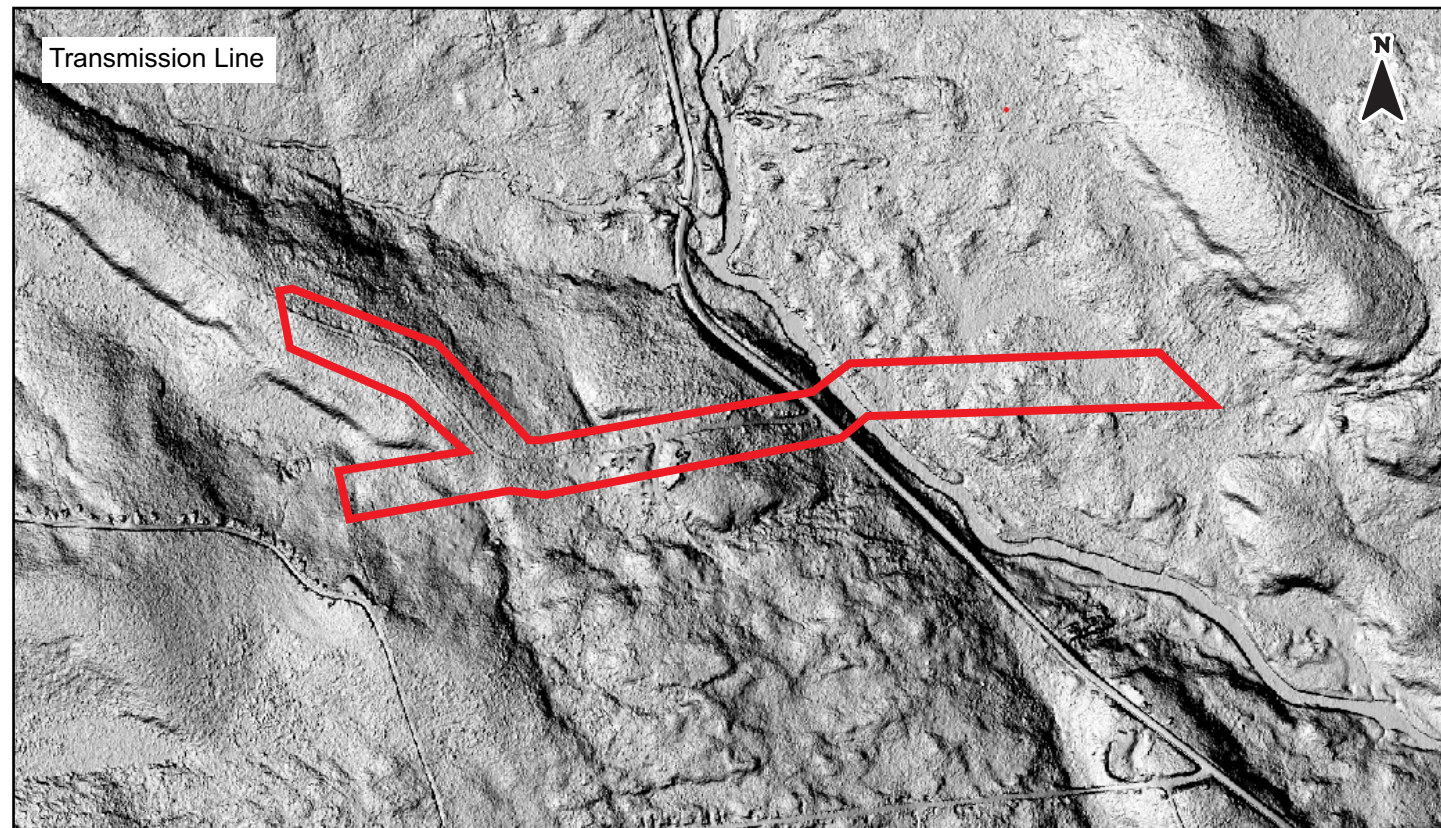
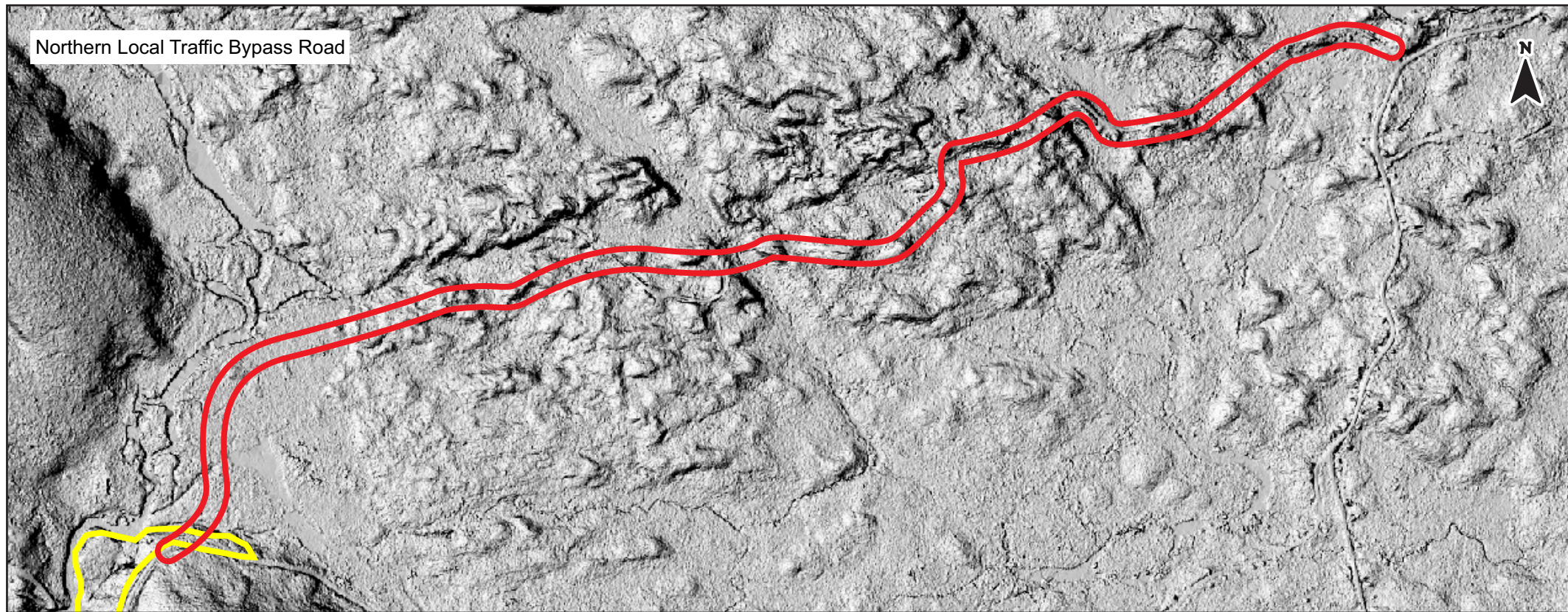
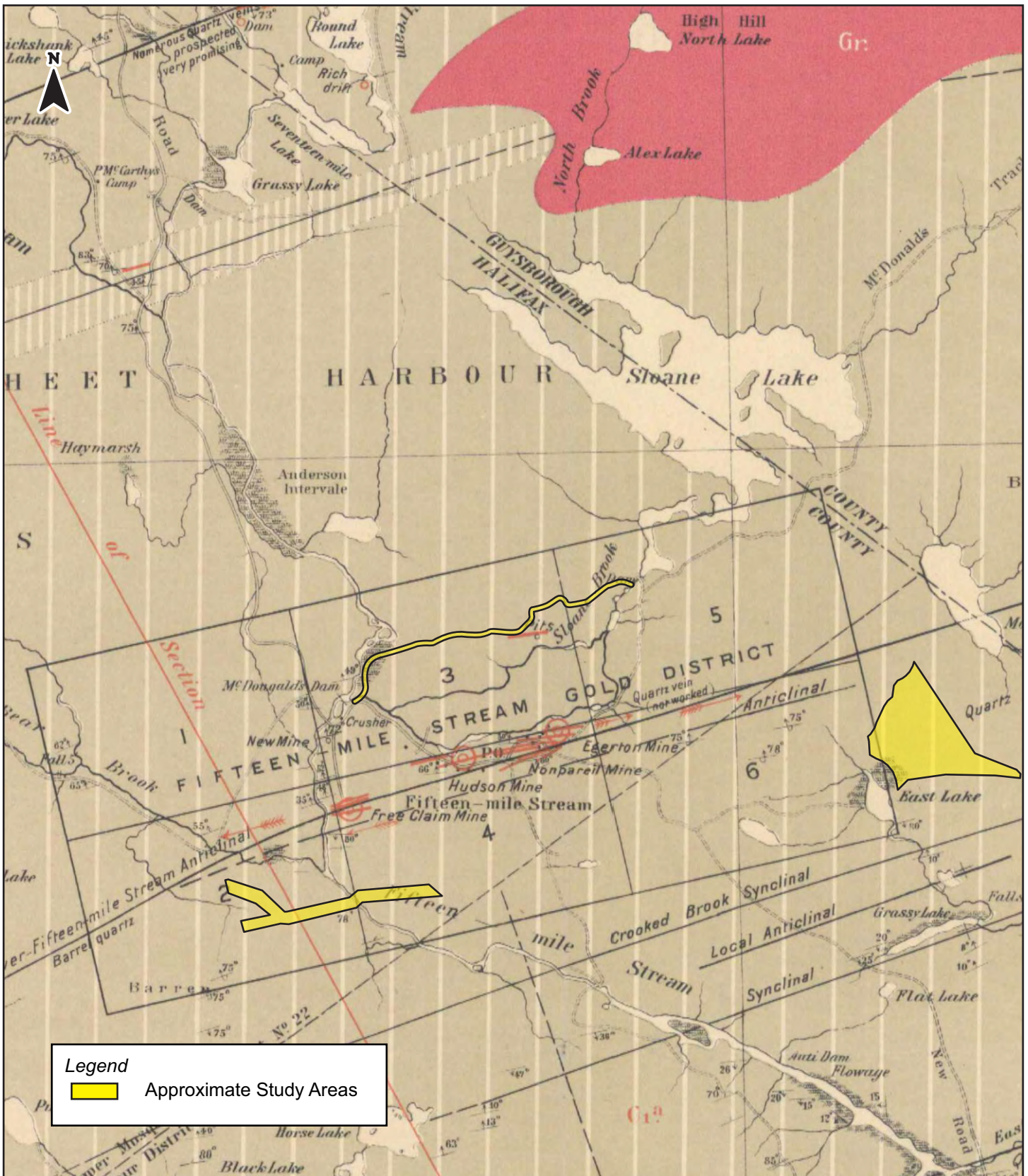

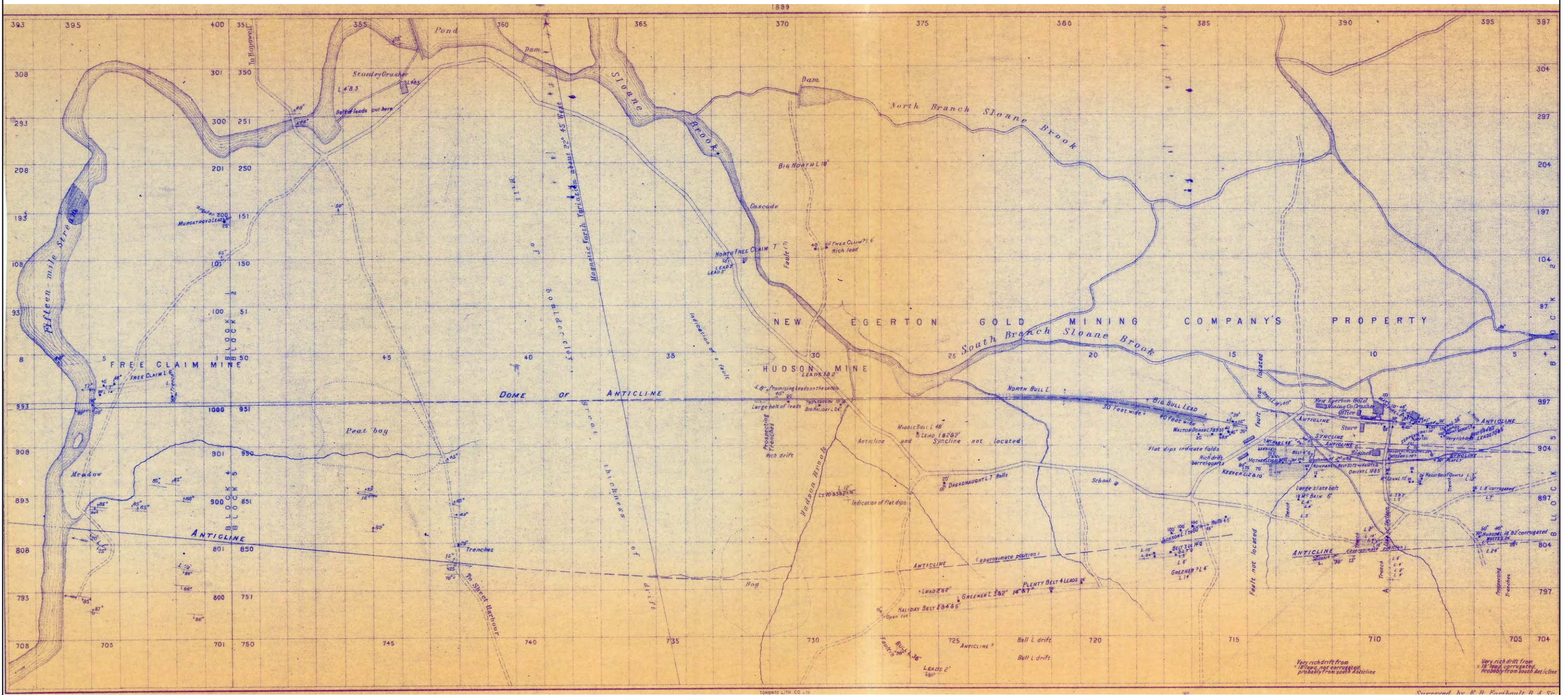


PLATE 2: Historic photograph of the New Egerton Gold Mining Company surface plant.





	<p>Faribault Map, 1897</p>	<p>Figure 6</p>
	<p>FIFTEEN MILE STREAM GOLD PROJECT ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2019 HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA</p>	<p>September 2019</p>



Faribault Map, 1899
FIFTEEN MILE STREAM GOLD PROJECT
ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2019
HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA

Figure 7
September 2019

4.2 Previous Archaeological Assessment

CRM Group has previously been retained to undertake archaeological screening and reconnaissance of the Fifteen Mile Stream Gold Project (2008, 2017 & 2018). As a result of these assessments, two areas of elevated archaeological potential for encountering Precontact and/or early historic Mi'kmaq archaeological resources have been identified, as well as several sites related to historic mining activities (*Figure 8*). The following details all areas of elevated potential for encountering Mi'kmaq archaeological resources and areas related to historic mining resources which have been identified since 2008 (*Tables 1 & 2*).

4.2.1 Areas of Elevated Archaeological Potential

Area 1

Identified in 2018, *Area 1* measures approximately 30 metres by 30 metres and is located within the far southwest extension of the proposed mine development area where it intersects with the Anti-Dam Flowage section of Fifteen Mile Stream. This plateau was identified as having elevated potential for encountering Precontact and/or early historic Mi'kmaq archaeological resources due to its close proximity to water and its relatively high and flat location.

This plateau however, was bordered by low potential areas characterized by steep slopes, boulder fields and hummocky sections, and access required a steep climb from the shoreline or approximately 10 metres over a distance of approximately 30 metres. Upon reviewing satellite imagery and bathymetric data for the Anti-Dam Flowage, it is clear that the actual shoreline of Fifteen Mile Stream lies approximately 400 metres south of the area identified as having elevated potential. Approximately 250 metres of this area would likely have been a low, boggy marsh, further reducing the likelihood that the plateau would ever have been accessed or actually occupied. For this reason, *Area 1* was reclassified as reflecting low archaeological potential (Stewart, Phillips & Cigolotti 2019:37).

Area 2

Identified in 2018, *Area 2* is located along the southern portion of Seloam Lake, near the outlet of the lake and Nova Scotia Power's Hydro system dam. A dyke has been constructed along the edge of the lake with local material, as is evident by a large borrow-pit located just southwest of the NSPI dam. This plateau between the dyke and Seloam Lake Road measures approximately 80 metres by 20 metres.

Upon reviewing historic mapping and bathymetric data for Seloam Lake, it is clear that original shoreline of the lake outflow lies approximately 125 metres northeast of the area identified as having elevated potential. Approximately 100 metres of this area would likely have been a low and wet terrain. Given the proximity to the sole outflow drainage of Seloam Lake and the physical characteristics of the surrounding topography, this area is ascribed elevated potential for encountering archaeological resources (Stewart, Phillips & Cigolotti 2019:39).

Area 3

Identified in 2018, *Area 3* is located at the northwestern end of the study area along the southeastern shoreline of Grassy Lake. This triangular elevated plateau measures approximately 20 metres by 20 metres, bordered by steep slopes and lower areas of marshy boulder fields.

Although *Area 3* falls outside of currently proposed structural impacts, it was investigated as part of the general study area. Due to its close proximity to a significant body of water, this area was highlighted during the background research as an area most likely to exhibit elevated potential for encountering Mi'kmaq archaeological resources (Stewart, Phillips & Cigolotti 2019:41).

If areas identified as exhibiting high archaeological potential for encountering Precontact and/or historic Mi'kmaq archaeological resources are to be impacted by future development, these areas should be subjected to a program of shovel testing to determine whether or not buried archaeological resources are present.

TABLE 1: Areas of Elevated Archaeological Potential UTM Coordinates

AREA #	UTM COORDINATES
1	20 T 537514.00 m E 4997201.00 m N
2	20 T 538574.00 m E 5000027.00 m N
3	20 T 535048.00 m E 5002914.00 m N

4.2.2 Historic Sites

Site 1

Identified in 2008, *Site 1* is located on the southern side of Seloam Lake Road, which transects the proposed mine development area. The site includes the remains of a wooden sill foundation measuring approximately 5 metres east/west by 7 metres north/south within an area of artificially elevated and levelled ground. Based on its location, the feature was identified as the nineteenth century school house visible on the 1899 Faribault map (Beanlands & Stewart 2009:12). The remains of the wooden sill foundation identified in 2008 were not visible during a 2017 site visit due to forest conditions and moss growth (Stewart, Phillips & Cigolotti 2019:17).

Site 2

Identified in 2008, *Site 2* is located on the southern side of Seloam Lake Road, approximately 50 metres southeast of *Site 1*. The site includes the remains of a wooden sill foundation measuring approximately 5.5 metres east/west by 3 metres north/south. Visual inspection of the surrounding area revealed the presence of a small assortment of early twentieth century artifacts, including an asphalt shingle, sheet metal and part of a stove pipe. Although it does not appear to be associated with any structures depicted on early mapping, the feature may represent remains of a domestic structure or industrial building related to the first reported mining of the area - the Jackson Lead (Beanlands & Stewart 2009:15). No disturbance or damage was noted to the feature during a 2017 site visit (Stewart, Phillips & Cigolotti 2019:18).

Site 3

Identified in 2008, *Site 3* is located on the southern side of Seloam Lake Road, approximately 30 metres southeast of *Site 2*. The site includes the remains of a moss-covered sill foundation and an associated depression - measuring approximately 2 metres east/west by 1 metre north/south, situated at the eastern end of the feature. Visual examination of the feature was obscured by overgrowth. However, careful inspection of the surrounding area revealed the presence of a small assortment of early twentieth century artifacts, including shaped sheet metal. Although not directly associated with any structures depicted on the Faribault map, early twentieth century artifacts noted during the 2008 reconnaissance suggest the structure may have been associated with mining activities. The feature is located near the Jackson Lead, the first area of reported mining in the district (Beanlands & Stewart 2009:16). No disturbance or damage was noted to the feature during a 2017 site visit and the site remained as heavily overgrown as it was in 2008 (Stewart, Phillips & Cigolotti 2019:19).

Site 4

Identified in 2008, *Site 4* is located on the southern side of Seloam Lake Road, approximately 20 metres northeast of *Site 3*. *Site 4* includes the remains of remains of a partially in-filled cellar, as well as a smaller, wood lined depression- 42 metres to the west, identified as a potential privy. Visual inspection of the surrounding area revealed the presence of a small assortment of twentieth century artifacts, including a metal enamelware bowl. It does not appear as though the features are directly associated with any features depicted on the 1899 Faribault map. However, the feature is located near the first reported area of mining in the district - the Jackson Lead (Beanlands & Stewart 2009:18). Comparing photos taken during the 2008 reconnaissance to images taken during a 2017 site visit it is clear that no disturbance or damage has occurred to the site (Stewart, Phillips & Cigolotti 2019:20).

Site 5

Identified in 2008, *Site 5* located on the northern side of Seloam Lake Road, which transects the proposed mine development area. The site includes an artificially levelled and cleared area, some building demolition rubble visible on the surface and the remains of partially in-filled cellar hole. Careful examination of the surrounding area revealed the presence of a small assortment of twentieth century artifacts, including a metal enamelware pot. Comparison of the area with the Faribault map suggests that *Site 5* represents the New Egerton Gold Mining Company office (Beanlands & Stewart 2009:20). Although no significant damage to the feature was noted during a 2017 site visit, disturbance was noted in and around the cellar including modern garbage disposal (Stewart, Phillips & Cigolotti 2019:21).

Site 6

Identified in 2008, *Site 6* located on the southern side of Seloam Lake Road, approximately 50 metres southeast of *Site 5* and includes an artificially levelled and cleared area. Based on the 1899 Faribault mapping, this feature was identified as the New Egerton Gold Mining Company store (Beanlands & Stewart 2009:22). A 2017 site visit found the site to be heavily disturbed by exploration drilling. In addition, a concrete manhole structure was located approximately ten metres south of the feature associated with *Site 6* (Stewart, Phillips & Cigolotti 2019:22).

Site 7

Identified in 2018, *Site 7* is located on the western side of Seloam Lake Road, approximately 500 metres east of Highway 374. Based on historic mapping and documentation, this feature is identified as the "Stanley Crusher", which was a 10-stamp water powered mill built by the Stanley Gold Mining Company between 1890 and 1893. *Site 7* is comprised of some standing masonry, likely support for the ore crusher, over disarticulated wooden cribwork with iron components. The eastern foundation footing is tiered stone, running north-south and thirty metres in length. At the western edge of the footprint, intact wooden beams and iron fittings run north-south. A historic road runs parallel to the current mine access road. To the north of the crusher, a wooden channel is cut into the topography, running approximately 50 metres to one side of an oxbow in Fifteen Mile Stream. According to historic mapping, this portion of the stream was dammed and diverted to provide water to power the crusher.

Running southwest from the crusher is another trench or tailrace for the outflow of water. This returns the water back to the river on the opposite side of the oxbow, approximately 110 metres from the crusher. The sides of this trench appear to be built-up with waste rock from the crusher or from the digging of the trench, with some areas being tiered stone walls (Stewart, Phillips & Cigolotti 2019:31).

TABLE 2: Site UTM Coordinates

SITE #	UTM COORDINATES
1	20 T 537091.41 m E 4998515.07 m N
2	20 T 537134.99 m E 4998485.44 m N
3	20 T 537136.65 m E 4998456.79 m N
4	20 T 537182.12 m E 4998479.61 m N
5	20 T 537480.34 m E 4998721.43 m N
6	20 T 537523.64 m E 4998671.48 m N
7	20 T 535816.00 m E 4998895.00 m N

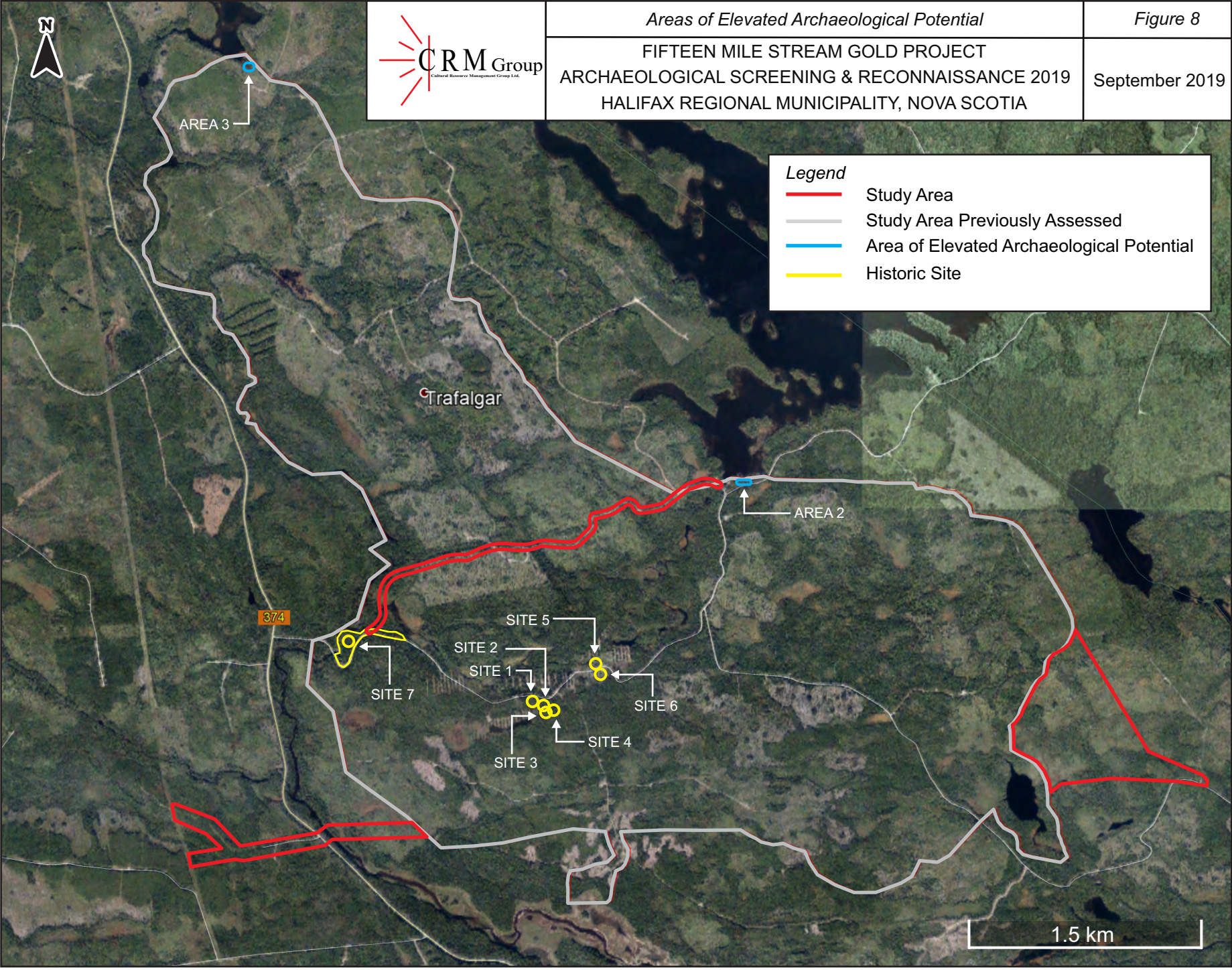


Areas of Elevated Archaeological Potential
FIFTEEN MILE STREAM GOLD PROJECT
ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2019
HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA

Figure 8
September 2019

Legend

- Study Area
- Study Area Previously Assessed
- Area of Elevated Archaeological Potential
- Historic Site



4.3 Field Reconnaissance

CRM Group archaeologists conducted a visual inspection of the study area on July 25, 2019 (**Figure 9**). Fieldwork was conducted under sunny, hot and humid conditions. The primary purpose of the visit was to assess the archaeological potential of the newly proposed development areas, focusing on specific infrastructure locations, and to investigate various topographical and cultural features that had been identified as areas of elevated potential during the background research.

Access to the study area was gained by following Seloam Lake road, which extends east across the study area from Highway 374, as well as various forestry roads connected to Seloam Lake Road (**Plate 3**). Reconnaissance began in the eastern proposed local traffic bypass roads study area. The terrain remained consistent throughout the study area, consisting primarily of ridge-and-valley topography. Low lying areas across the property tended to be hummocky, wet and marshy (**Plate 4**). The water table in many areas tended to be at or just below ground level. Standing water was often found surrounding gaps between soil and exposed boulders and roots. Soil development in general was quite shallow with moss covered boulder fields appearing regularly across the study area. Vegetation consisted of a mix of dense new growth to mature hardwood and softwood species, typical of Nova Scotian forests (**Plate 5**). Ground cover consisted of a dense mix of moss, ferns, and small shrubs.

The majority of the northern bypass road has been developed as a rough forestry road (**Plate 6**). However reconnaissance was prevented from continuing along this road due to wide watercourse with no crossing (**Plate 7**). The forestry road continued on the opposite side of the watercourse as far as was visible. The remaining bypass road study area is part of a landscape identified as wetland on topographic mapping. An area cleared of trees by modern forest harvesting practices was used to attempt additional coverage of the area which was cut short due to wet, marshy ground conditions.

It is proposed that the western end of the bypass cross an existing historic mining road that runs parallel with Seloam Lake Road (**Plate 8**). This historic road is related to *Site 7*, the Stanley Crusher and flume features. The road measures approximately 5 metres in width and features several bulldozed push-offs. A stone pile with a fallen marker post lie immediately north of the historic road (**Plate 9**). The historic road merges with the modern road just west of the proposed bypass road crossing point. A steep slope exists north from the historic road down to the point where the proposed bypass road crosses Fifteen Mile Stream (**Plate 10**). The point where the proposed bypass road crosses the historic mining road is evaluated as elevated potential for encountering historic archaeological resources.

Reconnaissance of the western proposed transmission line study area, on the east side of Fifteen Mile Stream consisted of low and wet terrain with dense low growth and dead spruce (**Plate 11**). The study area on the west side of Fifteen Mile Stream consists of a steep slope up to the existing highway (**Plate 12**). The remainder of the proposed transition line follows an existing overgrown forestry road until meeting with an existing transmission line (**Plate 13**).

Previously identified mining related features within the study area were revisited and all remained intact/undisturbed.



PLATE 3: Example of road connecting to Seloam Lake Road. Facing northeast; July 25, 2019.



PLATE 4: Example of low and wet area within eastern local bypass study area. Facing north; July 25, 2019.



PLATE 5: Example of wooded area within eastern local bypass study area; Facing northwest; July 25, 2019.



PLATE 6: Example of existing road comprising the majority of the proposed northern local bypass study area. Facing east; July 25, 2019.



PLATE 7: Watercourse with forestry road extending to the west. Facing west; July 25, 2019.



PLATE 8: Portion of historic mining road near Site 7. Facing southwest; July 25, 2019.



PLATE 9: Stone pile and collapsed wooden marker. Facing west; July 25, 2019.



PLATE 10: Slope down from historic road to river. Facing northwest; July 25, 2019.



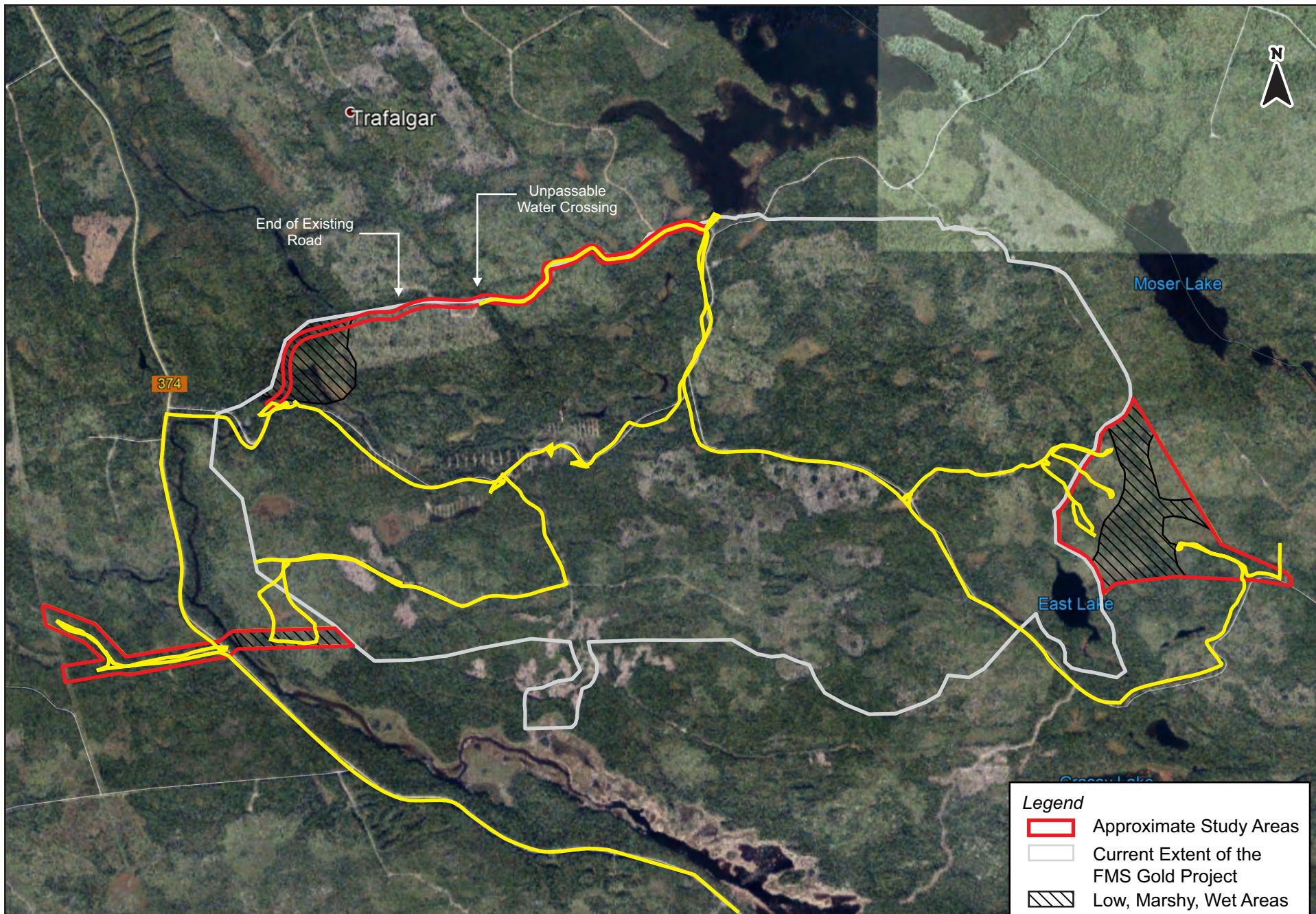
PLATE 11: Low lying and sparse terrain within proposed transmission line study area. Facing southwest; July 25, 2019.



PLATE 12: Slope from highway to the Fifteen Mile Stream within the proposed transmission line study area. Facing east; July 25, 2019.



PLATE 13: Overgrown forestry road on west side of highway within proposed transmission line study area. Facing west; July 25, 2019.



Legend

- Approximate Study Areas
- Current Extent of the FMS Gold Project
- Low, Marshy, Wet Areas
- Tracklog

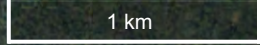


Image © 2019 Maxar Technologies



GPS Tracklog

FIFTEEN MILE STREAM GOLD PROJECT
ARCHAEOLOGICAL SCREENING & RECONNAISSANCE 2019
HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA

Figure 9

September 2019

Scale Bar

5.0 CONCLUSIONS AND RECOMMENDATIONS

The 2019 archaeological screening and reconnaissance of revisions made to the footprint of the Fifteen Mile Stream Gold Project property consisted of historical background research and a visual inspection. Subsurface testing was not undertaken at this stage of the archaeological assessment process. This work built upon the 2008, 2017 and 2018 assessments conducted by CRM Group archaeologists. The preliminary archaeological background research and field reconnaissance conducted in 2008 identified 6 sites that exhibited elevated potential for historic archaeological resources. An additional historic site was located in 2018 that exhibits elevated potential for historic archaeological resources. Two areas of elevated archaeological potential for encountering Mi'kmaw archaeological resources were identified in 2018 based on their proximity to water sources and topographic features. No additional historic Euro-Canadian or mining related resources were identified during the 2019 assessment. No additional areas of elevated archaeological potential for encountering Precontact or historic Mi'kmaq resources were identified during the 2019 assessment.

Based on the various components of the background study, including environmental setting, Mi'kmaw land use, property history and field reconnaissance, portions of the proposed Fifteen Mile Stream Gold Project site is considered to exhibit moderate potential for encountering Precontact and/or early historic Mi'kmaw archaeological resources and elevated potential for encountering historic Euro-Canadian archaeological resources.

CRM Group recommends adhering to the recommendations below provided in the 2008 and 2018 reports as to the management of Sites 1 – 7 and Areas 2 & 3.

1. It is recommended that the potential for archaeological impact be reviewed once the development site plan has been finalized.
2. It is recommended that areas of potential archaeological significance as identified in this report (Sites 1-7) be avoided if possible in the design and development of the Fifteen Mile Stream Gold Project.
3. It is recommended that the alignment of the local traffic bypass road avoid any features associated with Site 7, including the historic road.
4. It is recommended that areas of potential archaeological significance as identified in this report (Sites 1-7) that cannot be avoided in the design and development of the Fifteen Mile Stream Development be subjected to intensified historical research to provide a comprehensive context for interpreting features and a program of shovel testing to determine whether or not buried archaeological resources are present and/or to determine the age, function and significance of identified features.
5. It is recommended that detailed documentation of all historic industrial features that cannot be avoided in the design and development of the Fifteen Mile Stream Gold Project be subjected to detailed documentation. Documentation should include video, photography and surveyed plans.
6. It is recommended that if the areas of elevated archaeological potential (Areas 2 & 3) are to be impacted by future development, a program of shovel testing be undertaken to determine whether or not buried archaeological resources are present.

7. It is recommended that any additional construction related impacts not defined above (including access roads, staging areas etc.) be subjected to archaeological screening and reconnaissance prior to development.
8. It is recommended that the proposed eastern local traffic bypass and proposed western transmission line study areas assessed under HRP A2019NS075 in this report be cleared of any requirement for further archaeological investigation.
9. In the event that archaeological deposits or human remains are encountered during construction activities associated with the Fifteen Mile Stream Development, 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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November 28, 2019

Kyle Cigolotti
Cultural Resource Management Group
Ten Mile House
1519 Bedford Highway
Bedford, NS B4A 1E3

Dear Mr. Cigolotti:

**RE: Heritage Research Permit report
 A2019NS075 – Fifteen Mile Stream**

We have received and reviewed your revised report under the terms of Heritage Research permit A2019NS075 for an archaeological resource impact assessment of the Fifteen Mile Stream Gold Project in HRM County.

The report details the archaeological screening and reconnaissance of the Fifteen Mile Stream Gold Project proposed redevelopment site, on Soloam Lake Road north of Sheet Harbour, HRM, by CRM Group Ltd. in July 2019. The archaeological work included a review of background and historical research and previous archaeological work in the study area, a review of Indigenous land use, the environmental setting, and field reconnaissance of three new sections in the project area. No shovel testing took place at this stage of archaeological assessment. No additional areas of elevated archaeological potential were identified and therefore added to the known inventory from archaeological assessments in 2008 and 2018 (See Tables 1 and 2 and Figure 8).

Based on the above, the reporter recommends adhering to the recommendations provided in the 2008 and 2018 archaeology permit reports as to the management of Sites 1-7 and Areas 2 and 3. The potential for archaeological impact should be reviewed once the development site plan has been finalized. Areas of potential archaeological significance should be avoided if possible, in the design and development of the project. The alignment of the local bypass road should avoid any features associated with Site 7, including the historic road. Areas of potential archaeological significance that cannot be avoided in the design and development of the project should be subjected to intensified historical research and a program of shovel testing to determine whether or not buried archaeological resources are present and/or to determine the age, function and significance of identified features. All historic industrial features that cannot be avoided in the design and development of the project should be subjected to detailed documentation. Documentation should include video, photography and survey plans. If the areas of elevated archaeological potential (Areas 2 & 3) are to be impacted by development, a program of shovel testing should be undertaken to determine whether buried archaeological resources are present. Any additional construction related impacts not identified above should be subjected to archaeological screening and reconnaissance prior to development. The proposed eastern local traffic bypass and proposed western transmission line study areas assessed under this permit should be cleared of any requirement for further archaeological investigation. Finally, if archaeological deposits or human remains are encountered during construction activities associated with the Fifteen Mile Stream development, all work in the associated areas should stop and contact must be made with the Coordinator of Special Places.

CCH staff finds the revised report and associated recommendations acceptable as submitted. Please do not hesitate to contact me should you have any questions or concerns.

Sincerely,

Sean Weseloh McKeane
Coordinator, Special Places