



Appendix A.1

Fifteen Mile Stream Development Archaeological Screening &
Reconnaissance Report March 2009,
Cultural Resource Management Group Limited

ACADIAN MINING CORPORATION

**FIFTEEN MILE STREAM DEVELOPMENT
ARCHAEOLOGICAL SCREENING & RECONNAISSANCE
HALIFAX REGIONAL MUNICIPALITY
NOVA SCOTIA**

ARCHAEOLOGICAL SCREENING &
RECONNAISSANCE REPORT

Submitted to:
Acadian Mining Corporation
and the
Special Places Program - Heritage Division

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MARCH 2009



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**FIFTEEN MILE STREAM DEVELOPMENT
ARCHAEOLOGICAL SCREENING & RECONNAISSANCE
HALIFAX REGIONAL MUNICIPALITY
NOVA SCOTIA**

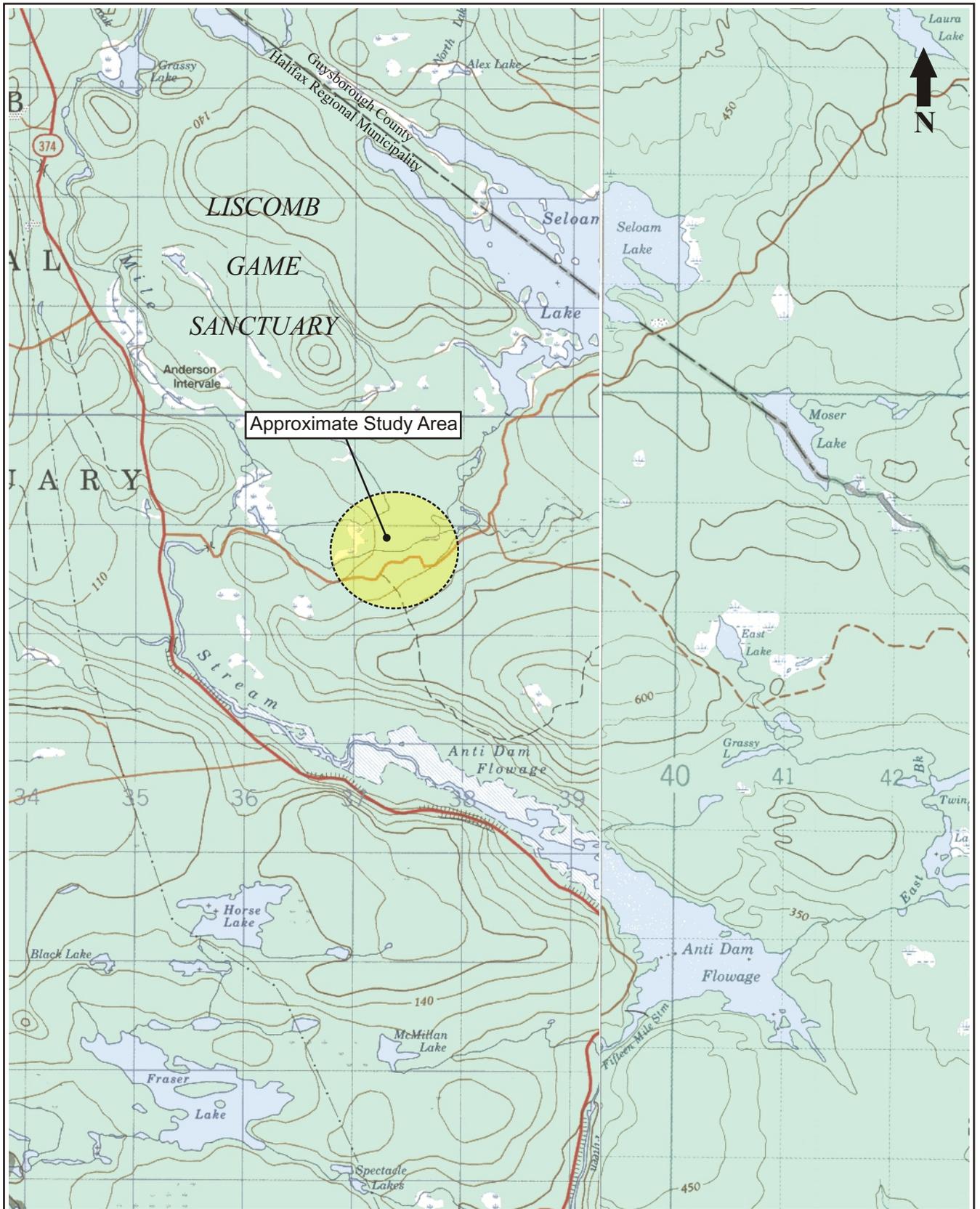
1.0 INTRODUCTION

Acadian Mining Corporation is proposing to develop an open-pit mine to access known gold deposits at the Fifteen Mile Stream Development site, located in the north-eastern corner of Halifax Regional Municipality, approximately 25 kilometres north of Sheet Harbour (*Figures 1 & 2*). The exact location and configuration of the mine complex has not yet been determined.

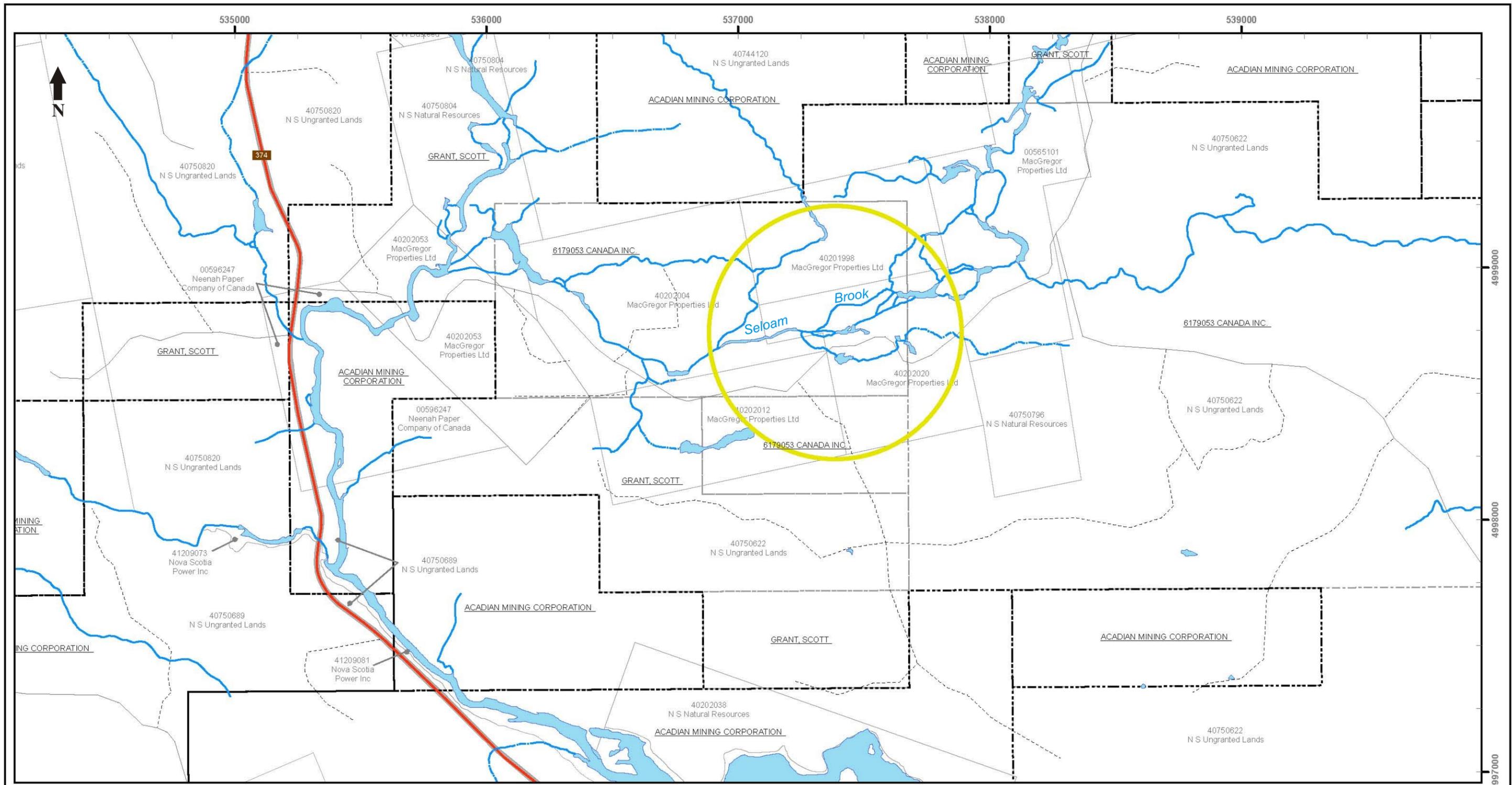
In order to address the potential for encountering archaeological resources during development of the Fifteen Mile Stream property, Acadian Mining retained Cultural Resource Management (CRM) Group to undertake archaeological screening and reconnaissance within the proposed development footprint.

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. Reconnaissance was carried out on October 30, 2008.

The archaeological investigation was conducted according to the terms of Heritage Research Permit A2008NS88 (Category 'C'), issued to Beanlands by the Special Places Programs – Heritage Division (SPP-HD). 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.



	Approximate Study Area	Figure 1
	FIFTEEN MILE STREAM ARCHAEOLOGICAL SCREENING & RECONNAISSANCE HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA	
		March 2009 Scale 1:50 000



Legend

Collector Highway	Acadian Mining Corp.
Major Local	Other Mineral Licenses
Minor Local	Property
Loose Surface	Road Rail ROW
Cart Tracks	Lakes; Rivers
Rivers; Streams	Intermittent

Detailed Study Area **Figure 2**

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

0 0.2 0.4 0.6 0.8 1
Kilometres



Source:
Property - Service Nova Scotia & Municipal Relations
Mineral Rights - NS Natural Resources DPME 51 v15 March 12, 2008

Property Ownership
Acadian Mining Corporation
Nova Scotia Mineral Properties




Revision 1.1
September 2008

2.0 STUDY AREA

The Fifteen Mile Stream Development site is located in the north-eastern corner of Halifax Regional Municipality, approximately 25 kilometres north of Sheet Harbour (*Figure 1*). The property comprises the eastern half of the historic Fifteen Mile Stream Gold District and can be characterised as unpopulated, gently undulating and forested. Access to the study area can be gained by following a gravel road that runs east off Highway 374 (*Figure 2*).



PLATE 1: Fifteen Mile Stream from bridge on October 30, 2008; facing northeast.

3.0 METHODOLOGY

Acadian Mining Corporation retained CRM Group to undertake archaeological screening and reconnaissance surveys of the area that will potentially be disturbed by development activities. To address the issues, CRM Group developed a work plan consisting of the following components: review relevant site documentation to develop archaeological potential model (screening); assist Acadian Mining with First Nation communities discussion (as required); archaeological reconnaissance of the area(s) to be impacted by development activities; and, prepare a report summarizing the results of the background research and field survey, as well as recommend strategies for assessment and management of areas exhibiting high archaeological potential.

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 this goal, CRM Group utilized the resources of various institutions including documentation available through Nova Scotia Archives and Records Management, the Nova Scotia Land Information Centre and the SPP-HD.

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

Due to unforeseen economic downturn, the background study could not be developed to the degree originally intended. Further background research would add value and depth to the interpretation of occupation history.

3.2 Field Reconnaissance

The goals of the archaeological field reconnaissance were to conduct a reconnaissance of the potential development impact zone, document any archaeological sites identified during the course of visual inspection, and design a strategy for testing areas of archaeological potential, as well as any archaeological resources identified within the study area. Although the ground search did not involve sub-surface testing, the researchers were 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.

4.0 RESULTS OF SCREENING AND RECONNAISSANCE

4.1 Background Study

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

4.1.1 Environmental Setting

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

Water Sources

The Fifteen Mile Stream Development property is drained by way of Seloam Brook, a primary tributary of Fifteen Mile Stream that flows southwest across the study area (*Figure 2*). Fifteen Mile Stream flows south into the Atlantic Ocean near Sheet Harbour (*Plate 1*). Proximity to water, for both drinking and transportation, is a key factor in identifying Precontact and historic Native, as well as early Euro-Canadian, archaeological potential.

Topography

The study area is located within the greater terrestrial region known as the 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 be related to the earlier construction of a dam on nearby Seloam Lake. Elevated areas within the study area may have provided important vantage points for viewing the surrounding region and for sighting large game. The Fifteen Mile Stream Development 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).

Soils

The Fifteen Mile Stream area is covered primarily by *Danesville* and *Halifax* series soils. *Danesville* soils are imperfectly drained. In texture, this soil is characterized by a gravelly sandy loam to stony sandy loam. The material is excessively stony and shallow, and is therefore generally unsuitable for agriculture (MacDougall et. al. 1963: 33). *Halifax* soils are well drained but typically shallow, stony and porous. The parent material is olive to yellowish-brown sandy loam to gravelly sandy loam glacial till derived primarily from quartzite. In general, *Halifax* soils are too stony for agriculture (MacDougall et. al. 1963: 32-33).



PLATE 2: Seloam Brook on October 30, 2008; facing southwest.

Vegetation

The forest growth within this ecological region includes Balsam Fir, Red Spruce, White Spruce, Eastern Hemlock and Yellow Birch. Slow-moving streams are bordered by broad swampy areas populated with 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 Native Land Use

The land within the study area was once part of the greater Mi'kmaq territory known as *Eskikewa'kik*, meaning 'skin dressers territory'. The 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 approximately 500 metres west of the study area, would have been part of a transportation route facilitating travel inland from Sheet Harbour and the Atlantic Ocean.

A review of the Maritime Archaeological Resource Inventory, a provincial archaeological site database maintained by SPP-HD, 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 closest registered archaeological site is situated approximately 3.5 kilometres north of the study area. The site (BhCp-1) was recorded by Harry Piers in 1900 and is the location of an historic Mi'kmaq burial. 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.

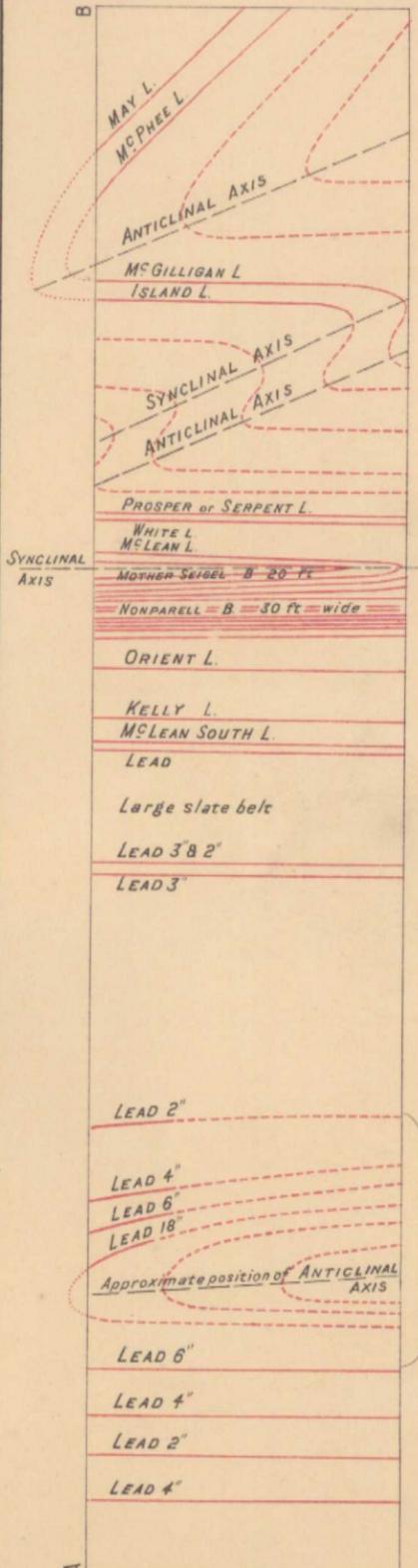
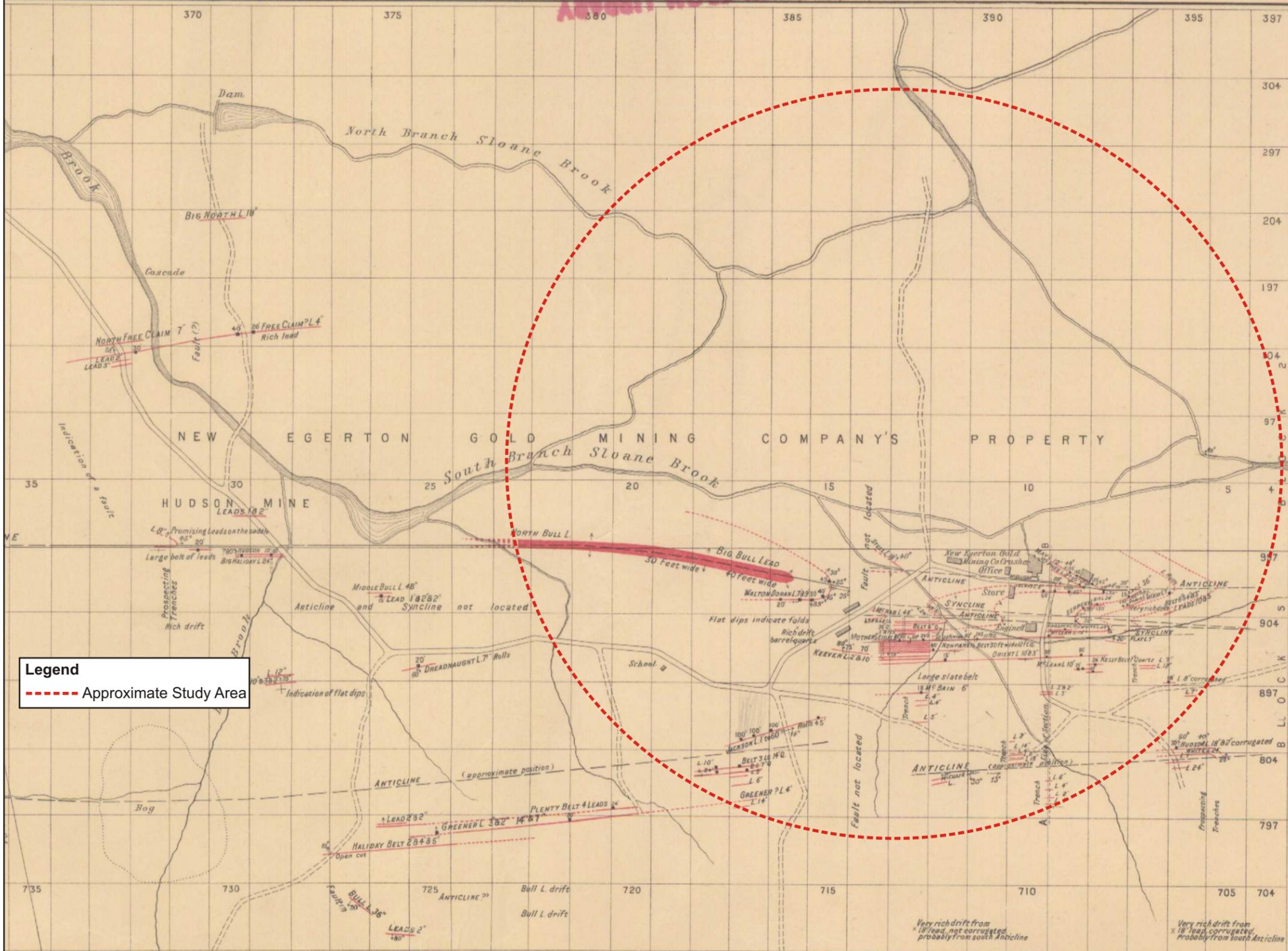
Based on the environmental setting and Native land use, the Fifteen Mile Stream Development site is ascribed moderate potential for encountering Precontact and/or early historic Native archaeological resources.

4.1.3 Property History

The Fifteen Mile Stream study area has a long history of industrial use. 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 3*). Several mining companies explored and operated various small, shallow mines/shafts during this period. The bulk of production, however, 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. 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 2003.

Euro-Canadian settlement in the Fifteen Mile Stream area began in 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 4*). 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).

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BIBLIOTHÈQUE DE LA MAIRIE



Legend
 - - - - - Approximate Study Area

TORONTO LITH. CO., LTD.
 PLAN AND SECTION
 FIFTEEN-MILE STREAM GOLD DISTRICT
 HALIFAX COUNTY, N. S.



E.R. Faribault Map - 1899
 FIFTEEN MILE STREAM
 ARCHAEOLOGICAL SCREENING & RECONNAISSANCE
 HALIFAX REGIONAL MUNICIPALITY

Figure 3
 March
 2009

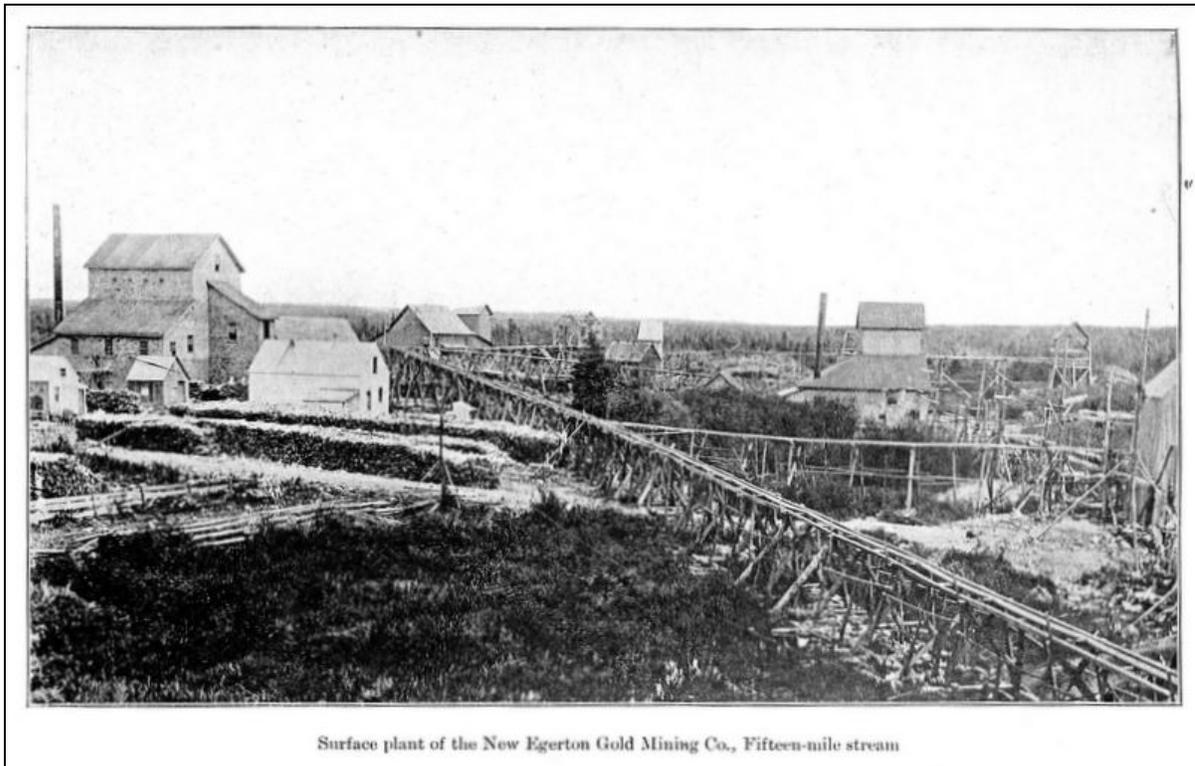


PLATE 3: Historic photograph of the New Egerton Gold Mining Company surface plant.

As previously stated, the background study was not developed to the degree originally intended. Further background research would add value and depth to the interpretation of occupation history.

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

4.1.4 Archaeological Potential

Based on the various components of the background study, including environmental setting, Native land use and property history, the Fifteen Mile Stream Development site is considered to exhibit moderate potential for encountering Precontact archaeological resources but high potential for encountering historic Euro-Canadian archaeological resources.

4.2 Field Reconnaissance

Fieldwork, consisting of a visual inspection of the study area, was conducted by CRM Group archaeologists on October 30, 2008. The primary purpose of the visit was to assess the archaeological potential of the proposed development area and to investigate various topographical and cultural features which had been identified as areas of elevated potential during the background research. Access to the study area was gained by following a gravel road east that from Highway 374. A wide circuit was made through the property, resulting in extensive coverage of the study area.

4.2.1 High Potential Areas

As a result of background research and field reconnaissance, several areas exhibiting high potential for encountering historic Euro-Canadian archaeological resources were identified (**Figure 5**). These areas are described below.

Site 1

Site 1 is located on the southern side of the gravel road that transects the study area. This area of artificially elevated and levelled ground is bounded to the south, east and west by a transition to a more densely forested and naturally hummocky terrain (**Plate 4; Figure 5**). Visual inspection of the area revealed the remains of a moss-covered log sill foundation measuring approximately 5 metres east-west by 7 metres north-south (UTM: 20T 537 094E; 4 998 514N) (**Plates 5 & 6**).

A cursory review of historic property documentation revealed that the parcel of land encompassing Site 1 was originally obtained by J. McDougald (Crown Land Grant Sheet 89). A review of the 1899 Faribault map indicates the presence of a school house in the vicinity of Site 1 (**Figure 5**). Based on the 1899 Faribault map, it is assumed that Site 1 represents the remains of the nineteenth-century school house.

If Site 1 is to be impacted by future development, additional historical and archaeological investigation must be undertaken in order to assess the archaeological significance (age, function and integrity) of the site.



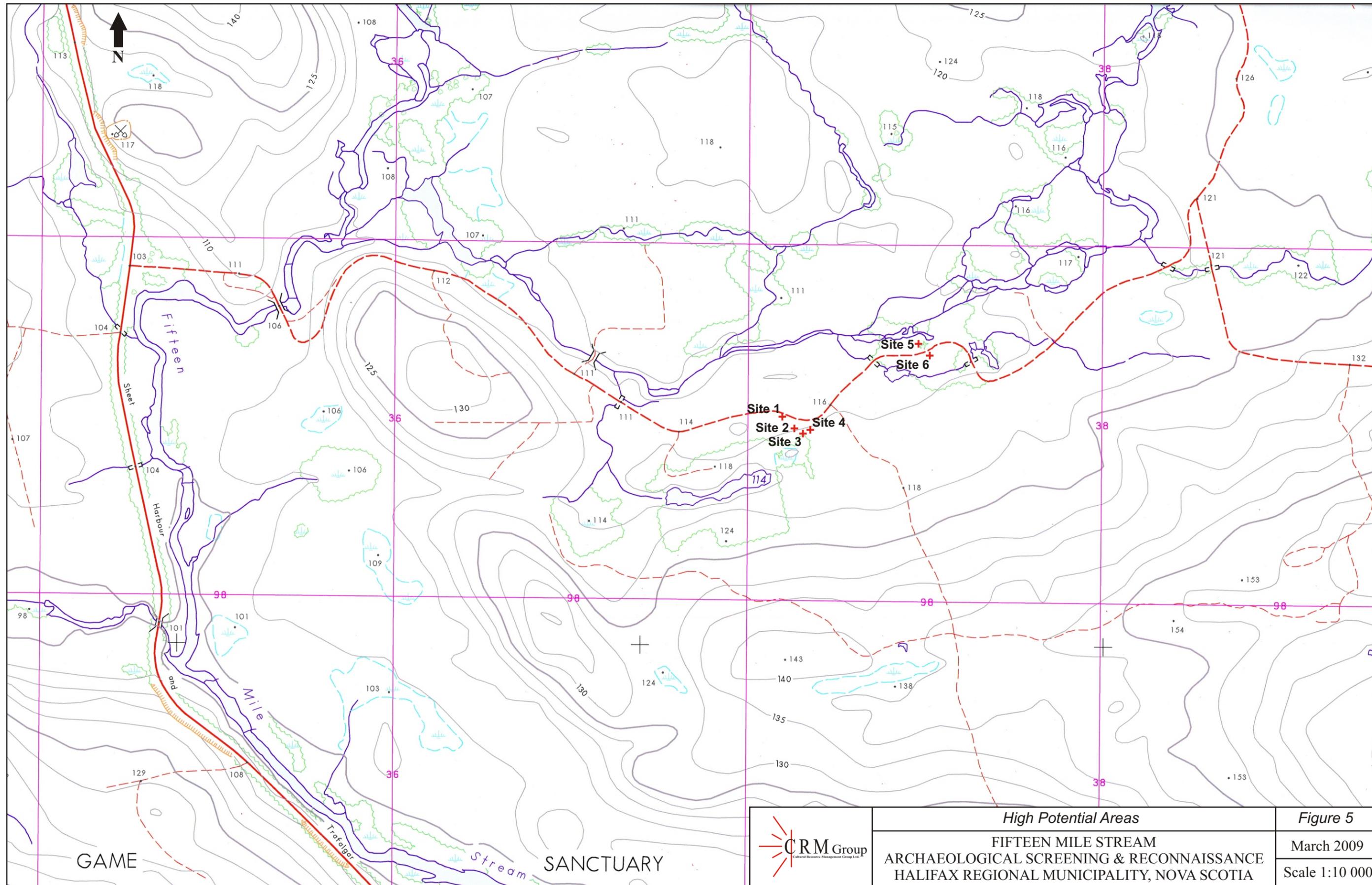
PLATE 4: Site 1: Artificially elevated and levelled area; facing north.



PLATE 5: Site 1: Remains of moss-covered log sill foundation; facing east.



PLATE 6: Site 1: Remains of moss-covered log sill foundation; facing northeast.



	<i>High Potential Areas</i>	<i>Figure 5</i>
	FIFTEEN MILE STREAM ARCHAEOLOGICAL SCREENING & RECONNAISSANCE HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA	
		March 2009 Scale 1:10 000

Site 2

Site 2, located on the southern side of the gravel road that transects the study area, is situated approximately 50 metres southeast of Site 1 (**Figure 5**). The site includes what appear to be the remains of a moss-covered wooden sill foundation measuring approximately 5.5 metres east-west by 3 metres north-south (UTM: 20T 537 133E; 4 998 483N) (**Plate 7**). The feature may represent the remains of a domestic structure or industrial shack. 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. The scatter of artifacts suggests the presence of a feature at this location (**Plate 8**).

A cursory review of historic property documentation revealed that the parcel of land encompassing Site 2 was originally obtained by J. McDougald (Crown Land Grant Sheet 89). A review of the 1899 Faribault map failed to identify any structures depicted in the vicinity of Site 2. The site, however, is situated near the Jackson Lead, the first area of reported mining in the district (**Figures 4 & 5**).

If Site 2 is to be impacted by future development, additional historical and archaeological investigation must be undertaken in order to assess the archaeological significance (age, function and integrity) of the site.



PLATE 7: Site 2: Remains of moss-covered log sill foundation; facing east.



PLATE 8: Site 2: Asphalt shingle affixed to sheet metal with shingle nail.

Site 3

Site 3, located on the southern side of the gravel road that transects the study area, is situated approximately 30 metres southeast of Site 2 (*Figure 5*). The site includes what appear to be the remains of a moss-covered wooden sill foundation with a depression, measuring approximately 2 metres east-west by 1 metre north-south, situated at the eastern end of the feature (UTM: 20T 537 138E; 4 998 461N) (*Plate 9*). 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 (*Plate 10*).

A cursory review of historic property documentation revealed that the parcel of land encompassing Site 3 was originally obtained by J. McDougald (Crown Land Grant Sheet 89). A review of the 1899 Faribault map failed to identify any structures depicted in the vicinity of Site 3. The site, however, is situated near the Jackson Lead, the first area of reported mining in the district (*Figures 4 & 5*).

If Site 3 is to be impacted by future development, additional historical and archaeological investigation must be undertaken in order to assess the archaeological significance (age, function and integrity) of the site.



PLATE 9: Site 3: Depression at eastern end of feature; facing northwest.



PLATE 10: Site 3: Shaped and folded sheet metal.

Site 4

Site 4, located on the southern side of the gravel road that transects the study area, is situated approximately 20 metres northeast of Site 3 (**Figure 5**). The site includes what appear to be the remains of a partially in-filled cellar hole (UTM: 20T 537 181E; 4 998 471N) (**Plate 11**). Visual inspection of the surrounding area revealed the presence of a small assortment of twentieth-century artifacts, including a metal enamelware bowl (**Plate 12**). Approximately 42 metres west of the potential cellar hole, field reconnaissance identified the presence of a second depression. This smaller depression was wood-lined and may represent an associated outhouse (**Plate 13**).

A cursory review of historic property documentation revealed that the parcel of land encompassing Site 4 was originally obtained by J. McDougald (Crown Land Grant Sheet 89). A review of the 1899 Faribault map failed to identify any structures depicted in the vicinity of Site 4. The site, however, is situated near the Jackson Lead, the first area of reported mining in the district (**Figures 4 & 5**).

If Site 4 is to be impacted by future development, additional historical and archaeological investigation must be undertaken in order to assess the archaeological significance (age, function and integrity) of the site.



PLATE 11: Site 4: Potential cellar hole; facing northwest.



PLATE 12: Site 4: Metal enamelware bowl found on ground surface.



PLATE 13: Site 4: Wood-lined depression located west of potential cellar hole.

Site 5

Site 5 is located on the northern side of the gravel road that transects the study area. The site includes an artificially levelled and cleared area, some building demolition rubble visible on the surface and the remains of a partially in-filled cellar hole (UTM: 20T 537 484E; 4 998 723N) (**Figure 4; Plates 14 & 15**). Careful examination of the surrounding area revealed the presence of a small assortment of twentieth-century artifacts, including a metal enamelware pot (**Plate 16**).

A cursory review of historic property documentation revealed that the parcel of land encompassing Site 4 was originally obtained by J. Hudson (Crown Land Grant Sheet 89). A review of the 1899 Faribault map indicates the presence of a structure in the vicinity of Site 5. The structure is identified as the New Egerton Gold Mining Company office (**Figures 4 & 5**). Based on the Faribault map, it is assumed that Site 5 represents the remains of the nineteenth-century New Egerton Gold Mining Company office.

If Site 5 is to be impacted by future development, additional historical and archaeological investigation must be undertaken in order to assess the archaeological significance (age, function and integrity) of the site.



PLATE 14: Site 5: Artificially levelled and cleared area; facing south.



PLATE 15: Site 5: Building demolition rubble found on the ground surface.



PLATE 16: Site 5: Metal enamelware pot found on ground surface.

Site 6

Site 6, located on the southern side of the gravel road that transects the study area, is situated approximately 50 metres southeast of Site 5 (*Figure 5*). The site includes an artificially levelled and cleared area that is bounded to the north, east and west by a transition to a more densely forested and naturally hummocky terrain (UTM: 20T 537 503E; 4 998 691N) (*Plates 17 & 18*).

A cursory review of historic property documentation revealed that the parcel of land encompassing Site 4 was originally obtained by J. Hudson (Crown Land Grant Sheet 89). A review of the 1899 Faribault map indicates the presence of a structure in the vicinity of Site 6, identified as the New Egerton Gold Mining Company store (*Figures 4 & 5*). Based on the Faribault map, it is assumed that Site 6 represents the remains of the nineteenth-century New Egerton Gold Mining Company store.

If Site 6 is to be impacted by future development, additional historical and archaeological investigation must be undertaken in order to assess the archaeological significance (age, function and integrity) of the site.



PLATE 17: Site 6: Artificially levelled and cleared area; facing northwest.



PLATE 18: Site 6: Artificially levelled and cleared area; facing west.

Industrial Sites

The survey revealed that, in general, the remainder of the study area constituted rough, wet and undulating terrain with limited cultural modification and diminished archaeological potential. However, several areas and features that appeared to be associated with the industrial heritage of Fifteen Mile Stream were encountered and may represent features related to mineral exploration and/or extraction activities. These features were recorded and photographed. However, if these areas are to be impacted by future development, detailed documentation of the features must be undertaken.

Based on limited background research and a single day of field reconnaissance, it is obvious that the extent of resources, as detailed on the 1899 Faribault map, are significant. The features identified in this report represent only a portion of features that relate to the late nineteenth – early twentieth century mining activity of the Fifteen Mile Stream site. Further historical and archaeological investigation is required to more accurately scope the extent of the site.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The 2008 archaeological screening and reconnaissance of the Fifteen Mile Stream Development property consisted of a visual inspection of the ground surface and did not involve sub-surface testing. The preliminary archaeological background research and field reconnaissance conducted by CRM Group archaeologists identified several sites which exhibited high potential for historic archaeological resources.

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

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 further historical and archaeological investigation be undertaken to more accurately scope the extent of potential archaeological resources.
3. It is recommended that areas of potential archaeological significance, as reflected by Sites 1-6, should be avoided if possible in the design and development of the Fifteen Mile Stream Development.
4. It is recommended that areas of potential archaeological significance, as reflected by Sites 1-6, which 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 which cannot be avoided in the design and development of the Fifteen Mile Stream Development, be subjected to detailed documentation. Documentation should include video, photography and surveyed plans.
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. It is recommended that the remainder of the study area be cleared of any requirement for future archaeological investigation.
8. 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 - Heritage Division (Bob Ogilvie: 424-6475).

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