EAGLE GOLD PROJECT

HERITAGE RESOURCE PROTECTION PLAN

Version 2014-01

MARCH 2014

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

1 Introduction 1
1.1 Project Description 1
1.2 Definition of a Heritage Resource 2
1.3 Purpose 4

2 Heritage Resource Protection Policy 6

3 Background 7
3.1 Archaeological Reports 7

4 Heritage Resource Protection Plan Objectives 9
4.1 Heritage Resource Protection 9
4.2 First Nation involvement 9

5 Heritage Resource DiscoveryProtocol 10

6 Reporting Requirements 13

7 Heritage Resource Contact List 14

8 Employee and Contractor Awareness and Training 15

9 References 16

List of Tables

Table 5.1: Heritage Resource Checklist and Notification Requirements by Type of Discovery 11

List of Appendices

Appendix A Environmental Baseline Report: Historic Resources

Appendix B Palaeontological Assessment

Appendix C Fossil and Artifact Discovery Record

THIS PAGE INTENTIONALLY LEFT BLANK

1 INTRODUCTION

The Heritage Resource Protection Plan (HRPP) for the Eagle Gold Project (the Project) has been developed according to the Plan Requirements for Quartz Mining Licensing in Yukon published by Yukon Government Energy Mines and Resources Minerals Department, the *Yukon Historic Resources Act*, the *Yukon Archaeological Sites Regulation*, and the First Nation of Na-Cho Nyak Dun (FNNND) Final Agreement.

StrataGold Corporation (SGC) a subsidiary of Victoria Gold Corp. and the FNNND administer a Comprehensive Cooperation and Benefits Agreement (CCBA) signed on October 17, 2011. The CCBA includes a commitment to mitigate potential effects of the Project on Traditional Knowledge and heritage resources. This HRPP is consistent with the commitments of the CCBA and the FNNND Traditional Knowledge Policy.

The objective of the HRPP is to mitigate potential effects on heritage resources throughout the life of the Project.

1.1 PROJECT DESCRIPTION

StrataGold Corporation (SGC), a directly held-wholly owned subsidiary of Victoria Gold Corp., has proposed to construct, operate, close and reclaim a gold mine in central Yukon. The Eagle Gold Project ('the Project') is located 85 km from Mayo Yukon using existing highway and access roads. The Project will involve open pit mining at a production rate of approximately 10 million tonnes per year (Mt/y) ore, an average strip ratio (amount of waste: amount of ore) of 1.45:1.0 and gold extraction using a three stage crushing process, heap leaching, and a carbon adsorption, desorption, and recovery system over a 10 year mine life.

Aboriginal people have used the natural resources of this region for thousands of years. Members of FNNND continue to use traditional camps, trails, lookout sites, hunting and fishing areas, berry patches, and rivers in their territory.

Explorers, prospectors, traders and missionaries began to settle in the area in the late 1800s. The fur trade drove settlement and exploration of the area through this period, but mineral exploration and mining eventually became the dominant industry. Given the extent of ground disturbance for the Project and the historical use of the area by the FNNND, there is potential for heritage resources to be encountered.

1.2 DEFINITION OF A HERITAGE RESOURCE

Heritage resources refer to sites or objects of scientific or cultural value due to their archaeological, palaeontological, ethnological, prehistoric, historic, or aesthetic features.

There are three main components of heritage resources:

- Pre-contact archaeological sites: Pre-contact sites include remains (e.g., stone tools, butchered bones, and fire-cracked rock) resulting from the occupation of Yukon by Aboriginal people before contact with European traders. Pre-contact archaeological sites in Yukon contain some of the earliest evidence of occupation in North America.
- Historic archaeological sites (post-European contact but greater than 45 years old): Historic archaeological sites can be Aboriginal or non-Aboriginal, and date from the time of European contact until 45 years ago. Historic period sites can include structures (e.g., homesteads, cabins, and forts), artifacts (e.g., industrial and folk-manufactured items made of metal, glass, ceramic, stone, and other materials), or features (e.g., trails, foundations, and campsites).
- Palaeontological sites: Palaeontological resources, or fossils, are remains that indicate the existence of extinct or prehistoric plants or animals discovered on or beneath land in the Yukon. They include body fossils (e.g., bones, shells, and plant remains), impressions (e.g., leaf imprints), and trace fossils (e.g., dinosaur track ways). Fossils may be hundreds to hundreds of millions of years old and are often the remains of extinct species. Fossil sites provide information on ancient forms of animals and plants, past ecosystems, evolution, natural climate change, and extinction.

The *Yukon Environmental and Socio-economic Assessment Act (YESAA)*, Section 2 (1), defines heritage resources as:

- A moveable work or assembly of works of people or of nature, other than a record only, that is of scientific or cultural value for its archaeological, paleontological, ethnological, prehistoric, historic, or aesthetic features;
- A record, regardless of its physical form or characteristics, that is of scientific or cultural value for its archaeological, palaeontological, ethnological, prehistoric, historic or aesthetic features, or;
- An area of land that contains a work or assembly of works referred to in (a) or an area that is of aesthetic or cultural value, including a human burial site outside a recognized cemetery.

The FNNND Final Agreement defines heritage resources as:

- Moveable heritage resources;
- Heritage sites, defined as an area of land which contains moveable heritage resources, or which is of value for aesthetic or cultural reasons; and

- Documentary heritage resources.

The Yukon *Historic Resources Act,* Part 6*,* provides the following definitions:

- "archaeological object" means an object that:
    - is the product of human art, workmanship, or use, and it includes plant and animal remains that have been modified by or deposited in consequence of human activities,
    - is of value for its archaeological significance, and
    - is or has been discovered on or beneath land in the Yukon, or is or has been submerged or partially submerged beneath the surface of any watercourse or permanent body of water in the Yukon;
- "ethnographic object" means an item of material culture relating to the history and traditional culture of an ethnic group;
- "historic object" is an object that is:
    - an archaeological object that has been abandoned,
    - a palaeontological object that has been abandoned,
    - an abandoned object that is designated under subsection (2) as a historic object;
- "palaeontological object" does not include human remains but does refer to the remains or a fossil or other object that indicates the existence of extinct or prehistoric plants or animals and that:
    - is of value for its historic or palaeontological significance, and
    - is or has been discovered on or beneath land in the Yukon, or is or has been submerged or partially submerged beneath the surface of any watercourse or permanent body of water in the Yukon.

The CCBA between Victoria Gold Corp. and FNNND defines historic resources as:

- Documentary heritage resources, which are public records or non-public records, regardless of physical form or characteristics, that are of heritage significance, including correspondence, memoranda, books, plans, maps, drawings, diagrams, pictorial or graphic works, photographs, films, microforms, sound recordings, videotapes, machine-readable records and any copies thereof;
- Moveable heritage resources, which are moveable non-documentary works or assemblies of works of people or of nature that are of scientific or cultural value for their archaeological, palaeontological, ethnological, prehistoric, historic or aesthetic features, including moveable structures and objects; and

- Heritage sites, which are areas of land which contain moveable heritage resources, or which are of value for aesthetic or cultural reasons.

The term "heritage resources" is a universal reference that includes 'historic / historical resources" as defined by a number of acts and agreements. Definitions for each are provided in the preceding section. For the purposes of this HRPP, the terms are used interchangeably and are synonymous unless specifically stated otherwise.

1.3 PURPOSE

Historic (heritage) resources are protected under the *Historic Resources Act* and include any work or assembly of works of nature or of human endeavor that is of value for its archaeological, palaeontological, pre-historic, historic, scientific, or aesthetic features. Under the *Act*, no effect can occur to any historic resources site without approval of the Minister of Tourism and Culture.

The terms heritage resources, historic resources and historical resources are defined by a number of acts and agreements. Definitions are provided for each in the preceding section. For the purposes of this plan, the terms are used interchangeably and are synonymous unless specifically stated otherwise.

The HRPP provides methods for the protection of known heritage resources that include avoidance where possible, procedures for mitigation and recovery where avoidance is not feasible, and procedures to temporarily halt work for any newly discovered sites so that mitigation measures may be applied.

The HRPP was developed to ensure Project activities comply with the following legislation:

- The *Historic Resources Act* – specifically s. 64 (Destruction of historic objects or human remains) and Section 71 (Report of Findings);
- The Archaeological Sites Regulation (O.I.C. 2003-73) under the *Historic Resources Act* – specifically Section 4, regarding historic resources;
- The Placer Mining Regulation (O.I.C. 2003/59) – under the Placer Mining Act specifically Schedule 1 Operating Conditions, Section E regarding historic objects and burial grounds;
- The Quartz Mining Regulation (YOIC 2003/64) – under the Quartz Mining Act specifically Schedule 1 Operating Conditions, Section E regarding historic objects and burial grounds;
- The Land Use Regulation under the Territorial Lands (Yukon) Act – specifically Section 9 (Prohibitions); and
- Chapter 13 (Heritage) of the First Nation of Nacho Nyak Dun Final Agreement.

In addition, the HRPP has been developed in cooperation with the FNNND Heritage Department to ensure that SGC receives appropriate direction from the FNNND to protect heritage resources, to continue SGC's commitment to the FNNND, and out of respect for the connection between FNNND

citizens and their culture. SGC has further consulted with Yukon Department of Tourism and Culture, Heritage Resources Unit and Historic Sites Unit during development of the HRPP.

The CCBA establishes and provides the means for an FNNND Environmental Monitor position to assist with the implementation of the CCBA over the life of the Project. The SGC Environmental Coordinator and the FNNND Environmental Monitor will be the key contact in the event of heritage resource discovery on site.

2 HERITAGE RESOURCE PROTECTION POLICY

SGC has implemented a Heritage Resource Protection Policy for heritage resource protection throughout the life of the Eagle Gold Project. Together the Heritage Resource Protection Policy and this Heritage Resource Protection Plan applies to all SGC employees and contractors that engage in activities at the Eagle Gold Project site.

SGC recognizes the value of heritage resources and is committed to protection of them. SGC will comply with the Yukon *Historic Resource Act* and the Yukon Archaeological Sites Regulation, and honour its agreements with FNNND.

The Heritage Resource Protection Policy includes the following commitments:

- Where the FNNND provides Traditional Knowledge (TK) for consideration with respect to activities related to the Project, SGC will give full and fair consideration to the TK and , if appropriate, may alter or change its activities;
- Ensure all employees and contractors have reviewed and understand the Heritage Resource Protection Policy and the HRPP; and
- Following the protocols listed in the HRPP upon discovery of a heritage resource including stoppage of work that may disturb the resource, contacting appropriate parties depending on the resource identification, and compliance with the *Yukon Heritage Resources Act* and Regulations.

3 BACKGROUND

The Dublin Gulch area has a rich history of exploration and mining since 1898. Dublin Gulch is a watercourse that discharges to Haggart Creek which is a major tributary to the South McQuesten River. Exploration and placer mining began on Haggart Creek in 1895. In 1896, Thomas Haggart built cabins on the then Nelson Creek and in Dublin Gulch. Nelson Creek was renamed Haggart Creek in 1898. Haggart Creek and its tributaries near Dublin Gulch were prospected and mined by multiple claim owners using relatively small operations (pick and shovel and small placer workings) until the late 1930s when larger mechanized equipment was brought to the area (Mayo Historical Society 1999). Mining in the Dublin Gulch area was suspended in the early 1940s during World War II and restarted shortly after the war's end. Mining operations on Haggart Creek from 1953 – 1958 used heavy duty equipment including draglines. It was determined that much of the area was mined out in a few years for larger-scale placer operations, and smaller scale prospecting and mining resumed for the next several decades (Mayo Historical Society 1999). Dublin Gulch was placer mined from 1899 – 1978 by various placer operations using small and heavy duty equipment. Dublin Gulch was first placer mined in 1899 by John L. Suttles. In 1904, tungsten was identified in placer concentrates. Several hard rock mining claims were staked on Dublin Gulch in 1907 including the Carscallen, and the Victoria claims. The Olive claim near the headwaters of Dublin Gulch was staked in 1908 by Robert Fisher. The Geological Survey of Canada (GSC) discovered *in situ* scheelite in Dublin Gulch in 1916 (Wardrop 2009), and during World War II, miners on Dublin Gulch received preferential treatment with respect to heavy equipment parts and road maintenance due to strong demand for tungsten for the manufacture of munitions. During the 1940s scheelite concentrate from Dublin Gulch was shipped to the Mines Branch in Ottawa. In 1942, a federal government grant enabled construction of the South McQuesten Road and the Bailey bridge over the South McQuesten River.

More recently, mineral exploration throughout the Dublin Gulch area has been carried out by numerous exploration companies. The "Dublin Gulch Project" was proposed by a New Millennium Mining Ltd. in the mid- to late-1990s and preceded to initial assessment and regulatory review under the *Canadian Environmental Assessment Act* (CEAA) as was required at the time. Since that time, environmental assessment and regulatory responsibilities in Yukon have changed significantly, due to Devolution of regulatory responsibilities to Yukon Government, and implementation of the YESAA process.

3.1 ARCHAEOLOGICAL REPORTS

A review of background information gathered for the previous Dublin Gulch Project revealed that the proposed Project area had been assessed for heritage resources during 1995 – 1996 by Sheila Greer. The Yukon Department of Tourism and Culture confirmed that the studies undertaken were adequate, and confirmed that no further field study would be required for the currently proposed Project unless the Project footprint was expanded or altered. However, at the request of SGC a field

visit by the Project archaeologist was undertaken to confirm the nature of the terrain, existing disturbance, and archaeological/historic potential of the area.

A detailed description of baseline conditions for pre-contact and historic archaeological sites and palaeontological sites was completed as part of a Project Proposal submitted for YESAB review in 2011 (Eagle Gold Project Baseline Report: Historical Resources, 2011, provided in Appendix A).

The upland areas of the Project site are rugged, mountainous, generally un-fossiliferous, and are of low archaeological potential. Along Dublin Gulch and Haggart Creek, placer gold mining has extensively re-worked the valley deposits. These activities produced the only substantial collection of Pleistocene vertebrate fossils from the Mayo District (Harington 1996). Field surveys determined that the source-site for these fossils in Dublin Gulch has been completely removed, along with most other high potential palaeontological deposits. Exceptions are a few un-mined pockets along Dublin Gulch and Ann Gulch.

Placer mining activities have also disturbed all high potential for pre-contact archaeological sites. Regarding historic structures, there are more than a dozen in the vicinity of Dublin Gulch. These buildings are more than 45 years old and qualify as historic sites in the Yukon. Along the access road, the South McQuesten portion of the road has three pre-contact and historic archaeological sites.

Further information is available in the Eagle Gold Project Palaeontological Assessment (FMA Heritage Inc. 2010) in Appendix B.

4 HERITAGE RESOURCE PROTECTION PLAN OBJECTIVES

4.1 HERITAGE RESOURCE PROTECTION

If a heritage resource is encountered, SGC employees and contractors will use the Heritage Resource Field Guidelines (Section 5) to ensure compliance and an appropriate response that is consistent with the FNNND Final Agreement and the relevant provisions of the *Historic Resources Act*. SGC employees and contractors will be required to participate in a mandatory site orientation that will include a definition of what a heritage resource is and the proper protocols to take if a heritage resource is discovered at the Project site.

4.2 FIRST NATION INVOLVEMENT

FNNND involvement is crucial to the success of the project. FNNND is involved in Project planning and execution through the CCBA and various other means. FNNND involvement in heritage resource protection will continue through implementation of this plan.

Heritage resources are culturally important to the FNNND and Chapter 13 of their Final Agreement provides various rights in relation to these resources. In particular, s13.3.2 states:

> *"Each Yukon First Nation shall own and manage ethnographic Moveable Heritage Resources and Documentary Heritage Resources that are not Public Records and that are not the private property of any Person, that are found in its respective Traditional Territory and that are directly related to the culture and history of Yukon Indian People."*

SGC will involve the FNNND in the monitoring and identification of heritage resources over the life of the Project. In August 2012, the FNNND hired, as part of the implementation of the CCBA an Environmental Monitor. The responsibilities of the FNNND Environmental Monitor include the participation in Project related monitoring and field studies (these would include heritage resource studies should they be conducted on site) and to act as the key FNNND contact in the event heritage resources are encountered at the Project site.

To date, four members of the FNNND have participated in the palaeontology field program, and also visited many of the standing historic structures. They expressed a strong interest in palaeontological resources, and in the disposition of the fossils previously recovered from Dublin Gulch. Participants also expressed interest in the historic structures, and were knowledgeable regarding the mining history of the area. No concerns were expressed by the participants regarding any specific pre-contact archaeological concerns related to the Project, with the understanding that any archaeological sites would either be avoided or would be subject to further study.

5 HERITAGE RESOURCE DISCOVERYPROTOCOL

The following Heritage Resource discovery protocol provides mandatory actions by employees or contractors in the event of heritage resource discovery at the Project site. By following the protocol, SGC and employees will comply with the Yukon *Historic Resources Act* and Archaeological Sites Regulation.

Archaeological and historical sites are protected from disturbance under the Yukon *Historic Resources Act* (Archaeological Site Regulations). No artifacts may be removed from an archaeological or historic site without a permit. According to the Yukon Archaeological Sites Regulations, an artifact is an object of archaeological or historical interest that is older than 45 years and has been abandoned.

The following actions are mandatory for all employees and contractors working at the Project site in the event of a field discovery, including human remains:

- **STOP** work immediately in area of find. A list of potential discovery types is provided in **Table 5.1**.
- **DO NOT DISTURB** the site.
- **NOTIFY** contacts listed below in **Table 5.1-1**.
- **RECORD** the site**.**
    - GPS location
    - Current date and time
    - Estimate size and feature
    - Brief description of setting and access
    - Photograph(s) if possible

If a heritage resource is confirmed by FNNND and the Yukon Archaeology Program, FNNND representatives may wish to contact and consult with other FNNND citizens to decide upon a suitable course of action and ensure interests under s. 13.3.2 of the FNNND Final Agreement are addressed. If the course of action proposed has the potential to alter the historic character, or includes searching for or excavation of the resource, the Yukon Archaeology Branch will determine how to meet regulatory requirements.

If human remains are discovered, the RCMP must be contacted immediately. SGC must report this find to the permitting authorities that have authorized the land use activities.

If the human remains are determined to be from a historic First Nation burial, SGC will work with the FNNND and Yukon Archaeology to ensure the remains are treated respectfully following the Guidelines Respecting the Discovery of Human Remains and First Nation Burial Sites in the Yukon.

CONTACT the Yukon Paleontologist via the Yukon Department of Tourism and Culture Archaeology Branch if fossil bones are discovered. The location of the bones is to be recorded and the bones set aside until further direction from the Yukon Paleontologist.

Table 5.1: Heritage Resource Checklist and Notification Requirements by Type of Discovery

Discovery Type	Features	Required Contacts	Comments
Prehistoric:	**remains resulting from the traditional occupation of the Yukon by Aboriginal people before contact with European traders**		
Habitation	Housepit, cave, rock shelter	SGC Environmental Coordinator (on-site) ↓ SGC Vice President Mine Support Services ↓ **Archaeologist, Department of Tourism and Culture**	
Trail	Visible, bent trees, trail markers		
Campsite	Fire-cracked rock, calcined bone, stone tools, artificial cobble concentration, culturally modified trees (stone axe-cut stump, old bark stripping)		
Cache	Ground cache (depression), boulder cache		
Subsistence	Caribou fence (wood/stone), rock hunting blind, fish trap, net sinker stones)		
Burial Sites	Ground depression, mound, grave offerings, cremation site		
Human Remains	Partial skeletons, bones, cremated remains, complete human bodies,	SGC Environmental Coordinator (on-site) ↓ SGC Vice President Mine Support Services ↓ **RCMP**	Based on the information, the RCMP will notify: (1) Coroner's office if the site is of forensic or criminal in nature, or (2) both the FNNND and the Archaeologist, Department of Tourism and Culture
Fossils	Leaves, seeds, nests, dinosaur tracks, fish, invertebrates, mammoth tusks, etc.	SGC Environmental Coordinator (on-site) ↓ SGC Vice President Mine Support Services ↓ **Palaeontologist, Department of Tourism and Culture**	Eagle Gold Project Fossil and Artifact Discovery Record

Discovery Type	Features	Required Contacts	Comments
Historic:	**these can be Aboriginal or non-Aboriginal, and date from the time of European contact until 45 years ago**		
Structure	Brush camp, tent frame, log building	SGC Environmental Coordinator (on-site) ↓ SGC Vice President Mine Support Services ↓ **Archaeologist, Department of Tourism and Culture**	
Structural traces	Building outline, berm, foundation (log, stone or concrete), depressions		
Cultural material	Tin cans, bottles, axe-cut stumps, culturally modified trees (bark stripping, ringed)		
Subsistence feature	Deadfall trap, hunting blind, fish wheel, fish net, net sinker stones, animal traps (leg hold and 'houses', snares		
Mining	Placer workings, 'glory holes', mine adits (entrances)		
Travel	Trail, blazed trees, wagon road, watercraft		
Burial Sites	Grave house, grave fence, cross, unmarked or ground disturbed, depression		
Human Remains	Partial skeletons, bones, cremated remains, complete human bodies	SGC Environmental Coordinator (on-site) ↓ SGC Vice President Mine Support Services ↓ **RCMP**	Based on the information, the RCMP will notify: (1) Coroner's office if the site is of forensic or criminal in nature, or (2) both the FNNND and the Archaeologist, Department of Tourism and Culture
Fossils	Leaves, seeds, nests, dinosaur tracks, fish, invertebrates, mammoth tusks, etc.	SGC Environmental Coordinator (on-site) ↓ SGC Vice President Mine Support Services ↓ **Palaeontologist, Department of Tourism and Culture**	See Eagle Gold Project Fossil and Artifact Discovery Record

(listed from Yukon publications: Handbook for the Identification of Heritage Sites and Features, 2007 (http://www.tc.gov.yk.ca/pdf/heritagehandbook.pdf); and Guidelines Respecting the Discovery of Human Remains and First Nation Burial Sites in the Yukon, 1999)

6 REPORTING REQUIREMENTS

Immediately after a heritage resource discovery the Eagle Gold Project Fossil and Artifact Discovery Record (Appendix C) will be completed by the individual who made the discovery and the onsite manager or Environmental Coordinator. FNNND Environmental Monitor will receive copies of any completed Fossil and Artifact Discovery Records to fulfill the intent of Chapter 13 of the FNNND Final Agreement.

7 HERITAGE RESOURCE CONTACT LIST

Kelly Arychuk
SGC Vice President Mine Support Services
Ph. (604) 696 6604
C: (604) 335-9667
karychuk@vitgoldcorp.com

Ron Peter
FNNND – SGC Environmental Monitor
Mayo, Yukon
Ph. (867) 996-2265 x 138
Fax. (867) 996-2267

FNNND Heritage Manager
Mayo, Yukon
Ph. (867) 996-2265 x116
Fax. (867)996-2267
heritagemgr@nndnf.com

Dr. Ruth Gotthardt, Yukon Archaeologist
Government of Yukon
Department of Tourism and Culture
Yukon Archaeology Program
133A Industrial Road
Whitehorse, YT Y1A 2C6
Ph. (867) 667-5983
Fax. (867) 667-5377
ruth.gotthardt@gov.yk.ca

Dr. Grant Zazula, Yukon Palaeontologist
Government of Yukon
Department of Tourism and Culture
Yukon Palaeontology Program
133A Industrial Road
Whitehorse, YT Y1A 2C6
Ph. (867) 667-8089
Fax. (867) 667-5377
grant.zazula@gov.yk.ca

RCMP Mayo Detachment
P.O. Box 70
Mayo, YT Y0B 1M0
Phone: 867-996-2677
Fax: 867-996-2801

8 EMPLOYEE AND CONTRACTOR AWARENESS AND TRAINING

Project site orientation will be mandatory for all new employees and contractors working at the Eagle Gold Project. The Heritage Resource Protection Plan component of the site orientation will cover the following information:

- Definition of a heritage resource
- SGC's Heritage Resource Protection Policy
- Background of existing heritage resource knowledge
- Objective of heritage resource protection
- Heritage Resource Field Guidelines
- Reporting requirements and contacts

Site orientation materials will include the 2007 publication "Handbook for the Identification of Heritage Sites and Features" found at http://www.tc.gov.yk.ca/pdf/heritagehandbook.pdf.

9 REFERENCES

Historic Resources Act, RSY 2002, c 109

Mayo Historical Society.1999. Gold and Galena: A History of the Mayo District. Compiled by Linda E.T. MacDonald and Lynette Bleiler. Second Printing with Addendum. Mayo, YT.

Placer Mining Act, SY 2003, c 13

Placer Mining Land Use Regulation, YOIC 2003/59

Quartz Mining Act, SY 2003, c 14

Quartz Mining Land Use Regulation, YOIC 2003/64

Territorial Lands (Yukon) Act, YOIC 2010/092

Wardrop Engineering Inc. (Wardrop). 2009. Technical Report on the Dublin Gulch Property, Yukon Territory, Canada. Private report prepared for StrataGold Corporation

Yukon Environmental and Socio-economic Assessment Act, S.C. 2003, c. 7

Yukon Government 2007. Handbook for the Identification of Heritage Sites and Features. Available at: http://www.tc.gov.yk.ca/publications/publications_heritagehandbook.pdf

Yukon Government 1999. Guidelines Respecting the Discovery of Human Remains and First Nation Burial Sites in the Yukon. Available at: http://www.tc.gov.yk.ca/pdf/respecting_guidelines_her_1999_08.pdf

APPENDIX A

Environmental Baseline Report: Historic Resources

THIS PAGE INTENTIONALLY LEFT BLANK

EAGLE GOLD PROJECT

Environmental Baseline Report: Historical Resources

FINAL REPORT

Prepared for:

Victoria Gold Corp
680 – 1066 West Hastings Street
Vancouver, BC
V6E 3X2

Prepared by:

FMA Heritage Inc., for
Stantec Consulting Ltd.
4370 Dominion Street, Suite 500
Burnaby, BC
V5G 4L7
Tel: (604) 436-3014 Fax: (604) 436-3752

Project No.:

1231-10377

June 2011

Victoria GOLD CORP

Stantec


Victoria
GOLD CORP


Stantec

AUTHORSHIP

Jennifer Tischer, MA. ..... Author
Gloria Fedirchuk, Ph.D. ..... Senior Review

EXECUTIVE SUMMARY

Stantec was retained by Victoria Gold Corporation to prepare an environmental baseline report to characterize historical resources in the vicinity of the Eagle Gold Project area. A field programs was conducted in 2009; following a review of current regulatory requirements and of data from consultant reports written in 1995 and 1996. This report presents background information, methods, and results for baseline historical resources studies.

A review of existing information regarding historical resources in the Project area included a review of previous archaeological studies undertaken for the previously proposed Dublin Gulch Project, the South McQuesten Road upgrade, and other relevant studies in the area. The Yukon Heritage Branch confirmed that the scope of previous historical resources impact assessments of the area was sufficient for the current Project, and therefore no further field study was required by the regulators. However, at the request of Victoria Gold, field observations were made by the Project's senior archaeologist, who accompanied the Project palaeontologist into the field. This archaeological field visit was not intended to be a Historical Resources Impact Assessment (HRIA), given that such an assessment was not required by regulators, but allowed the Project archaeologist to confirm the nature of the terrain, existing disturbance, and archaeological/historic potential of the area.

During the field visit, several structures dating over 45 years in age were observed and site information provided to the Yukon Heritage Branch. Abandoned structures dating older than 45 years are considered by the Yukon Heritage Branch to constitute historic period sites, and as such, three different sites were identified as historic period sites. One site contained multiple structures, while the remaining two sites each consisted of a single structure.

The Yukon Heritage Branch's Historic Sites office reviewed the information provided by the Project archaeologist regarding each of the three historic period sites observed, and advised that the sites should be recorded as historic period sites. Official site recording forms will be completed by the Project archaeologist and submitted to the Yukon Heritage Branch. The Branch also indicated that if avoidance of the sites is not possible during Project activities, additional recording will be required prior to impact. If required additional studies would include more detailed photography; detailed description of building construction and condition; provision of UTM locations of each structure/feature; site plans; photos and descriptions of all machinery, equipment and features associated with the structures or site; and other relevant information based on archival sources or interviews.

ABBREVIATIONS AND ACRONYMS

HRIA..... Historical Resources Impact Assessment

LSA .....Local Study Area

NNDFN..... Na-Cho Nyäk Dun First Nation

TABLE OF CONTENTS

1 Introduction 1
2 Methods 1
2.1 Review of Existing Literature 2
2.1.1 Site Designation 2
2.2 Study Area Boundaries 2
2.3 Field Programs 2
2.4 Data Analysis 3
3 Results 3
3.1 Literature Review 3
3.2 Field Visit 4
3.2.1 Site 1 5
3.2.2 Site 2 6
3.2.3 Site 3 7
3.3 Analysis and Summary 7
4 Closure 8
5 References 8
6 Figures 8
7 Plates 15

List of Figures

Figure 2-1: Project Location 9
Figure 3.1: Historic Site Locations – Mine 10
Figure 3.2: Historic and Archaeological Site Locations – Road 11
Figure 3.3: Site 1 Sketch Map 12
Figure 3.4: Site 2 Sketch Map 13
Figure 3.5: Site 3 Sketch Map 14

List of Plates

Plate 1: Site 1, back of log structure [2], view southwest, and more recent structure 15
Plate 2: Site 1, front of log structure [2], view northwest 15
Plate 3: Site 1, close view of log structure [2] construction, view southwest of back corner 16

Plate 4: Site 1, view northwest of log structure [5]; note more recently constructed roof extension over front of the structure 17
Plate 5: Site 1, back side of log structure [5], view southwest 17
Plate 6: Site 1, log structure [5], view northwest at structure details 18
Plate 7: Site 1, interior view of log structure [5], showing recent (1970s) use of the cabin as a core shack 19
Plate 8: Site 1, view south of back side of log structure [7] 19
Plate 9: Site 1, view south of the east exterior wall of log structure [7] showing construction detail 20
Plate 10: Site 1, view southeast of the interior of log structure [7], showing collapsed roof and recent (1970s) use of the cabin for core storage 21
Plate 11: Site 1, view southeast of plank shacks [4] 22
Plate 12: Site 1, view southwest showing the back side and partial metal roof of the plank structures [4] 22
Plate 13: Site 1, view east showing interior view of the larger of two plank shacks [4] 23
Plate 14: Site 1, view east showing detail of the interior of the larger of two plank shacks [4] 23
Plate 15: Site 1, plank/board/plywood structure [6], view northwest 24
Plate 16: Site 1, interior view west of structure [6] 24
Plate 17: Site 1, view west at core structures [3] 25
Plate 18: Site 1, small structure [11], view west 25
Plate 19: Site 1, house [8], view southeast 26
Plate 20: Site 1, house [8] interior, main floor, back room 26
Plate 21: Site 1, house [8] interior, attic/second floor 27
Plate 22: Site 1, equipment observed behind the house [8], view east 28
Plate 23: Site 1, small shack [10], view west 28
Plate 24: Site 1, small shack [10], view east 29
Plate 25: Site 1, metal roof of small shack [10], view north 29
Plate 26: Site 1, stone outline [9] view west along the south wall of the stone rectangle; note stone table at west end of rock outline 30
Plate 27: Site 1, stone table just west of the rock outline [9], view northeast; west side of the rectangular rock outline can be seen just to the east of the table 31
Plate 28: Site 2 structure, view west of the front of the structure; note porch with extended overhanging roof 32
Plate 29: Site 2 structure, view northwest of roof and exterior wall detail at front of building 33
Plate 30: Site 2 structure, interior view of north wall 33

Plate 31: Site 2 structure, exterior view of north wall 34
Plate 32: Site 2 structure, exterior view of back (west) wall 34
Plate 33: Site 3 structure, view east showing the front (door) of the cabin 35
Plate 34: Site 3 structure, view south; note the sod roof 35
Plate 35: Site 3 structure, view west 36
Plate 36: Site 3 structure, view southwest; note window opening on south wall 36
Plate 37: Site 3 structure, view northeast showing construction detail of west wall and southwest corner 37
Plate 38: Site 3, view southeast from Haggart Creek to the structure located on a low bench in heavily overgrown vegetation 37

1 INTRODUCTION

This report presents results of the baseline Historical Resources studies completed by Stantec in 2009 for the Eagle Gold Project proposed by Victoria Gold Corporation. The Eagle Gold Project is a proposed open pit gold mine within the Dublin Gulch watershed located 85 km northeast of the Village of Mayo, Yukon Territory.

Stantec was contracted by the Stratagold Corporation to begin environmental baseline studies in 2007. In 2009, Stratagold Corporation was acquired by Victoria Gold Corporation. During this time, the project was renamed from Dublin Gulch to Eagle Gold and the local study area was updated to reflect any changes to the geographic extent of the proposed Eagle Gold Project.

Historical resources include precontact archaeological sites and post contact historic period sites. Archaeological and historic period sites are protected in the Yukon under the *Historic Resources Act*. Precontact archaeological sites in the Yukon contain some of the earliest evidence of occupation in North America. Examples include stone tool flaking stations, campsites, and animal kill sites. Historic period sites in the Yukon generally date to the past 150 years, and may include cabins, trails, and structures. Any site that is over 45 years old and abandoned is of potential historic interest (Gotthardt and Thomas 2007).

Because the cultural milieu in which historical resources functioned no longer exist, these resources are non-renewable. Although the cultures responsible for depositing historical resources cannot be observed, the preserved context and associations related to the remains can reveal much about past human behaviour, adaptations, and relationships. Many facets of these resources—particularly patterns of cultural deposition (observable in an undisturbed context)—are fragile, ephemeral, and the product of unique processes and conditions of preservation. Therefore, site integrity (e.g., an undisturbed state) is important for interpreting the remains. Once a site is disturbed, context cannot be replaced, recreated, or restored.

A review of background information gathered for the previous Dublin Gulch Project revealed that the proposed Project areahad been assessed during 1995 – 1996 (Greer 1995, 1996). Ruth Gotthardt of the Yukon Heritage Branch confirmed that the studies undertaken were adequate, and confirmed that no further field study would be required for the currently proposed Project unless the Project footprint was added to or altered. However, at the request of Victoria Gold Corp., a field visit by the Project archaeologist was undertaken to confirm the nature of the terrain, existing disturbance and archaeological/historic potential of the area.

2 METHODS

Four components were included in the 2009 Historical Resource studies: 1) a review of the existing literature; 2) determination of study areas; 3) a field visit to the Project location; and 4) data analysis.

2.1 Review of Existing Literature

Relevant to the Project, existing literature was reviewed to provide archaeological and historical context, to determine the nature of the study area, and to review the area's existing archaeological/ historic sites database. Existing literature related to previous archaeological and historical assessments in the Project area was provided by the Yukon Heritage Branch. Reports reviewed included the:

- Archaeological and Historic Sites Impact Assessment Dublin Gulch Mine Property Final Report (Greer 1995)
- Archaeological and Historic Sites Impact Assessment, South McQuesten Road Upgrading. (Greer 1996)
- Archaeological Reconnaissance in the Greater Mayo Area, Central Yukon Final Report (Thomas 2005).

In addition, the local history prepared for the Village of Mayo, *Gold and Galena* (Mayo Historical Society 1999), was also reviewed to provide background history for the area, particularly the history of mining in the Dublin Gulch area.

2.1.1 Site Designation

Identified archaeological sites are referred to by a Borden Number which consists of a four letter symbol accompanied by a number (e.g., LdNs-11). Within this system and north of latitude 62°, the upper case letters represent major blocks 2 by 4° in size (e.g., L = 64° to 66° latitude; N = 104° to 112° longitude) and the lower case letters denote 10' and 20' units within the major block (e.g., d = 30' to 40' latitude; s = 0' to 20' longitude). The numbers are assigned sequentially by the appropriate regulatory agency and refer to specific sites within each Borden Block unit.

Historic period sites may or may not be assigned Borden Numbers by the regulators depending on the nature of the site.

2.2 Study Area Boundaries

Study area boundaries are based on the potential for Project effects to historical resources. For this study, a local study area (LSA) was defined as the Project footprint (Figure 2-1). This is the area in which Project effects on archaeological and historic period sites could occur. Note that the field visit was not conducted relative to a specific Project footprint, as the field studies were not intended to represent an impact assessment; however, the Project footprint (LSA) is relevant to the site-specific recommendations/requirements issued by the Yukon Heritage Branch.

2.3 Field Programs

The gap analysis conducted as part of the current study determined that field studies were not required, as previous studies at the mine (Greer 1995) and along the South McQuesten Road upgrade (Greer 1996) were sufficient for the currently proposed Project (Ruth Gotthardt, personal

communication). However, a field visit by the Project's senior archaeologist was conducted as part of the palaeontological assessment. This visit was not planned as an archaeological impact assessment, and no archaeological permit was obtained. Rather, areas of archaeological and historic interest were observed fortuitously when encountered. No shovel testing was conducted but exposures with the potential to contain archaeological materials were examined when encountered. Structures were photographed and any potential historic period sites sketched when encountered, but detailed photography, inspection, or recording were not undertaken at any structures/sites.

The Na-Cho Nyäk Dun First Nation (NNDFN) was notified of the palaeontological impact assessment studies in August, 2009 and was invited to participate in the field component of the studies. Four citizens of the NNDFN participated in the palaeontology and historical resources field studies in September 2009.

2.4 Data Analysis

Project activities can affect historical resources by altering a site's contents or context. To assess potential effects of the Project on historical resources, the scientific significance of identified sites must be determined. Factors affecting site significance include site integrity, size, complexity, presence of diagnostic or uncommon artifacts, and age. Recommendations are subsequently formulated as to the need for further work based on the perceived significance of the identified archaeological and historic period sites as determined by the Project archaeologist based on the above listed factors. Actual requirements for additional study, however, are issued by the regulator (Yukon Heritage Branch).

3 RESULTS

3.1 Literature Review

During the 1995 assessment for the then-proposed Dublin Gulch Mine, Greer (1995) conducted an archaeological and historical impact assessment on a large Project area that encompassed the proposed mine location as well as the several possible locations of leach facilities (Figure 3-1). The area was roughly bounded by Haggart Creek on the west, Lynx Creek on the south, the Potato Hills on the east, and Dublin Gulch on the north. During the studies, no archaeological or historic period sites were identified. All areas favourable for precontact human occupation had been destroyed by the extensive placer mining activity in the area, and all structures identified in the Project area were determined to be related to mining activities over the past 50 years.

During the 1996 assessment for the South McQuesten Road Upgrading, archaeological and historic period sites along two possible routes were inventoried by Greer (1996) (Figure 3-2). No sites were identified along the Haggart Creek portion of the road; three sites of potential concern were located along the South McQuesten river valley portion of the road, and one site was identified along the Haldane alternate route. Subsequent to completion of those studies, the client indicated that

avoidance of all of these sites would be implemented during road design and construction. Sites identified along the South McQuesten routing (which corresponds to the current proposed routing) include "Big Dave Lookout" (KlTx-2) which contains both precontact archaeological and historic deposits, as well as a subsurface precontact archaeological site (KlTx-3) and a historic cabin site (KlTw-1).

The study conducted by Thomas (2005) included several sections along the South McQuesten River, and thus the report was provided to FMA Heritage Inc. by Ruth Gotthardt of the Yukon Heritage Branch for review. During Thomas's study, two of the above sites (KlTx-2 and KlTx-3) were revisited, and two sites (KlTx-4, a precontact archaeological site, and KlVa-1, a collapsed cabin) were newly recorded.

Gold and Galena, the local history prepared for the Village of Mayo, contains information specific to the mining history in the Dublin Gulch area. Mining in Dublin Gulch started in 1899 and has been largely continuous up to the present. The earliest claim was made by John Suttles, who conducted placer mining successfully for a number of years, followed by the Cantin brothers in 1915. The Cantins, who also mined areas of Haggart Creek, were much less successful in Dublin Gulch, and abandoned Dublin Gulch in the 1920s. Hardrock mining also took place during the early 1900s in Dublin Gulch, including the Carscallen claim, the Victoria claim, and the Oilve claim. By the 1930s, Fred Taylor was mining Dublin Gulch. Taylor mined successfully for over 20 years and left his mark on the gulch; several of the buildings observed during the current field studies are the same buildings pictured and described by Fred Taylor in *Gold and Galena*. The Dublin Gulch property was sold and in 1978 became the property of the Canada Tungsten Mining Corp. Ltd.

3.2 Field Visit

The field visit was conducted in September 2009. As mentioned above, the field visit was not an impact assessment, as the 1995 and 1996 studies conducted by Greer were determined by the regulator to be sufficient. However, during the September 2009 field visit, observations made by Greer in 1995 regarding the archaeological potential of the area were confirmed—those areas that would have had the potential to contain archaeological sites, such as the areas within proximity of Dublin Gulch and Haggart Creek, have been extensively reworked by the placer mining that has been ongoing since 1899. No undisturbed areas were observed in any locations that would have had moderate to high archaeological potential. Upland areas where the actual Eagle Gold mining will take place are rugged and mountainous, and are of low archaeological potential. The South McQuesten Road was also observed during mobilization to and from the Project area. The road has not changed since it was assessed by Greer in 1996.

During the field visit, several buildings perceived to be older than 45 years in age were observed at three separate locations (Figure 3-1). Site 1 consists of over 10 structures of varying ages located part way up Dublin Gulch; Site 2 consists of a single log structure located in Dublin Gulch downstream of Site 1; and Site 3 consists of a single collapsed structure located on Haggart Creek near its confluence with Dublin Gulch. Each of these sites is described in more detail below.

3.2.1 Site 1

Over 10 structures and features were observed on the north side of Dublin Gulch approximately one km upstream of the confluence of Dublin Gulch with Haggart Creek (Figure 3-1 and Figure 3-3; note that the numbers in square brackets below correspond to the Figure 3-3 sketch map features). The site is located along an existing access road; most structures are on the south side of the road, between the road and Dublin Gulch. The structures and equipment observed range widely in terms of age and condition. Although some of the structures observed at Site 1 are related to mining activities from the 1970s, several of these structures are over 45 years in age, making them potential historic period sites. The site contains two main areas: the first consists of a number of structures oriented generally in rows and was clearly the industrial portion of the camp in the 1970s; the second is located 50 m up the road and consists of a house and associated habitation structures and debris.

Within the "industrial" portion of the site, three log cabins or structures were identified. These log structures were used in the 1970s for storage of cores and equipment, as evidenced by the current presence of these items. However, these log structures are interpreted as being of some antiquity, clearly well over 45 years in age. The first cabin structure [2] is of some antiquity and currently contains cores and equipment (Plates 1-3). A more recent metal-roofed core shack is located adjacent to this, and cores in core boxes were observed lying around the general area. A large piece of metal equipment [1] assumed to be from the 1970s is located between the log structure and the road. The structure may be the same as that shown in *Gold and Galena* (page 324); the photo dates to 1955 and, as such, if this is the same structure, the structure predates 1955. A second log structure [5] appears to be of similar antiquity (Plates 4-7). This structure has a roof extension over the front of the building that appears to have been added subsequent to construction of the original structure, possibly in the 1970s to shelter cores/equipment (currently situated beneath this roof extension). This structure currently contains cores that date to the 1970s (there are dates on many of the core boxes), but the structure is clearly much older. The third log structure identified [7] is also of some antiquity, and again currently contains cores and various equipment (Plates 8-10). Portions of this structure's roof are partially collapsed.

In addition to the log structures which are of some antiquity, there are also several structures that are interpreted as being more recent due to the construction techniques, although the ages of each of these structures varies. Structures that may also be over 45 years in age include two plank structures [4] that contain equipment and cores related to the 1970s use of the site (Plates 11-14). Numerous cores and core boxes are also stacked adjacent to these structures. The taller of the two structures has a tar paper roof; the smaller structure has a roof covered with flattened metal containers.

More recent structures include another building [6] manufactured from planks, boards, and plywood (Plates 15-16), and some metal and wood structures [3] designed to hold cores (Plate 17). These structures are assumed to date to the 1970s. A small structure [11] situated across the road from this portion of the site is also likely more recent in nature and may represent a small storage shack (Plate 18).

The habitation portion of Site 1 is located up the road (east) of the industrial portion of the site. This portion of the site, located approximately 50 m away from the industrial portion of the site at its

closest point, represents Fred Taylor's home during his occupation of this area, and also appears to have been used for habitation and storage in the 1970s. The main structure in this area is a house [8] which originally belonged to Fred Taylor (Plates 19 – 22). This house structure is plank construction, although the interior has likely been altered more recently for use during more recent mining operations. The structure contains rock samples, furniture, and household debris. House of Commons proceedings dating to 1960s were observed during the field visit; Victoria Gold staff members have also indicated that they observed magazines dating to the 1940s in the attic/second level of the house. Numerous bottles, papers, and other time-diagnostic materials were observed in the house during the current studies, and indicate a number of different occupations of the house. The house consists of an entry room and three other main rooms plus an attic. Various types of equipment and debris were also observed outside of the house, especially at the back of the house. The house appears in a photo dated to 1955 in *Gold and Galena*; as such, the house pre-dates 1955, but a date of construction is not provided.

Immediately to the north of the house is a steep rise to a level hill top, on which another structure and other features related to the house are present. A small shack with metal roof [10] is currently tipped on its side; the structure is roughly two by two meters in size (Plates 23 – 25). The structure is plank construction and is screened on three sides. It has a metal roof that has been created by flattening metal containers; the containers had an impressed "sun" motif. It has been suggested that this may represent a smoke house; Greer calls it a meat cache. A photo in *Gold and Galena* (page 323) shows that this shack was originally raised off the ground, and the wooden remains of the base of the structure are still visible in the vicinity of the structure.

Adjacent to the small shack, a rectangular rock outline [9] was observed on the ground surface (Plate 26). The rectangular outline is somewhat sodded but rocks are still visible and the outline appears to be a complete rectangle. The rocks are tightly spaced. This feature may represent the outline of a garden. Fred Taylor mentions a garden in *Gold and Galena*, but does not describe the location. This feature does not appear to represent a foundation of a structure, and no structure is visible in the photo in *Gold and Galena*. At the west end of the rock outline a "table" made of flat stones is located just below the crest of the hill. The table is low and small (child size?), made of a flat stone slab, and three upright stones (Plate 27).

3.2.2 Site 2

Site 2 consists of a single standing structure observed along the access road between the current camp and Site 1 (Figures 3-1 and 3-4; Plates 28 – 32). The cabin is situated very close to the existing access road but is very difficult to see from the road due to the heavy vegetation surrounding the cabin. A trail overgrown with young poplars is located on the west side of the cabin and runs towards the northwest. The cabin is constructed of logs which have a heavily weathered appearance on the outside but appear considerably less weathered on the inside. Two windows may have been a more recent addition. No glass is present, but the frames are in very good condition. The cabin has a plank floor. Wire drawn nails were observed on the interior walls. The cabin currently has bags of samples inside, but is not being used by the current mining operations on site; the samples likely also date to the 1970s. The cabin may be over 45 years in age.

3.2.3 Site 3

Site 3 consists of a single partially collapsed structure on a low bench just above Haggart Creek, north of the Dublin Gulch confluence (Figures 3-1 and 3-5). The building is made of sawn logs and planks that have a very weathered appearance (Plates 33 – 38). The structure has a door facing the creek (west) and a window opening (no glass observed) facing south. The structure appears to have had a sod roof. Wire drawn nails were observed on the interior walls. Some rusted cans/containers were observed around the cabin. The area around the cabin is heavily overgrown and the cabin is nearly impossible to see from the creek. No trail leading to the cabin was observed. Although the cabin is on a low bench, the area around the cabin is not very well drained, so the cabin may have been constructed in the winter. The cabin appears to be well over 45 years in age.

3.3 Analysis and Summary

Requirements for studies on identified historical resources sites are set by the Yukon Heritage Branch. Requirements for additional studies are issued by the regulators to mitigate the effects of the Project on the sites and structures prior to any impact.

At the request of the Yukon Heritage Branch, photographs, preliminary descriptions, and site sketch maps of each site were provided by FMA Heritage Inc./Stantec. Based on a review of this preliminary information, the Historic Sites office of the Heritage Branch indicated that each of these sites is considered to be a heritage resource under the *Historic Resources Act*. As such, these sites are deemed to be of significance and further study is required to mitigate impacts to the sites if the sites cannot be avoided.

The Yukon Heritage Branch has provided a preliminary set of requirements for further study at each of these sites if it is determined that the Project may have an effect on the sites. Avoidance is the preferred option, but if not feasible, the Yukon Heritage Branch requires the following:

- Additional photography, typically eight photos per building, except for smaller buildings for which one photograph per side will be required
- Description of building construction and materials
- Description of building condition
- UTM locations (taken with GPS technology) of each building/feature
- Site plan drawn to scale showing site layout, building orientation, and dimensions
- Photos and description of all equipment/machinery and features associated with structures or site
- Other relevant information based on archival sources or interviews.
- The Yukon Heritage Branch expressed appreciation that these sites were recorded despite the fact that historical resources studies were not required as part of this Project.

4 CLOSURE

On behalf of Stantec, FMA Heritage Inc. has prepared this report for the sole benefit of Victoria Gold for the purpose of documenting baseline conditions in anticipation of an environmental assessment under the Yukon Territory *Environmental Assessment Act*. The report may not be relied upon by any other person or entity, other than for its intended purposes, without the express written consent of Stantec and Victoria Gold. Any use of this report by a third party, or any reliance on decisions made based upon it, are the responsibility of such third parties.

The information provided in this report was compiled from existing documents and data provided by Victoria Gold, field data compiled by FMA Heritage Inc., and by applying currently accepted industry standard mitigation and prevention principles. This report represents the best professional judgment of our personnel available at the time of its preparation. Stantec reserves the right to modify the contents of this report, in whole or in part, to reflect any new information that becomes available. If any conditions become apparent that differ significantly from our understanding of conditions as presented in this report, we request that we be notified immediately to reassess the conclusions provided herein.

5 REFERENCES

Gotthardt, R. and C. Thomas. 2007. *Handbook for the Identification of Heritage Sites and Features*. Yukon Tourism and Culture, Whitehorse, YT.

Greer, S. 1995. Archaeological and Historic Sites Impact Assessment Dublin Gulch Mine Property Final Report. Report prepared for Hallam Knight Piésold Ltd. on behalf of First Dynasty Mines Ltd. by Sheila Greer, Consulting Anthropologist and Archaeologist, Edmonton, Alberta.

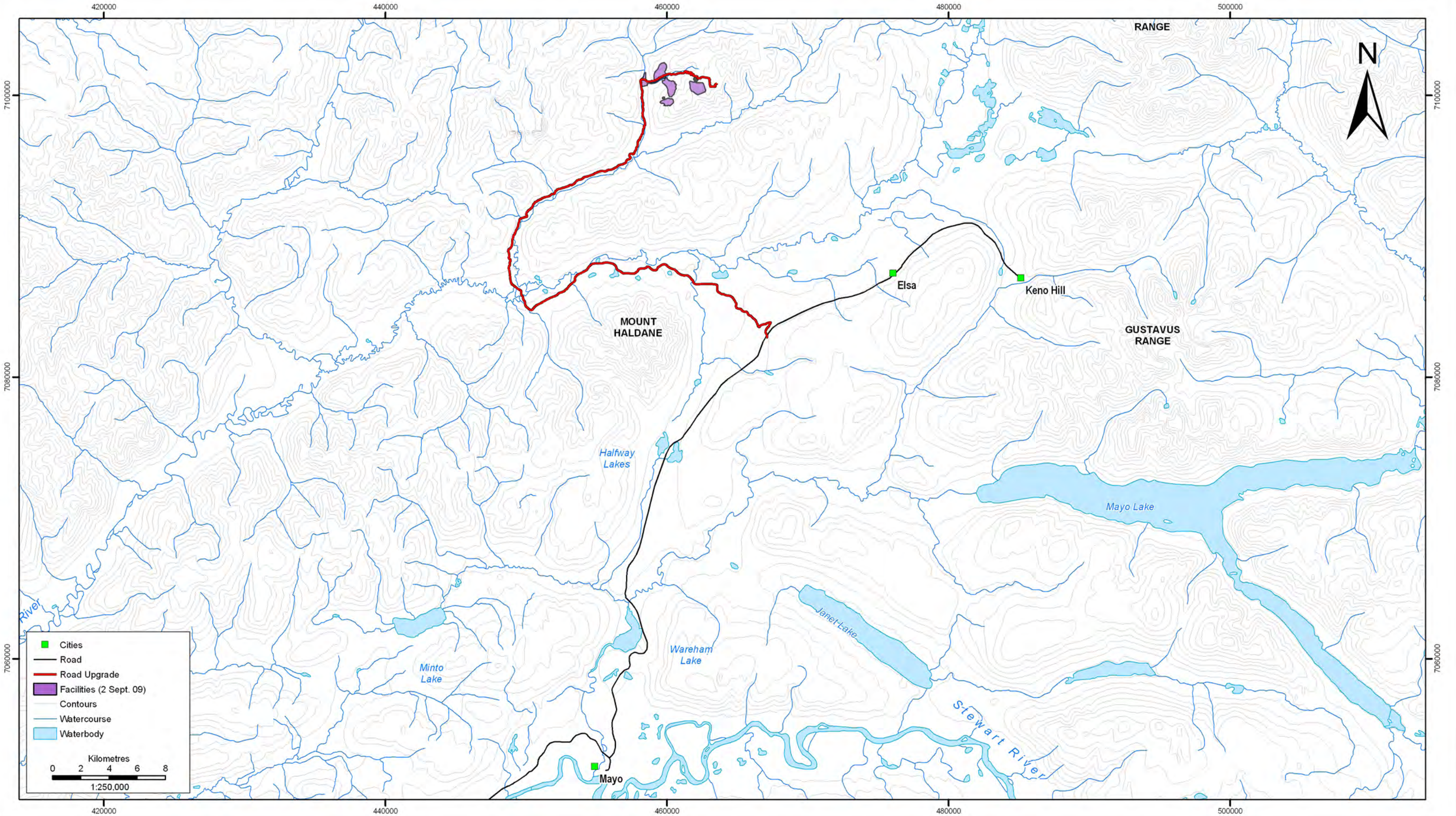
Greer, S. 1996. Archaeological and Historic Sites Impact Assessment, South McQuesten Road Upgrading. Report prepared for New Millenium Mining Ltd. Dublin Gulch Mine Development by Sheila Greer, Consulting Anthropologist and Archaeologist, Edmonton, Alberta.

Mayo Historical Society. 1999. *Gold and Gelena*. Compiled by Linda E.T. MacDonald and Lynnette R. Bleiler, Second Printing with Addendum. Mayo, YT.

Thomas, C.D. 2005. Archaeological Reconnaissance in the Greater Mayo Area, Central Yukon Final Report. Report prepared for First Nation of Na-Cho Nyäk Dun and Historic Resources Unit Cultural Services Branch Department of Tourism and Culture Government of Yukon by Christian D. Thomas of Thomas Heritage Consulting, Whitehorse, YT.

6 FIGURES

Please see the following pages.



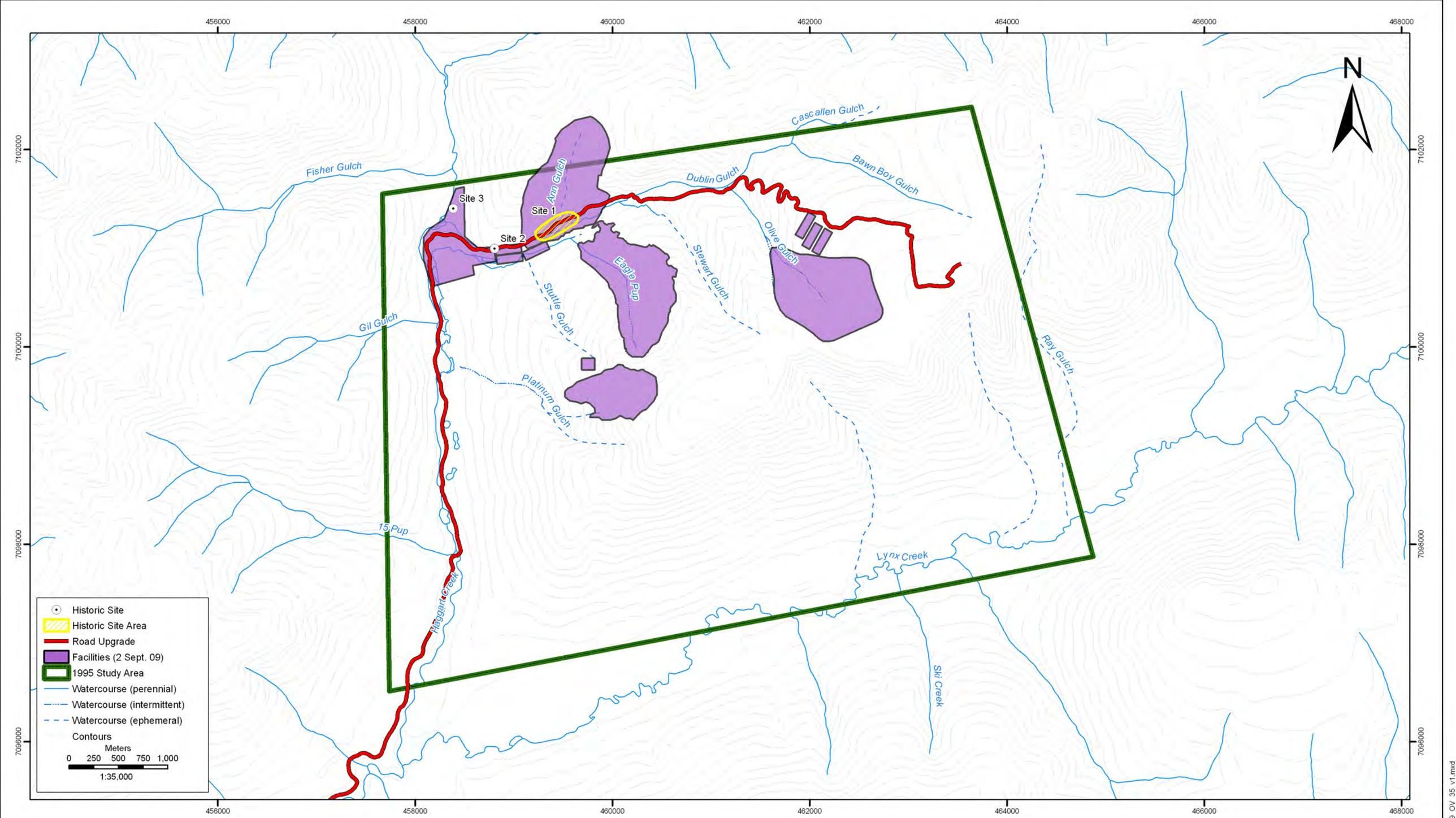
Stantec
4370 Dominion Street
Burnaby, British Columbia
V5G 4L7
Tel. (604) 436 3014
Fax. (604) 436 3752

Victoria GOLD CORP

FIGURE 2-1
PROJECT LOCATION
EAGLE GOLD PROJECT
YUKON TERRITORY

PROJECTION: UTM - ZONE 8	DRAWN BY: EF
DATUM: NAD 83	CHECKED BY: JT
DATE: 01-Mar-10	FIGURE NO.: x

H:\2200proj\2236\mxd93\2236609PL_250k_v1.mxd



Stantec
4370 Dominion Street
Burnaby, British Columbia
V5G 4L7
Tel. (604) 436 3014
Fax. (604) 436 3752

Victoria GOLD CORP

FIGURE 3-1
HISTORIC SITE LOCATIONS - MINE

EAGLE GOLD PROJECT
YUKON TERRITORY

PROJECTION: UTM - ZONE 8	DRAWN BY: EF
DATUM: NAD 83	CHECKED BY: JT
DATE: 01-Mar-10	FIGURE NO.: x

H:\2200proj\2236\mxd\931223609_OV 35 v1.mxd

460000

480000

7100000

7080000

N

KITx-4

KITx-3

KITx-2

KIVa-1

KITw-1

MOUNT
HALDANE

Elsa

Keno Hill

Historical Resources Site
Cities
Road
Road Upgrade
Facilities (2 Sept. 09)
Contours
Watercourse
Waterbody

Kilometres
0 1 2 3 4
1:125,000

Stantec
4370 Dominion Street
Burnaby, British Columbia
V5G 4L7
Tel. (604) 436 3014
Fax. (604) 436 3752

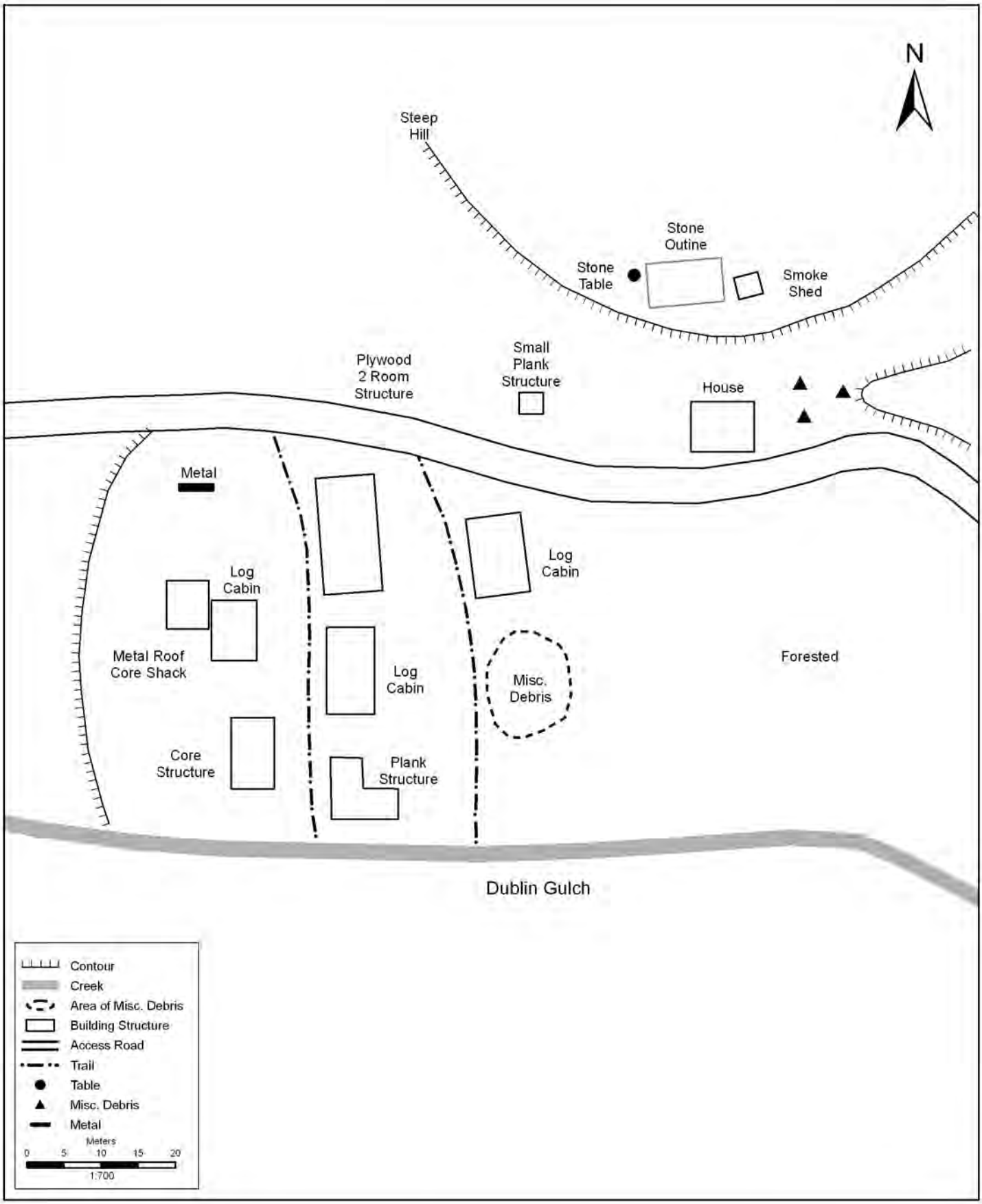
Victoria GOLD CORP

FIGURE 3-2
HISTORIC AND ARCHAEOLOGICAL SITE LOCATIONS - ROAD

EAGLE GOLD PROJECT
YUKON TERRITORY

PROJECTION: UTM - ZONE 8	DRAWN BY: EF
DATUM: NAD 83	CHECKED BY: JT
DATE: 01-Mar-10	FIGURE NO.: x

H:\2200proj\2236\mxd\93223609OV_125k_v1.mxd



Source:

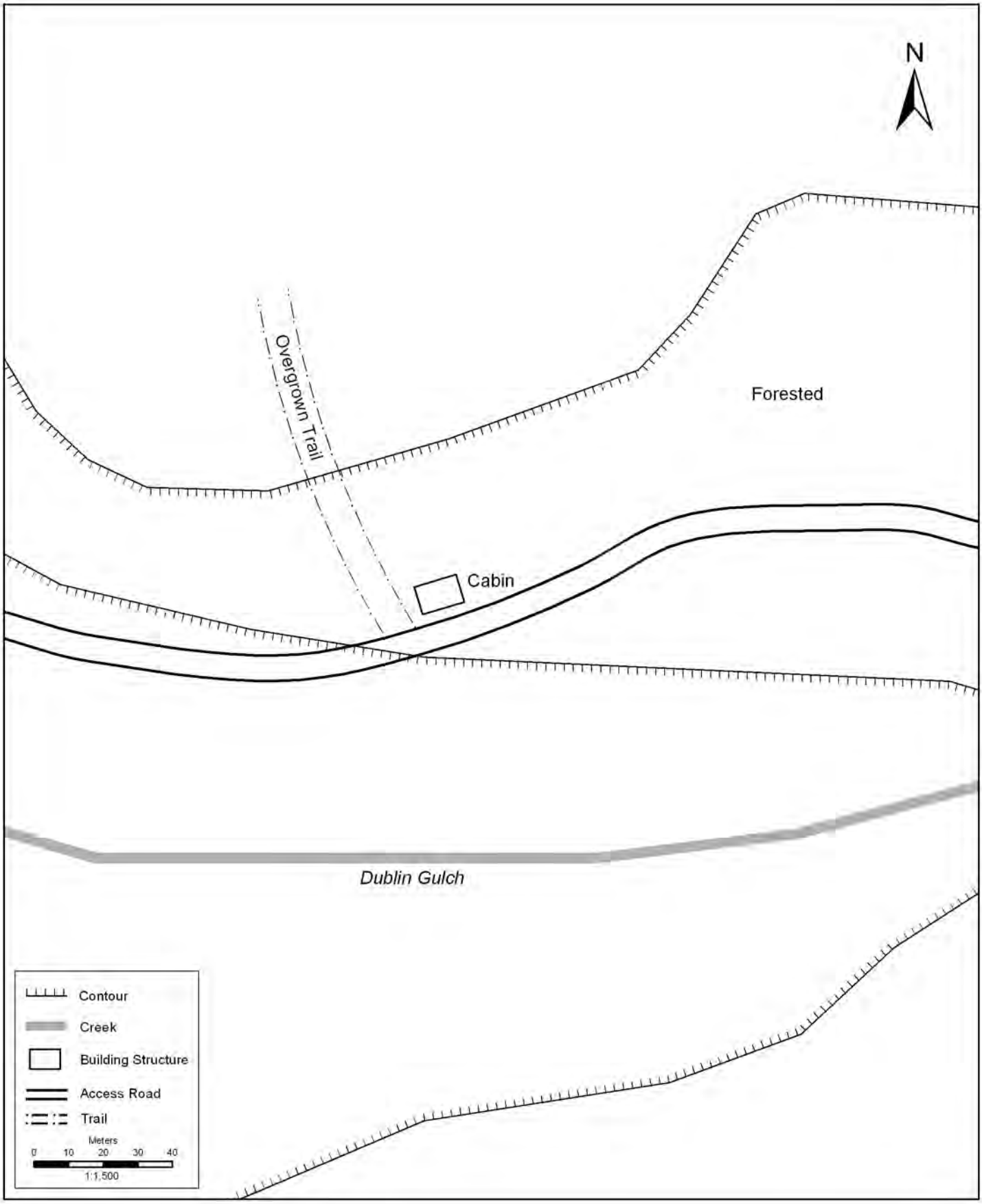
Stantec
4370 Dominion Street
Burnaby, British Columbia
V5G 4L7
Tel. (604) 436 3014
Fax. (604) 436 3752

Victoria GOLD CORP

FIGURE 3-3
SITE 1 SKETCH MAP
EAGLE GOLD PROJECT
YUKON TERRITORY

PROJECTION	DRAWN BY
UTM - ZONE 8	EF
DATUM	CHECKED BY
NAD 83	
DATE	FIGURE NO.
05-Mar-10	3-3

H:\2200proj\2236\mxd\3\223609_Site1_sketch.mxd



Source:

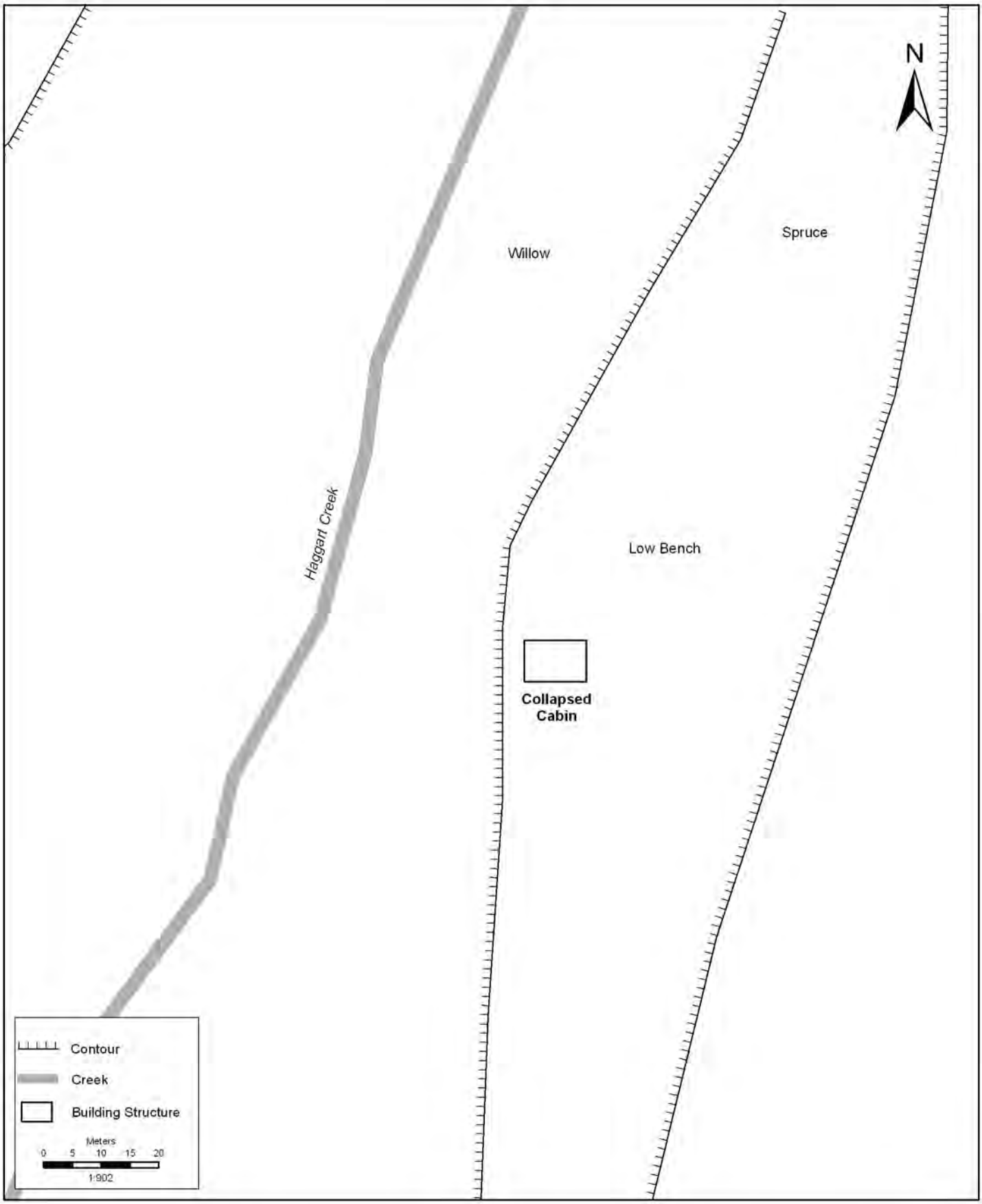
Stantec
4370 Dominion Street
Burnaby, British Columbia
V5G 4L7
Tel. (604) 436 3014
Fax. (604) 436 3752

Victoria GOLD CORP

FIGURE 3-4
SITE 2 SKETCH MAP
EAGLE GOLD PROJECT
YUKON TERRITORY

PROJECTION	DRAWN BY
UTM - ZONE 8	EF
DATUM	CHECKED BY
NAD 83	
DATE	FIGURE NO.
05-Mar-10	3-4

H:\2200proj\2236\mxd\3\223609_Site2_sketch.mxd



Source:

Stantec
4370 Dominion Street
Burnaby, British Columbia
V5G 4L7
Tel. (604) 436 3014
Fax. (604) 436 3752

Victoria GOLD CORP

FIGURE 3-5
SITE 3 SKETCH MAP
EAGLE GOLD PROJECT
YUKON TERRITORY

PROJECTION	DRAWN BY
UTM - ZONE 8	EF
DATUM	CHECKED BY
NAD 83	
DATE	FIGURE NO.
05-Mar-10	3-5

H:\2200proj\2236\mxd\93\223609_Site3_sketch.mxd

7 PLATES

Plate 1: Site 1, back of log structure [2], view southwest, and more recent structure

Plate 2: Site 1, front of log structure [2], view northwest

Plate 3: Site 1, close view of log structure [2] construction, view southwest of back corner

Plate 4: Site 1, view northwest of log structure [5]; note more recently constructed roof extension over front of the structure

Plate 5: Site 1, back side of log structure [5], view southwest

Plate 6: Site 1, log structure [5], view northwest at structure details

Plate 7: Site 1, interior view of log structure [5], showing recent (1970s) use of the cabin as a core shack

Plate 8: Site 1, view south of back side of log structure [7]

Plate 9: Site 1, view south of the east exterior wall of log structure [7] showing construction detail

Plate 10: Site 1, view southeast of the interior of log structure [7], showing collapsed roof and recent (1970s) use of the cabin for core storage

Plate 11: Site 1, view southeast of plank shacks [4]

Plate 12: Site 1, view southwest showing the back side and partial metal roof of the plank structures [4]

Plate 13: Site 1, view east showing interior view of the larger of two plank shacks [4]

Plate 14: Site 1, view east showing detail of the interior of the larger of two plank shacks [4]

Plate 15: Site 1, plank/board/plywood structure [6], view northwest

Plate 16: Site 1, interior view west of structure [6]

Plate 17: Site 1, view west at core structures [3]

Plate 18: Site 1, small structure [11], view west

Plate 19: Site 1, house [8], view southeast

Plate 20: Site 1, house [8] interior, main floor, back room

Plate 21: Site 1, house [8] interior, attic/second floor

Plate 22: Site 1, equipment observed behind the house [8], view east

Plate 23: Site 1, small shack [10], view west

Plate 24: Site 1, small shack [10], view east

Plate 25: Site 1, metal roof of small shack [10], view north

Plate 26: Site 1, stone outline [9] view west along the south wall of the stone rectangle; note stone table at west end of rock outline

Plate 27: Site 1, stone table just west of the rock outline [9], view northeast; west side of the rectangular rock outline can be seen just to the east of the table

Plate 28: Site 2 structure, view west of the front of the structure; note porch with extended overhanging roof

Plate 29: Site 2 structure, view northwest of roof and exterior wall detail at front of building

Plate 30: Site 2 structure, interior view of north wall

Plate 31: Site 2 structure, exterior view of north wall

Plate 32: Site 2 structure, exterior view of back (west) wall

Plate 33: Site 3 structure, view east showing the front (door) of the cabin

Plate 34: Site 3 structure, view south; note the sod roof

Plate 35: Site 3 structure, view west

Plate 36: Site 3 structure, view southwest; note window opening on south wall

Plate 37: Site 3 structure, view northeast showing construction detail of west wall and southwest corner

Plate 38: Site 3, view southeast from Haggart Creek to the structure located on a low bench in heavily overgrown vegetation

APPENDIX B

Palaeontological Assessment

THIS PAGE INTENTIONALLY LEFT BLANK

PALAEONTOLOGICAL ASSESSMENT

EAGLE GOLD PROJECT

124910049

Prepared For

Stantec
4370 Dominion Street 5th Floor
Burnaby, British Columbia

On Behalf Of

Victoria Gold Corp.
680, 1066 West Hastings Street
Vancouver, British Columbia

Prepared By

FMA Heritage Inc.
200, 1719-10th Avenue S.W.
Calgary, Alberta

December 2010

Executive Summary

OVERVIEW

Victoria Gold Corp. proposes to construct and operate the Eagle Gold Project (the Project), a gold mine in the central part of Yukon Territory. The Project is located near the confluence of Haggart Creek and Dublin Gulch, approximately 350 km north of Whitehorse and 45 km north-northeast of the Village of Mayo. The deposit to be mined (the Eagle Zone) occurs in an upland area east of Haggart Creek and south of Dublin Gulch.

The Dublin Gulch area is underlain by bedrock of the Upper Proterozoic to Lower Cambrian Hyland Group, consisting of metasedimentary rocks with granodiorite intrusions. Upland areas are covered in colluvium and the Dublin Gulch valley is infilled with Pleistocene surficial deposits. The Dublin Gulch area has yielded the only substantial collection of approximately 32,000 year old, Pleistocene vertebrate fossils from the Mayo District, consisting of small horse, steppe bison, Dall sheep, caribou, moose, American lion, and possibly mammoth.

DUBLIN GULCH FOSSIL LOCALITY

Field surveys conducted as part of the Historic Resources Impact Assessment for palaeontology found that most of the valley fill at Dublin Gulch and Haggart Creek has been reworked by placer gold mining. There is no sign of any remaining source layer for the Dublin Gulch Pleistocene fossil locality, and no additional fossil vertebrate material was found. Organic layers at the top of the surficial sequence in Dublin Gulch contain plant and arthropod material and yielded conventional (calibrated) radiocarbon ages of approximately 10,000 to 13,000 years before present. These late Pleistocene to early Holocene dates indicate the sediments were

deposited during climatic warming following the McConnell Glaciation (approximately 23,000 to 29,000 years before present). A large piece of wood recovered from intact surficial deposits along the access road yielded a conventional (calibrated) radiocarbon age of late Holocene, approximately 2,700 years before present.

MAIN INFRASTRUCTURE AREA

It is expected that there will be extensive disturbance of the surficial deposits near the Dublin Gulch Pleistocene fossil locality and around the mouth of Dublin Gulch by development of the plant site, event ponds, silt borrow area, and laydown area. The likelihood of development in this area encountering palaeontological resources is considered moderately low as it is mostly disturbed and there is no indication that the source layer for the vertebrate fossils still exists.

Project effects are possible but not highly likely in remnant intact strata along the south valley wall of Dublin Gulch. As there will be ongoing use of the intact deposits as a borrow source, a palaeontological education program for the equipment operators and adherence to the Fossil Discovery Protocol (Appendix D) is recommended.

MINE SITE

The likelihood of Project mining activities encountering palaeontological resources in the bedrock is considered negligible due to the degree of metamorphism. No Project effects on palaeontological resources are expected.

HEAP LEACH FACILITY

The Heap Leach Facility will be situated in Ann Gulch. The valley fill near the base of Ann Gulch is considered to have high palaeontological potential. These deposits are intact and have not been subject to mechanized mining for placer gold. Because much of the sequence appears to be early Holocene, any remains would be relatively recent in age and provide a post-glacial faunal or floral record. Considerable subsurface disturbance is expected to shape the landscape before installation of the pad liner. The likelihood of this development encountering palaeontological resources is considered high, especially for floral remains, which

have medium heritage value. The probability of the disturbance providing the opportunity to recover vertebrate remains is lower as there will be no sorting or processing of the deposits that takes place with placer gold mining. There is a moderate probability of Project effects on palaeontological resources from construction of the Heap Leach Facility.

Construction details regarding grading and excavation of the Ann Gulch Heap Leach Facility are needed. It is recommended that the construction plan be carefully reviewed to identify any opportunity for the collection of detailed stratigraphic and palaeontological information in an exposed section before it is covered by the leach pad liner. A palaeontological education program for the equipment operators and adherence to the Fossil Discovery Protocol (Appendix D) are also recommended in the event that vertebrate remains are uncovered during construction.

CAMP

The camp will be situated on a glaciofluvial terrace with intact deposits from the Middle Pleistocene Reid Glaciation. There is moderate potential to encounter palaeontological resources in this terrace. No major ground excavation is expected in this area during camp construction. The likelihood of Project effects on palaeontological resources in the camp area is considered low since ground disturbance will be limited.

A palaeontological education program for the equipment operators and adherence to the Fossil Discovery Protocol (Appendix D) is recommended during the construction stage, in the event that vertebrate remains are encountered.

WASTE ROCK STORAGE AND TOPSOIL STOCKPILE AREAS

Soil stockpile and Waste Rock Storage Areas (WRSAs) will be cleared, but little subsurface disturbance is expected. The likelihood of development disturbing palaeontological resources is considered low. No effects on palaeontological resources are expected from these project components. No further palaeontological studies or mitigation are recommended.

ACCESS ROAD AND TRANSMISSION LINE

In most areas, the access road and transmission line pass through surficial deposits that have been reworked by placer gold mining, or through areas of colluvium, bedrock, and organic deposits. In these areas, no Project effects on palaeontological resources are expected by improvement of the access road or development of the transmission line, and no further palaeontological studies or mitigation are recommended.

At the unnamed creek crossing at DG26 (Figure 9), access road improvements could disturb intact surficial strata of early Holocene age. A palaeontological education program for the equipment operators and adherence to the Fossil Discovery Protocol (Appendix D) is recommended during the construction stage in the event that vertebrate material is encountered.

IMPACT SUMMARY AND RECOMMENDED MITIGATION MEASURES

Overall, the likelihood of the Project affecting palaeontological resources is considered low as most of the strata with high palaeontological potential in the area have been disturbed by placer gold mining. As the Heap Leach Facility design advances, greater detail will be available to refine predictions and focus the application of mitigation. The overall mitigation measures recommended are:

- Use of a Palaeontological Education Program to teach equipment operators how to recognize a fossil, and what do if a fossil is found

- Adherence to a Fossil Discovery Protocol (Appendix D), where all fossils encountered during construction are recovered and the site context is recorded

- Early reporting of the discovery of any fossil remains to allow the opportunity for a palaeontologist to visit the site and investigate any fossiliferous units before they are removed

- Review of changes to the Project design and footprint by a palaeontologist to better predict where fossils could be encountered during construction.

Discovery of vertebrate fossils during Project construction could result in a significant *positive* environmental effect through the recovery of the fossils and recording of the site context.

Project Personnel

REPORT AUTHOR	:	Lisa Bohach, Ph.D.
FIELD PERSONNEL	:	Lisa Bohach, Ph.D. Jennifer Tischer, M.A.
FIRST NATION PARTICIPANTS (NA-CHO NYÄK DUN)	:	Joella Hogan Beverly Genier Irene Johnny Millie Olsen
GIS ANALYSTS	:	Keith Wilford, B.A. Eddie Fung, B.Sc.

Table of Contents

Executive Summary i
Project Personnel vi
Table of Contents vii
List of Figures ix
List of Plates x
List of Tables xiii

1 INTRODUCTION 1
1.1 THE PROJECT 2
1.2 PREVIOUS PALAEONTOLOGICAL ASSESSMENTS 2
1.3 THE NATURE OF PALAEONTOLOGICAL RESOURCES 2

2 SETTING 4
2.1 BEDROCK GEOLOGY 4
2.2 SURFICIAL GEOLOGY 5
2.2.1 Glacial History 5
2.2.2 Surficial Deposits 5
2.2.3 Gold Mining History 7
2.2.4 Fossil Record and Palaeoenvironment 7

3 METHODS 10
3.1 STUDY AREA BOUNDARIES 10
3.2 FIELD STUDIES 10
3.3 LABORATORY PREPARATION AND ANALYSES 11
3.4 EVALUATION OF HERITAGE VALUE 11
3.5 IMPACT ASSESSMENT 13
3.6 MITIGATION MEASURES 14

4 RESULTS 17
4.1 MINE SITE 18
4.1.1 Field Observations 18
4.1.2 Impact Assessment and Recommendations 18
4.2 INFRASTRUCTURE – DUBLIN GULCH, WEST OF STUTTLE GULCH 18
4.2.1 Field Observations 18
4.2.2 Impact Assessment and Recommendations 20
4.3 HEAP LEACH FACILITY – DUBLIN GULCH, EAST OF STUTTLE GULCH 21
4.3.1 Field Observations 21

4.3.2 Impact Assessment and Recommendations 22
4.4 CAMP – CONFLUENCE OF DUBLIN GULCH AND HAGGART CREEK 22
4.4.1 Field Observations 22
4.4.2 Impact Assessment and Recommendations 23
4.5 WASTE ROCK STORAGE AND TOPSOIL STOCKPILE AREAS – PLATINUM GULCH AND EAGLE PUP 23
4.5.1 Impact Assessment and Recommendations 24
4.6 ACCESS ROAD AND TRANSMISSION LINE 24
4.6.1 Impact Assessment and Recommendations 26
4.7 INCIDENTAL INFORMATION 26
5 SUMMARY AND CONCLUSIONS 28
5.1 DUBLIN GULCH FOSSIL LOCALITY 28
5.2 MAIN INFRASTRUCTURE AREA 28
5.3 MINE SITE 29
5.4 HEAP LEACH FACILITY 29
5.5 CAMP 30
5.6 WASTE ROCK STORAGE AND TOPSOIL STOCKPILE AREAS 30
5.7 ACCESS ROAD AND TRANSMISSION LINE 30
5.8 IMPACT SUMMARY AND RECOMMENDED MITIGATION MEASURES 31
6 REFERENCES CITED 32
APPENDIX A SITE PHOTOGRAPHS A-1
APPENDIX B MAPS B-1
APPENDIX C RADIOCARBON LAB REPORTS C-1
APPENDIX D FOSSIL DISCOVERY PROTOCOL D-1

List of Figures

Figure 1 Eagle Gold Project Location B-2

Figure 2 Project Components at Eagle Gold B-3

Figure 3 Surficial Geology Map 1: Project Infrastructure and Access Road B-5

Figure 4 Surficial Geology Map 2: Access Road B-6

Figure 5 Surficial Geology Map 3: Access Road B-7

Figure 6 Study Areas B-8

Figure 7 Topographic Map Index B-9

Figure 8 Topographic Map 1: Project Infrastructure and Access Road ..B-10

Figure 9 Topographic Map 2: Access Road.....B-11

Figure 10 Topographic Map 3: Access Road.....B-12

List of Plates

Plate 1 Dublin Gulch Overview A-2

Plate 2 Dublin Gulch Disturbance A-2

Plate 3 Drill Site in Granodiorite, Waypoint DG10 ..... A-3

Plate 4 Test Pit in Granodiorite, Waypoint DG9 ..... A-3

Plate 5 Phyllite Exposure, Base of Dublin Gulch A-4

Plate 6 Gravel Exposure, Waypoint DG1 ..... A-4

Plate 7 Fine-Grained Deposits, Waypoint DG1 ..... A-5

Plate 8 Silt Lens, Waypoint DG1 ..... A-5

Plate 9 Muck, Waypoint DG2 ..... A-6

Plate 10 Bedded Sand and Gravel, between Waypoints DG1 and DG2 ..... A-6

Plate 11 Fine-Grained Upper Slope Deposits, Waypoint DG6 ..... A-7

Plate 12 Sand and Silt Layers, Waypoint DG6 ..... A-7

Plate 13 Organic Lens, Waypoint DG6 ..... A-8

Plate 14 Dublin Gulch North Slope Exposure, Waypoint DG11 ..... A-8

Plate 15 Fine-Grained Upper Sequence, Waypoint DG11 ..... A-9

Plate 16 Organic Layer and Sheet of Flat Clasts, Waypoint DG11 ..... A-9

Plate 17 Exposures along Dublin Gulch Approaching Eagle Pup, Waypoint DG7 ..... A-10

Plate 18 Diamicton, Waypoint DG7 ..... A-10

Plate 19 Reid Till, Waypoint DG8 ..... A-11

Plate 20 Test Pit Exposure along Ann Gulch, Waypoint DG12 ..... A-11

Plate 21 Bedded Sand and Silt, Waypoint DG12 ..... A-12

Plate 22 Placer Tailings, Waypoint DG17 ..... A-12

Plate 23 Placer Tailings, Waypoint DG14 ..... A-13

Plate 24 Platinum Gulch A-13

Plate 25 Gill Gulch, Waypoint DG18 ..... A-14

Plate 26 Remnant Valley Wall Deposits, Haggart Creek A-14

Plate 27 Upper Surficial Sequence along Haggart Creek, Waypoint DG19 ..... A-15

Plate 28 Sand and Silt Deposits, Waypoint DG19 ..... A-15

Plate 29 Access Road Crossing of Haggart Creek, Waypoint DG20 ..... A-16

Plate 30 Reworked Deposits at 45 Pup, Waypoint DG21 ..... A-16

Plate 31 Reworked Deposits at Secret Creek, Waypoint DG23 ..... A-17

Plate 32 Access Road cut through Bedrock, Waypoint DG24 ..... A-17

Plate 33 Phyllite Scree, Waypoint DG24 ..... A-18

Plate 34 Access Road cut through Bedrock, Waypoint DG25 ..... A-18

Plate 35 Access Road cut through Bedrock, Waypoint DG27 ..... A-19

Plate 36 Access Road Crossing of Unnamed Creek, Waypoint DG26 ... A-19

Plate 37 Reworked Deposits at Unnamed Creek, Waypoint DG26 ..... A-20

Plate 38 Intact Deposits, Waypoint DG26.....A-20

Plate 39 Preserved Wood, Waypoint DG21.....A-21

Plate 40 Test Pit at Bawn Boy Gulch, Waypoint DG16.....A-21

Plate 41 Moose Humerus, Waypoint DG15.....A-22

Plate 42 Stripped Topsoil at Bawn Boy Gulch, Waypoint DG15.....A-22

List of Tables

Table 1 Fossils from the Mayo District..... 8

Table B-1 Surficial Geology Map Legend.....B-4

1 INTRODUCTION

Victoria Gold Corp. proposes to construct and operate the Eagle Gold Project (the Project), a gold mine in the central part of Yukon Territory. The Project is located approximately 350 km north of Whitehorse, 45 km north-northeast of the Village of Mayo and 20 km northwest of Elsa (Figure 1). It is centred near the confluence of Haggart Creek and Dublin Gulch, two watercourse valleys that contain extensive placer gold tailings. The gold deposits of the Eagle Zone (i.e., the deposits to be mined) occur in an upland area east of Haggart Creek and south of Dublin Gulch.

On behalf of Stantec, FMA Heritage Inc. (FMA) completed a data gap analysis for palaeontological resources for the Project in the spring of 2009. This analysis indicated that significant palaeontological resources were recovered from Dublin Gulch during placer gold mining in the 1970s (Harington 1996). However, until the current studies, no palaeontologist had ever visited the Dublin Gulch fossil locality, and the state of the fossil site was unknown, as was the extent of the fossiliferous strata.

A Historic Resources Impact Assessment (HRIA) for palaeontology was initiated to determine whether or not the Project would affect palaeontological resources. Four days of field studies were conducted in September of 2009 to investigate the Dublin Gulch Pleistocene fossil locality and to examine strata in and around the Dublin Gulch area. This document presents the results of the HRIA. While no permit was required at this time, a description of the Project and the proposed assessment methods were submitted to the Yukon Palaeontology Program of the Department of Tourism and Culture.

The First Nation of Na-Cho Nyäk Dun (FNNND) was notified of the palaeontology HRIA studies on August 17, 2009. Four FNNND citizens participated in the field studies.

1.1 THE PROJECT

The Project will consist of an open pit mine with an expected capacity of 9M tonnes of ore/year. The mine will operate year-round and require the construction of a cyanide Heap Leach Facility and a gold recovery plant, as well as accommodation, administration, and repair facilities (Figure 2). The Project will also involve the upgrade of the existing access road from Silver Trail Highway 11 to the project site (approximately 48 km). Upgrades will require minor realignments, widening, and resurfacing.

1.2 PREVIOUS PALAEONTOLOGICAL ASSESSMENTS

In the late 1990s, environmental impact assessments were completed for a previously proposed gold mine at Dublin Gulch. These studies included a letter from Dr. John Storer, Yukon Palaeontologist, to the Department of Indian Affairs and Northern Development, regarding palaeontological impacts and mitigation (Storer 1998). Dr. Storer concluded that the Dublin Gulch fossil locality did not seem to be threatened directly by the project; however, “access road development and tailings ponds could be a concern”. The following items were recommended:

- Palaeontological survey of the site
- Avoidance of the fossil locality by the development
- Monitoring of any construction in the placer area and any construction at river cuts along Haggart Creek.

1.3 THE NATURE OF PALAEONTOLOGICAL RESOURCES

Palaeontological sites are non-renewable and are susceptible to alteration, damage, and destruction by development projects. The value of these resources cannot be measured in terms of individual fossils; rather the value of palaeontological

resources lies in the integrated information derived from the interrelationships of the individual specimens, associated features, spatial relationships (distribution) and context. Interpretation of fossil material is based on an understanding of the nature of the relationship between fossils and the surrounding sediments/strata. Removal or mixing of these strata results in the permanent loss of information basic to the understanding of these resources. As a result, palaeontological resources are increasingly susceptible to destruction and depletion through disturbance.

Palaeontological resources can be directly adversely affected by any activities that include surface and subsurface disturbance. Indirectly, they may be affected by increased human access and human presence. An adverse effect on palaeontological resources involves the destruction or disturbance of all or part of a fossil site. This effect, if not controlled through mitigative investigation and documentation, results in the permanent loss of part of the non-renewable palaeontological record. Depending on the heritage value of the specific fossil site, a significant adverse effect could be identified. A positive effect on palaeontological resources increases the knowledge of palaeontological resources through inventory, documentation, protection, interpretation, or other means.

2 SETTING

The Project is situated in the Yukon Plateau, just south of the Ogilvie Mountains. It lies within the Omineca Belt of the northern Canadian Cordillera (Bleiler, et al. 2006) and the land is characterized by rolling hills and plateaus drained by deeply incised gulches. The landscape is highly vegetated with tree cover growing in residual soil and colluvium. Natural exposures of the bedrock and surficial deposits are rare and generally occur only on the tops of the hills and along the steep valley slopes of the gulches. Black spruce, willow, alder, and moss cover the lower elevations and sub-alpine vegetation grows in the higher elevations (Wardrop 2009).

2.1 BEDROCK GEOLOGY

The Dublin Gulch area is underlain by bedrock of the Upper Proterozoic to Lower Cambrian Hyland Group, consisting of metasedimentary rocks with igneous intrusions.

The Hyland Group strata are made up of quartzite, phyllite, and rare limestone, which accumulated in an ancient trough offshore from ancestral North America, known as the Selwyn Basin. The quartzite can be gritty, micaceous, or massive. Muscovite-sericite and chlorite are the main constituents of the phyllite. The strata have undergone regional greenschist grade metamorphism and local contact metamorphism. Close proximity to the igneous intrusions has altered the strata to quartz-biotite, sericite-biotite-chlorite schist, marble, wollastonite-quartz skarn, and pyroxenite skarn (Wardrop 2009).

The intrusive rocks are approximately 93 million years old and are part of the Tombstone Plutonic Suite. Granodiorite forms the bulk of the intrusive strata, with quartz diorite, quartz monzonite, leucogranite, and aplite comprising younger

intrusive phases, mainly in the form of dikes and sills that cut both the granodiorite and bedrock. The gold deposits of the Eagle Zone are near the western limit of the main intrusion, within extensional quartz veins (Wardrop 2009).

2.2 SURFICIAL GEOLOGY

2.2.1 GLACIAL HISTORY

The Mayo District has been extensively glaciated, which rounded and smoothed the landscape, carved U-shaped valleys, and left behind thick deposits of glacial debris. There were three main glacial episodes (Harington 1996): Pre-Reid (early Pleistocene), which can be divided into the Nansen and Klaza advances; Reid (Illinoian); and McConnell (late Wisconsinan). The early Nansen advance filled Dublin Gulch with ice as high as the top of the plateau (1426 m). The Klaza advance flowed down Lynx and lower Haggart creeks and reached near the confluence of Dublin Gulch and Haggart Creek (884 m). The Reid advance, which lasted from approximately 300,000 to 200,000 years ago, flowed up Haggart Creek from the McQuesten River. It filled Dublin Gulch, but did not cover the surrounding uplands (Bond 1999). The Reid Glaciation was followed by the Koy-Yukon interglacial, which lasted for approximately 170,000 years (LeBarge, et al. 2002).

The Dublin Gulch area was ice free during the McConnell Glaciation, which started approximately 29,000 years ago (Bleiler, et al. 2006). The area hosted a periglacial environment, subject to intense freezing cycles and development of permafrost. Dry, low arctic tundra conditions prevailed with a landscape that was nearly treeless and supported a large mammal fauna (Harington 1996). The climate began to warm approximately 14,000 years ago, and deglaciation began. A conventional radiocarbon date of approximately 12,300 +/- 120 years on alluvial fan organic material from Gill Gulch suggests that the McConnell Glaciation had waned enough by this time to allow the establishment of trees (LeBarge, et al. 2002).

2.2.2 SURFICIAL DEPOSITS

In the Dublin Gulch area, upland areas are covered in colluvium and the Dublin Gulch valley is infilled with Pleistocene gravel. The gravel overlies glacial till of the Reid Glaciation (200,000 to 300,000 years old). Detail surficial geology maps are provided in Figures 3 to 5 (Appendix B) and an index table in Table B-1.

LeBarge, et al. (2002) provide a detailed description of the surficial deposits of the Haggart Creek area, based on 31 exposed stratigraphic sections examined between 1995 and 1997. Documented landforms in the area include a remnant glaciofluvial terrace, alluvial fans, and colluvial slope deposits. The general stratigraphic assemblage, from oldest to youngest, is as follows:

- Pre-Reid interglacial fluvial, gulch, and alluvial fan sediments that have been partly reworked or buried
- Early and Middle Reid glaciofluvial, glacial and periglacial sediments
- Late Reid glaciofluvial, glacial and periglacial sediments, which likely formed terraces during the retreat of the glacier
- Early and Middle McConnell periglacial sediments, made up of reworked Koy-Yukon interglacial sediments, deposited as periglacial fans at the edges of the valleys and as valley fill along the main Haggart Creek valley
- Late McConnell periglacial sediments, discontinuously deposited as alluvial fan sediments
- Holocene alluvial, colluvial, and aeolian sediments, such as the thick deposit at the confluence of Gill Gulch with Haggart Creek.

Placer gold deposits are preserved best near the maximum limits of glacial advances, as within Dublin Gulch. In these areas, there is less ice scouring and more deposition, meaning that preglacial alluvial gold deposits are buried. The Dublin Gulch valley contains valley bottom placer deposits that are likely interglacial, glacial, and glaciofluvial deposits of the Reid Glaciation overlying a basal debris flow (Hein and LeBarge 1997).

The valley fill gravel at Dublin Gulch, the gulches that feed into Dublin Gulch, and Haggart Creek between Dublin Gulch and Secret Creek, has been mostly reworked by placer gold mining (Bond 1997; Lipovsky, et al. 2001). The only area with relatively undisturbed valley fill is Ann Gulch.

2.2.3 GOLD MINING HISTORY

Placer gold was first discovered on Haggart Creek, just below Dublin Gulch, in 1895. Scheelite (a tungsten ore) was found with the placer gold in 1904 and lode gold in 1907 (Hein and LeBarge 1997). Mining for placer gold along Haggart Creek began in earnest in 1899 and became mechanized in the late 1930s (LeBarge, et al. 2002; Mayo Historical Society 1999). Most of Dublin Gulch and the nearby Haggart Creek deposits have been worked and reworked for placer gold, creating a disturbed landscape (Bond 1997). A detailed history of the mining operations along Haggart Creek and Dublin Gulch is recorded in *Gold and Galena* (Mayo Historical Society 1999). Placer operations ceased in 1998 with total recorded gold production of 2,418,300 g between 1895 and 1998 (LeBarge, et al. 2002).

In the 1970s, there was intensive placer gold mining activity at Dublin Gulch by Fred Taylor, Ron Holoway and D. Duensing, with the property sold to Canada Tungsten Mining Corp. Ltd. in 1978 (Mayo Historical Society 1999). During 1975 and 1976, under the operation of Darron Placers, fossils from the Dublin Gulch Pleistocene fossil site were recovered (Harington 1996; Sinclair, et al. 1976; Morin, et al. 1977).

2.2.4 FOSSIL RECORD AND PALAEOENVIRONMENT

The Dublin Gulch area has yielded the only substantial collection of Pleistocene vertebrate fossils from the Mayo District (Harington 1996) with a few other Pleistocene to Holocene remains from other areas (Table 1). The Dublin Gulch fossil material was recovered mostly by D. Duensing during the mid-1970s as a by-product of placer gold mining and deposited in the Kluane Museum of Natural History. The collection was subsequently studied by Dr. C.R. Harington of the Canadian Museum of Nature.

Table 1 Fossils from the Mayo District

Locality	Fossil Material[1]
Dublin Gulch (left [south] side of Dublin Gulch, slightly downstream from Stuttle Gulch, more or less halfway between Eagle Pup and Haggart Creek)[2]	Small horse (*Equus lambei*) – abundant bones Steppe bison (*Bison* cf. *B. priscus)* – abundant bones Dall sheep (*Ovis dalli*) – 6 specimens Caribou (*Rangifer tarandus*) – 5 specimens Moose (*Alces* cf. *A. alces*) – 2 partial antlers American lion (*Panthera leo atrox*) – right ulna fragment Possible Mammoth (cf. *Mammuthus* sp.) – bone fragment
Highet Creek (E. Bleiler's claim 87)	Bison (*Bison* sp.) – left radio-ulna
Stewart River (5 km downstream from Mayo)	Bison (*Bison* sp.) – 1 molar
Haggart Creek (1.6 km downstream from confluence with Dublin Gulch)	Steppe bison (*Bison priscus*) – 2 partial crania
Stewart River (opposite high bluff immediately downstream from Mayo)	Steppe bison (*Bison* cf. *B. priscus*) – partial cranium Horse (*Equus* sp.) – partial radius
Stewart River (high bluff immediately downstream of Mayo)	Horse (*Equus* sp.) – partial radius and thoracic vertebra Mammoth (*Mammuthus* sp.) – partial femur
Stewart River, Mayo Indian Village Section (2.4 km downstream from Mayo)	Plants – fungus, bryophytes, pine, pondweed, sedge, rushes, willow, birch, sorrel, bugseed, chickweed, pearlwort, buttercups, poppy, Whitlow-grass, roses, mare's tail, milfoil, hare's ear Insects – shorebugs, ground beetles, diving beetles, rove beetles, carrion beetles, round fungus beetles, pill beetles, lady bugs, weevils, crane flies, sawflies, mites
Sources: Harington (1996); Matthews, et al. (1990) Notes: 1 vertebrate fauna listed in descending order of abundance 2 location description after Storer (1998)	

There is no site description for the Dublin Gulch Pleistocene locality. Harington (1996) pieced together a possible stratigraphic succession based on records from earth scientists between 1916 and 1991, with the following stratigraphic units (oldest to youngest):

- Unit 1 – schistose-quartzite bedrock
- Unit 2 – rusty to olive boulder gravel
- Unit 3 – banded organic silt (muck)
- Unit 4 – diamicton (glacial till)
- Unit 5 – organic silt and colluvium.

Harington (1996) concluded that the source layer for the bones was just below the organic silt and colluvium (Unit 5), although he acknowledged the possibility that not all of the bones may have come from the same unit. He determined that the fossils were collected over two years from a single cut at the "extreme left limit of the gulch at the upper end of claim 3" (Harington 1996: 354). Storer (1998: 1) later described the site location as the "left [south] side of Dublin Gulch, slightly downstream from Stuttle Gulch, more or less halfway between Eagle Pup and Haggart Creek".

The Dublin Gulch Pleistocene locality includes small horse, bison, Dall sheep, caribou, moose, American lion, and possibly mammoth (Harington 1996). Horse and bison dominate the assemblage. The lack of small mammals can be explained by a collecting bias where only the larger bones were noticed and collected. Systematic screen washing for vertebrate bones is needed to capture the smaller mammal bones. The predominance of horse and bison in the assemblage is typical of Yukon and Alaskan Pleistocene faunas. A date of 31,450 +/- 1300 years before present was obtained from conventional (uncalibrated) radiocarbon analysis of a horse metatarsal bone, which makes the fauna Middle Wisconsinan. All of the species found at the Dublin Gulch Pleistocene locality have also been reported at other Yukon Middle Wisconsinan sites south of the Arctic Circle such as Sixtymile (Harington 1997), Big Creek (Harington 1989), and Ketza River (Jackson and Harington 1991).

The Middle Wisconsinan faunas suggest that a widespread grassland steppe was established in the central Yukon, although the presence of moose suggests a wetland component (Jackson and Harington 1991). Detrital organics with plant seeds, pollen, and insect remains were recovered near Mayo, beneath till of the McConnell Glaciation, and dated at 29,600 +/- 300 years (Matthews, et al. 1990). The plants indicate a nearly treeless environment, although there may have been small patches of spruce (Table 1). Typical low arctic plants are rare to absent, although the flora suggests that the climate was no colder than today's low arctic tundra, but drier. The arthropod assemblage has no species that are restricted to south of the treeline, but few of the species live at high arctic sites (Table 1). Some such as weevils and ladybugs live only in low arctic or hypoarctic tundra. Some of the beetle species are characteristic of dry, thinly vegetated riverbanks.

3 METHODS

3.1 STUDY AREA BOUNDARIES

The local assessment area (LAA) is the Project footprint. This is the area where Project effects on palaeontological resources could occur. For the purposes of baseline field data collection, a local study area (LSA) was used, which included the LAA plus an approximately 500 m buffer zone to allow for opportunistic collection of data in areas of limited stratigraphic exposure. The study areas are illustrated in Figure 6.

3.2 FIELD STUDIES

The palaeontological field investigations were conducted under snow free conditions from September 10 to 13, 2009. Potentially fossiliferous surficial and bedrock exposures were examined. The assessment focused on the LAA. However, as the potentially fossiliferous layers that may be disturbed by the Project are typically buried, it is often necessary to look at exposures adjacent to the footprint to evaluate these buried horizons and extrapolate the information to the footprint. The field studies examined nearby exposures in the LSA, and collected information on the buried horizons and the overall palaeontological potential of the area.

The field investigations were conducted on foot. Lithology, sedimentary features, amount and nature of overburden, and fossil content (vertebrate, invertebrate, and floral) were noted for each exposure. Representative collections were made of key strata, such as potential ash layers and organic accumulations. Representative samples of fossils were collected where they were of sufficient quality to allow identification of specimens in the laboratory.

Vertebrate fossil sites are always sampled cautiously to preserve the site integrity and allow for controlled excavation at a later time. Any potentially articulated material is left in place. Sampling as part of the field investigation program does not comprise comprehensive collecting or mitigation.

3.3 LABORATORY PREPARATION AND ANALYSES

The one bone collected during the field studies was cleaned by brushing off the dirt using a dry brush. Faunal experts Bonnie Brenner and Dr. Alison Landals (FMA Heritage Inc.) provided the species identification.

Four sediment samples were collected during field studies and investigated for the presence of volcanic glass. The material was sent to the Froese Lab at the University of Alberta for processing using heavy liquid separation. The float was mounted on slides and examined for the presence of volcanic glass using backscatter on the electron microprobe.

Organic layers within the surficial deposits were also sampled during field studies at waypoints DG6, DG11, DG19 and DG26. Wood from three samples was extracted and sent to the Radiocarbon Laboratory at Brock University for radiocarbon dating. Appendix C provides the laboratory reports. The remaining samples were manually wet sieved using a 0.25 mm screen to separate the organic material. The organics and remaining sediment were dried and bagged. The sediment was retained to allow for pollen analysis at a future time. Detailed species identification of the plant and insect species was not completed.

All scientifically useful samples will be filed with Dr. Grant Zazula, Yukon Palaeontology Program of the Department of Tourism and Culture.

3.4 EVALUATION OF HERITAGE VALUE

“Heritage value” or “significance” is a measure of the relative importance of a palaeontological collection or site as determined by the palaeontological consultant during the HRIA. It is an attempt to quantify the relative value of a particular locality. Although it is not the only criterion used, the presence of fossils of moderate to high

heritage value in the LSA is one indication that the Project could affect palaeontological resources.

The heritage value of each collection/site was evaluated using the following criteria, which are described in detail later in this section:

- Abundance of material
- Quality of preservation
- Diversity
- Rarity of taxa
- Aesthetic value
- Taxonomic value
- Geographic or stratigraphic value.

For each category, a value between 1 and 10 was assigned for each assemblage/site. The values were then averaged to obtain an overall site value and rated as:

- Low – 1 to 3
- Medium low – 3.1 to 4.5
- Medium – 4.6 to 6.5
- Medium high – 6.6 to 7.9
- High – 8 to 10.

Abundance of Material – The abundance of the material is rated ranging from 1 – not abundant (e.g., single fossil) to 10 – abundant (e.g., material is common – more than 10 specimens). This value is a useful indicator of the likelihood of the Project affecting a resource.

Quality of Preservation – The quality of preservation of the material is rated ranging from 1 – poor (e.g., can be recognized as a fossil but not identified to a lower taxonomic level) to 10 – excellent (e.g., quality of preservation allows for accurate identification of the fossil plus other scientific information). This value is a useful indicator of how much scientific information can be obtained from a site.

Diversity – The diversity of the material is rated ranging from 1 – monotypic (e.g., single species) to 10 – diverse (e.g., four or more species). Diversity of a site indicates how many taxa can be investigated.

Rarity of Taxa – Rarity of taxa is rated ranging from 1 – common (e.g., species is found at 10 or more localities) to 10 – rare (e.g., species is found at one or few localities; includes all vertebrate taxa). Rarity of taxa indicates the scientific value attached to fossil types that are unique or uncommon.

Aesthetic and Public Value – Aesthetic value of taxa is rated ranging from 1 – low (e.g., specimen cannot be recognized as a fossil by the layperson) to 10 – high (e.g., specimen is an object of intrigue to the layperson and can have a high educational and economic value). Aesthetics rates the value of a find to the public.

Taxonomic Value – The taxonomic value is rated ranging from 1 – taxon is already well known (e.g., taxon has been thoroughly described in the scientific literature and the new specimen does not add to the knowledge base) to 10 – taxon is poorly known (e.g., taxon has not previously been described or described only based on poor material and specimen will add to the scientific knowledge base). This category rates the contribution of the site to the scientific taxonomic knowledge base.

Geographic or Stratigraphic Value – The geographic or stratigraphic value is rated ranging from 1 – low (e.g., taxon has been previously found at that geographic location or stratigraphic horizon) to 10 – high (e.g., taxon has not been previously found at that geographic location or stratigraphic horizon). This category rates the contribution of the site to the scientific knowledge base on the distribution of fossils.

3.5 IMPACT ASSESSMENT

As palaeontological resources consist largely of buried sites with only fortuitous exposures at the surface, impact assessments rate the palaeontological potential of the strata. Strata are considered to have high palaeontological potential if:

- Regionally, the strata have yielded significant palaeontological resources

- There is an indication locally that palaeontological resources occur in the area.

If a project will disturb strata with high palaeontological potential, effects on palaeontological resources could occur. These effects can be significant if there will be a loss of material or site context for palaeontological sites of high heritage value; however, there are currently no formal thresholds for determining significance. Any effects on palaeontological resource sites must be approved by the Minister of the Yukon Department of Tourism and Culture.

Recommendations for mitigation and *Historic Resources Act* clearance for the Project are formulated by the palaeontological consultant in the HRIA, which is submitted to the Yukon Palaeontology Program for review. Mitigation requirements and any conditions are determined by the Yukon Palaeontology Program and issued via the Department of Tourism and Culture. As such, the threshold for determining significance is site specific and identified by the territorial regulators during the approvals process based primarily on the scientific data collected at the HRIA stage.

3.6 MITIGATION MEASURES

Palaeontological mitigation aims to minimize the loss of fossils or site context caused by project activities. Wherever practical, the preferred mitigation measure is to avoid known palaeontological sites. Where avoidance is not practical, excavation of known sites of moderate to high heritage value may be recommended. Where excavation will occur through strata with high palaeontological potential, construction monitoring by a professional palaeontologist may be recommended. A palaeontological education program can also be used to teach project workers what to do in the event of fortuitous discovery of fossils during construction. As effect predictions are based on the localized conditions on the project footprint, any footprint changes should be re-evaluated by a palaeontologist.

With mitigation, positive effects on palaeontological objects can be expected through discovering sites, recovering fossils and recording the site context. The project can make a positive contribution to the scientific knowledge base for palaeontological resources.

3.6.1.1 Avoidance and Excavation of Known Palaeontological Sites

Where palaeontological resources are discovered on the project footprint, the heritage value of the site is evaluated. If the heritage value is high, options to avoid the site may be considered. Avoidance may include adjusting the project footprint and staking/flagging the site so that its location can be readily avoided during construction activities. Where avoidance is not practical due to construction constraints or if the heritage value is low or moderate, consultation will occur with Yukon Palaeontology Program to determine site-specific mitigation. Recommended mitigation could include:

- Detailed surface collecting of the site
- Site sampling through spot excavations
- Full site excavation.

3.6.1.2 Monitoring in Areas of High Palaeontological Potential

Construction monitoring by a professional palaeontologist is the most effective way to mitigate the risk of project effects on palaeontological resources when excavating in areas of high palaeontological potential. The monitor observes grading and excavation as it occurs. Standing the minimal safe distance away from the construction equipment, areas are inspected as they are progressively excavated and all spoil material is checked. Periodically, the monitor may signal the operator to pause and move in for closer examination of the spoil or excavation. If continuous monitoring is not practical (e.g., multiple locations are being excavated at once or the monitor is unable to get close due to safety constraints), the monitor should at minimum inspect the excavation and spoil before the spoil is removed from the site. Operators must stop excavating and call the monitor to their location if they encounter fossils. The monitor works closely with the operators to ensure safety while recording information and inspecting and collecting fossils.

If fossils are noted, the palaeontologist determines the heritage value of the material. Fossils with low value are noted and photographed. Some fossils might be set aside for collection if they can provide any scientific information. For fossils with moderate values, representative collections are made. For fossils with high heritage values,

such as articulated vertebrate material, a temporary halt to excavations is called while the monitor reports the find to, and consults with, the Yukon Palaeontology Program. The Yukon Palaeontology Program will determine the next step after construction is stopped. The monitor might be directed to collect any exposed material, or to make a shallow excavation adjacent to the find to determine the extent of the fossiliferous horizon. In rare cases, a full palaeontological excavation will be required and construction will temporarily omit the section of fossiliferous material until appropriate mitigation has been completed.

3.6.1.3 Palaeontological Education Program

When the project is a large-scale development where ground disturbance will occur over a wide area for an extended period of time, monitoring by a professional palaeontologist will only be practical in areas with the highest palaeontological potential. If it is possible that fossils could also be discovered in other areas. A palaeontological education program may be recommended to:

- Teach construction workers and supervisors how to recognize a fossil
- Inform construction supervisors of the legal requirements of reporting the discovery of fossils in the Yukon
- Provide construction workers and supervisors with procedures to follow should a fossil be found (e.g., Fossil Discovery Protocol (Appendix D)).

3.6.1.4 Evaluation of Footprint Changes

As the Project is currently in the pre-feasibility stage, minor footprint changes are expected and other refinements can be made up to the time of construction. As impact predictions and site-specific mitigation measures depend on the local conditions on the footprint, a palaeontologist should evaluate all significant footprint changes to ensure that no unmitigated impacts to palaeontological resources occur. This evaluation and any changes in mitigation recommendations must be submitted to the Yukon Palaeontology Program.

4 RESULTS

The field observations and analyses are presented in this section, arranged by Project component/area (Figure 2). Site photographs are illustrated in Appendix A. Waypoints discussed in the text are plotted on maps (Appendix B), which include both a detailed surficial geology series (Figures 3 to 5, Table B-1) and a topographic series (Figures 7 to 10). The surficial geology is based on interim compiled digital data available by request from the Yukon Geological Survey (Bond and Lipovsky 2009). Reference is also made to stratigraphic sections recorded between 1995 and 1997 by LeBarge, et al. (2002) and their interpretations. The laboratory report for the radiocarbon dating is included in Appendix C and the Fossil Discovery Protocol in Appendix D.

The Project components for the mine and infrastructure are distributed around the Dublin Gulch area (Figure 2). The landscape is heavily treed, mountainous topography that shows considerable anthropogenic disturbance (Plates 1 and 2).

Surficial exposures were examined throughout Dublin Gulch, the confluence of Dublin Gulch with Haggart Creek, and the confluence of Stuttle Gulch, Eagle Pup, Ann Gulch, and Stewart Gulch with Dublin Gulch. In all cases, the valley fill has been extensively reworked by placer gold mining. Remnant intact deposits occur along the south side of Dublin Gulch and rarely along the north side. These intact deposits were closely examined, especially around the area where the Dublin Gulch Pleistocene fossil site was recorded.

4.1 MINE SITE

4.1.1 FIELD OBSERVATIONS

The mine site will be located in an upland area south of Dublin Gulch, where the Eagle Zone occurs (Figure 2, and Plate 1). Bedrock exposures were spot checked at the proposed mine site, adjacent hillsides and within the Dublin Gulch valley. At the mine site, the rock consists mainly of igneous intrusions, and granodiorite was found at waypoint DG10 (Plates 1 and 3). Similar exposures occur in test pits in the area (e.g., waypoint DG9, Plate 4). Phyllite is exposed in the base of Dublin Gulch that is approaching a schistose grade of metamorphism (Plate 5).

4.1.2 IMPACT ASSESSMENT AND RECOMMENDATIONS

Fossils can occur in metamorphosed strata, as evidenced by Cambrian trilobites found in the Cranbrook Quartzite (southeastern British Columbia), and the Combined Metals Member of the Pioche Formation (Nevada). However, the degree of metamorphism in the Dublin Gulch area precludes preservation of any fossil remains in the bedrock. There has been too much recrystallization and reorientation of the mineral grains.

The likelihood of Project mining activities encountering palaeontological resources in the bedrock is considered negligible. No Project effects are expected from mining activities. No further palaeontological studies or mitigation are recommended.

4.2 INFRASTRUCTURE – DUBLIN GULCH, WEST OF STUTTLE GULCH

4.2.1 FIELD OBSERVATIONS

The location of the Dublin Gulch Pleistocene fossil site has been interpreted to be on the “left (south) side of Dublin Gulch, slightly downstream from Stuttle Gulch, more or less halfway between Eagle Pup and Haggart Creek” (Storer 1998). This area was closely examined and recorded as waypoint DG1 (Plate 2). No vertebrate fossils were found. There is approximately 12 m of exposure, consisting of unsorted sand, gravel and silt (Plate 6). The top 2 m consist of cobble-sized gravel with subrounded

to angular clasts of quartzite, phyllite, and quartz. The lower 10 m is predominantly silt and sand with occasional pebbles and cobbles with no sign of bedding [interpreted as colluvium by LeBarge, et al. (2002)]. Sporadically exposed at the very top of the slope is up to 0.5 m of bedded sand and silt (Plate 7). There are some lenses of extremely fine-grained purplish clay (Plate 8). A sample was taken from this lens, but the results were negative for volcanic glass and a radiometric date could not be determined.

The upper cobble-sized gravel layer is a persistent feature in this area, occurring at waypoints DG2 to DG5. It is likely a colluvial layer (LeBarge, et al. 2002). At DG2, there is a section of fine silt and clay known as “muck” on the lower slope (Plate 9). It appears to be an ice thrust block among layers of sand. Between waypoints DG2 and DG1, the deposits become stratified consisting of alternating layers of gravel and sand (Plate 10). The clasts are mostly pebble sized and rounded to subrounded. LeBarge, et al. (2002) tentatively interpreted these sediments as glacial outwash from the Reid Glaciation.

Waypoint DG6 has excellent exposures of fine-grained deposits on the upper slope that are likely interchannel/overbank deposits (Plate 11). Yellowish to orange fine-grained sand is interbedded with thin layers and lenses of purplish silt (Plate 12). The purplish silt was sampled, but tested negative for volcanic glass and did not yield a radiometric date. There are also pockets of compressed organic matter within the silt (Plate 13). Radiocarbon analysis produced a conventional calibrated age of 12,960 +/- 250 years before present, indicating that the sediment was deposited during the warming period following the McConnell Glaciation.

A similar sequence to waypoint DG6 occurs across the valley, on a road cut on the north side of Dublin Gulch at waypoint DG11 (Plate 14). This is a thinner sequence than on the south side of the valley, approximately 6 m high. There are layers of cobble gravel near the base, separated by approximately 1.5 m of fine sand with minor gravel. The cobbles of quartzite and granodiorite are rounded to subangular and up to 40 cm in diameter. The gravel is overlain by 3 to 4 m of interbedded yellowish sand and grey to purplish clay with organic lenses (Plate 15). There are thin beds throughout the fine-grained sequence of angular flat clasts of quartzite and schist (Plate 16). As at waypoint DG6, samples of the silt and the organic layers were taken. The radiocarbon analysis on the organics yielded a conventional

calibrated age of 10,330 +/- 90 years before present, which is slightly younger than the sample from DG6 (i.e., 12,960 +/- 250 years before present).

4.2.2 IMPACT ASSESSMENT AND RECOMMENDATIONS

This stratigraphic sequence currently found around the location of the Dublin Gulch Pleistocene fossil site does not match the stratigraphic section compiled by Harington (1996) for the site (see Section 2.2.4, *Fossil Record and Palaeoenvironment*). The radiocarbon ages obtained for the organic layers are also approximately 20,000 years younger than the radiometric age obtained on a bone from the Pleistocene fossil site. This suggests that the upper fine-grained deposits at the top of the sequence were not the source of the Dublin Gulch Pleistocene fossils. The underlying cobble gravel layer could have been the source, but despite extensive examination, no additional vertebrate material could be located. It is also possible that placer gold mining in the late 1970s completely removed the fossiliferous source layer. The spoil piles in the gulch were also extensively examined; however, as placer gold mining operations ceased approximately 30 years ago, any bone remaining in the spoil likely disintegrated under the acidic soil conditions.

The area of the Dublin Gulch Pleistocene fossil locality will be within the LAA and is situated at the silt 1 borrow area (Figure 3). This area will continue to be mined for fill. The event ponds and process plant will also be built within Dublin Gulch in this area.

It is expected that there will be extensive disturbance of the Pleistocene deposits near the Dublin Gulch Pleistocene fossil locality. However, most of these deposits have already been reworked by placer gold mining and only remnant intact deposits of unknown extent remain. Further, the field investigations found no indication that the source layer for the Dublin Gulch Pleistocene fossil locality is still present. The likelihood of development in this area encountering palaeontological resources is considered moderately low. Project effects are possible but not highly likely.

As there will be ongoing use of the intact deposits as a borrow source, a palaeontological education program for the equipment operators and adherence to the Fossil Discovery Protocol (Appendix D) is recommended.

4.3 HEAP LEACH FACILITY – DUBLIN GULCH, EAST OF STUTTLE GULCH

4.3.1 FIELD OBSERVATIONS

East of its confluence with Stuttle Gulch, there is still extensive anthropogenic disturbance along Dublin Gulch. Excellent exposures continue along the south side of the gulch, and the sediments increase in clast size approaching the confluence with Eagle Pup (waypoint DG7; Plate 17). There is a diamicton with large subrounded to subangular cobbles and boulders of granodiorite, phyllite, and quartzite (Plate 18). LeBarge, et al. (2002) interpreted this as a colluvial apron and it is mapped as Pre-McConnell Glaciation undivided alluvial plain and terrace deposits of Middle Pleistocene age (Figure 3; Bond and Lipovsky 2009).

Across the valley, on the north side along the access road, is a small borrow site cut into a rusty weathering cobble-boulder layer (waypoint DG8; Plate 19). This lithology matches Harington's (1996) description of the Reid Till. Farther up the gulch (west) near the confluence with Ann Gulch is a backhoe test pit at waypoint DG12. The pit exposes a sequence of finer-grained sediments overlain by colluvium (Plate 20). The colluvium is approximately 1.5 m thick and is made up of unsorted angular clasts in a silt matrix. Below the colluvium is bedded sand and silt. The sand grades into a fine pebble gravel and is strongly oxidized to a reddish colour (Plate 21). The silt has thin organic bands with occasional twigs. As the organic layers observed in the small test pit are thin and lack abundant preserved floral remains, a sample was not taken. However, it is possible to extract a pollen and possibly macrofloral record from such layers. LeBarge, et al. (2002) described similar strata from this area and obtained a radiocarbon date of 7,430 +/- 70 years from near the middle of the 8 m sequence, which makes this at least in part an early Holocene alluvial deposit. These Holocene organic layers are relatively common in the area as LeBarge, et al. (2002) were able to obtain radiocarbon dates from six other layers in the Haggart Creek area. The floral record within these organic layers has not been studied. The heritage value of such sites is considered medium.

The westernmost deposits in Dublin Gulch were recorded at waypoint DG17, near the confluence with Stewart Gulch (Figure 3). There are massive piles of tailings from placer gold mining in this area, but no exposed stratigraphic section (Plate 22).

This area is mapped as a Holocene undivided complex of alluvial plain, terrace and fan deposits (Figure 3; Bond and Lipovsky 2009).

4.3.2 IMPACT ASSESSMENT AND RECOMMENDATIONS

The Heap Leach Facility will be situated around the Ann Gulch Drainage, extending south into Dublin Gulch (Figure 2).

The valley fill near the base of Ann Gulch is considered to have high palaeontological potential as these deposits are intact and have not been subject to mechanized mining for placer gold (Lipovsky, et al. 2001). As much of the sequence appears to be Holocene, any remains would be relatively recent in age and provide a post-glacial faunal or floral record. Considerable subsurface disturbance is expected to shape the landscape before installation of the pad liner. The likelihood of this development encountering palaeontological resources is considered high, especially for floral remains, which have medium heritage value. However, the probability of this kind of disturbance providing the opportunity to recover vertebrate remains is lower as there will be no sorting or processing of the deposits as there is with placer gold mining. There is a moderate probability of Project effects on palaeontological resources from construction of the Heap Leach Facility.

Construction details regarding grading and excavation of the Ann Gulch Heap Leach Facility are needed. It is recommended that the construction plan be carefully reviewed to identify any opportunity for the collection of detailed stratigraphic and palaeontological information in an exposed section before it is covered by the leach pad liner. A palaeontological education program for the equipment operators and adherence to the Fossil Discovery Protocol (Appendix D) are also recommended in the event that vertebrate remains are uncovered during construction.

4.4 CAMP – CONFLUENCE OF DUBLIN GULCH AND HAGGART CREEK

4.4.1 FIELD OBSERVATIONS

The valley is broad at the confluence of Dublin Gulch and Haggart Creek. The area has been thoroughly disturbed by placer gold mining and the Dublin Gulch

watercourse has been diverted north to flow into Haggart Creek near DG14 (Plate 23). Victoria Gold Corp. currently has a small camp south of this area to house exploration personnel. This area is mapped as Wisconsinan alluvial fan deposits (McConnell Glaciation) overlying a Middle Pleistocene, pre-McConnell Glaciation alluvial plain (Figure 3; Bond and Lipovsky 2009). East and northeast of waypoint DG14 is a terrace mapped as colluvium overlying a Middle Pleistocene glaciofluvial complex from the Reid Glaciation.

4.4.2 IMPACT ASSESSMENT AND RECOMMENDATIONS

The construction and operations camp will be situated north of the current confluence of Dublin Gulch with Haggart Creek (Figure 2). Most of this area has been extensively reworked by placer gold mining activities and has low palaeontological potential. The only deposits that are likely still intact are the glaciofluvial sediments from the Reid Glaciation that make up the terrace east of waypoint DG14. There is moderate potential to encounter palaeontological resources in this terrace. Camp construction should be limited to surface disturbance, and no major ground excavation is expected in this area. The likelihood of Project effects on palaeontological resources is considered low since ground disturbance will be limited.

A palaeontological education program for the equipment operators and adherence to the Fossil Discovery Protocol (Appendix D) is recommended during the construction stage, in the event that vertebrate remains are encountered.

4.5 WASTE ROCK STORAGE AND TOPSOIL STOCKPILE AREAS – PLATINUM GULCH AND EAGLE PUP

There are numerous areas that will be used for storage of waste rock and topsoil around and below the mine site (Figure 2). All are situated on upland areas. The Eagle Pup Waste Rock Storage Area (EPWRSA) will be developed around the Eagle Pup drainage. The Platinum Gulch Waste Rock Storage Area (PGWRSA) will be developed around the headwaters of this drainage, and the topsoil stockpile 1 along its north flank.

The valley fill within Eagle Pup is considered to have high palaeontological potential. However, it has already been subject to mechanized mining for placer gold and the high potential strata have been disturbed (Lipovsky, et al. 2001).

Platinum Gulch enters Haggart Creek from the east. It is heavily vegetated and has not been disturbed by placer gold mining (Plate 24). The lower reaches of Platinum Gulch are mapped as Wisconsinan alluvial fan deposits of the McConnell Glaciation overlying Middle Pleistocene, pre-McConnell Glaciation alluvial plain deposits (Figure 3; Bond and Lipovsky 2009).

4.5.1 IMPACT ASSESSMENT AND RECOMMENDATIONS

Stockpile and waste rock storage areas will be cleared, but little subsurface disturbance is expected. The likelihood of development disturbing palaeontological resources is considered low. No effects on palaeontological resources are expected from these project components. No further palaeontological studies or mitigation are recommended.

4.6 ACCESS ROAD AND TRANSMISSION LINE

Surficial exposures and a selection of bedrock outcrops were examined along or near the current access road and transmission line (Figures 7 to 10). Until it reaches the South McQuesten River, the access road and transmission line run along Haggart Creek, which has been subject to massive placer gold mining. There are only remnant intact surficial sequences. Current placer gold mining operations (2009) were observed along Haggart Creek at Gill Gulch, Secret Creek, and an unnamed creek (waypoint DG26).

Between Dublin Gulch and waypoint DG20 (confluence of 45 Pup with Haggart Creek), the road runs along the base of Haggart Creek valley. This area has been extensively reworked by placer gold mining (waypoint DG18). At the confluence with Gill Gulch (Plate 25), the road passes on the east side of Haggart Creek and does not cross Gill Gulch. Deposits in Gill Gulch are mapped as alluvial fan deposits of the McConnell Glaciation (Figure 3; Bond and Lipovsky 2009). LeBarge, et al. (2002) obtained three radiocarbon dates from Gill Gulch on wood and organics that ranged

from approximately 8,000 to 12,000 years old, approximately the same as the new dates obtained from Dublin Gulch.

Between waypoints DG19 and DG20, there are extensive surficial exposures along the east valley slope of Haggart Creek (Plate 26). Much of this area is mapped as glaciofluvial complex deposits from the Reid Glaciation (Figure 3; Bond and Lipovsky 2009); however, LeBarge, et al. (2002: figure 46) also illustrated McConnell periglacial braided stream and debris flow deposits in the area.

A fine-grained sequence of interbedded sand and silt with organic pockets is preserved in the upper part of the valley wall at waypoint DG19 (Plates 27 and 28). Samples were taken of the very fine-grained purplish silt (results were negative for volcanic glass) and of the organic layer. Plant material was recovered from the organic sample, but was not radiocarbon dated. LeBarge, et al. (2002) obtained a radiocarbon date of 7,970 +/- 60 years from other organic deposits in this area (section LW97-8, unit 5).

At waypoint DG20, the access road crosses Haggart Creek (Plate 29). This area has been entirely disturbed and there are no intact deposits along the creek. 45 Pup enters Haggart Creek at this location and was also investigated. Deposits at waypoint DG21 consist entirely of old, partly vegetated spoil piles from placer gold mining (Plate 30). No exposed sections with intact deposits were found in the area. The area is mapped as Wisconsinan alluvial fan deposits of the McConnell Glaciation overlying Middle Pleistocene, pre-McConnell Glaciation alluvial plain deposits (Figure 3; Bond and Lipovsky 2009).

South of waypoint DG20, the access road runs along the west valley slope of the Haggart Creek valley, rather than through the base of the valley. At waypoint DG23, the confluence of Secret Creek with Haggart Creek, the deposits are massively reworked by current placer gold mining activities (Plate 31). The area is mapped as Wisconsinan alluvial fan deposits of the McConnell Glaciation (Figure 4; Bond and Lipovsky 2009).

Between waypoint DG23 and the South McQuesten River, the access road is mostly incised into the steep west valley slope of the Haggart Creek valley. Most of the exposures along this area are of bedrock, consisting of phyllite and quartzite

(Plates 32 to 35). The only place where surficial exposures occur is at a crossing of an unnamed creek at waypoint DG26 (Plate 36). The area is mapped as Wisconsinan alluvial fan deposits of the McConnell Glaciation (Figure 4; Bond and Lipovsky 2009). There is active placer gold mining in this area, and most of the deposits downstream of the access road have been reworked (Plate 37). The only intact deposits are in a roadcut on the south side of the unnamed creek valley (Plate 38). The deposits are made up of a fine-grained sequence of silt, clay, and occasional fine gravel layers. Organic lenses are common, and large pieces of wood are preserved (Plate 39). Samples were taken of an organic layer and a large piece of wood. Radiocarbon dating on the wood yielded a calibrated age of 2,730 +/- 50 years, indicating that this is a late Holocene deposit.

Once the access road crosses the South McQuesten River, it passes mainly through low-lying land along the river, eventually climbing slightly to meet up with the Silver Trail Highway (Figures 9 and 10).

4.6.1 IMPACT ASSESSMENT AND RECOMMENDATIONS

There is only one place where the road and transmission line pass through an area with intact surficial deposits: an unnamed creek at waypoint DG26. In all other areas, the road passes through areas where the surficial deposits have been reworked by placer gold mining, or through areas of colluvium, bedrock, and organic deposits. In these areas, no Project effects on palaeontological resources are expected by improvement of the access road or development of the transmission line and no further palaeontological studies or mitigation are recommended.

At the unnamed creek crossing at DG26, access road improvements could disturb intact surficial strata of late Holocene age. A palaeontological education program for the equipment operators and adherence to the Fossil Discovery Protocol (Appendix D) is recommended during the construction stage in the event that vertebrate material is encountered during construction.

4.7 INCIDENTAL INFORMATION

Ted Takacs is a placer gold miner who has worked extensively near Dublin Gulch. Tashe (2009, pers. comm.) reported that Mr. Takacs has found mammoth material in

the area, as has Larry Poulson (equipment operator). Both individuals had left the area for the winter by the time the palaeontology surveys occurred and could not be interviewed or tracked down offsite.

An equipment operator (John) digging test pits for Victoria Gold Corp. mentioned that he had dug up a jaw on September 11, 2009. The palaeontology crew attempted to find the jaw on September 12, 2009, but it had been reburied. The jaw was found approximately 1.5 m below the surface in colluvium along Bawn Boy Gulch (waypoint DG16; Plate 40). Upslope at waypoint DG15, a moose humerus was found in the stripped topsoil, which appears to be a recent bone (Plates 41 and 42).

5 SUMMARY AND CONCLUSIONS

5.1 DUBLIN GULCH FOSSIL LOCALITY

Field surveys found that most of the valley fill at Dublin Gulch and Haggart Creek has been reworked by placer gold mining. There is no sign of any remaining source layer for the Dublin Gulch Pleistocene fossil locality, and no additional fossil vertebrate material was found. Organic layers at the top of the surficial sequence in Dublin Gulch contain plant and arthropod material and yielded conventional (calibrated) radiocarbon ages of approximately 10,000 to 13,000 years before present. These late Pleistocene to early Holocene dates indicate the sediments were deposited during climatic warming following the McConnell Glaciation. A large piece of wood recovered from intact surficial deposits along the access road yielded a conventional (calibrated) radiocarbon age of late Holocene, approximately 2,700 years before present.

5.2 MAIN INFRASTRUCTURE AREA

It is expected that there will be extensive disturbance of the surficial deposits near the Dublin Gulch Pleistocene fossil locality and around the mouth of Dublin Gulch by development of the plant site, event ponds, silt borrow area, and laydown area. The likelihood of development in this area encountering palaeontological resources is considered moderately low as it is mostly disturbed and there is no indication that the source layer for the vertebrate fossils still exists.

Project effects are possible but not highly likely in remnant intact strata along the south valley wall of Dublin Gulch. As there will be ongoing use of the intact deposits as a borrow source, a palaeontological education program for the equipment

operators and adherence to the Fossil Discovery Protocol (Appendix D) is recommended.

5.3 MINE SITE

The likelihood of Project mining activities encountering palaeontological resources in the bedrock is considered negligible due to the degree of metamorphism. No Project effects on palaeontological resources are expected.

5.4 HEAP LEACH FACILITY

The Heap Leach Facility will be situated in Ann Gulch. The valley fill near the base of Ann Gulch is considered to have high palaeontological potential. These deposits are intact and have not been subject to mechanized mining for placer gold. Because much of the sequence appears to be early Holocene, any remains would be relatively recent in age and provide a post-glacial faunal or floral record. Considerable subsurface disturbance is expected to shape the landscape before installation of the pad liner. The likelihood of this development encountering palaeontological resources is considered high, especially for floral remains, which have medium heritage value. The probability of the disturbance providing the opportunity to recover vertebrate remains is lower as there will be no sorting or processing of the deposits that takes place with placer gold mining. There is a moderate probability of Project effects on palaeontological resources from construction of the Heap Leach Facility.

Construction details regarding grading and excavation of the Ann Gulch Heap Leach Facility are needed. It is recommended that the construction plan be carefully reviewed to identify any opportunity for the collection of detailed stratigraphic and palaeontological information in an exposed section before it is covered by the leach pad liner. A palaeontological education program for the equipment operators and adherence to the Fossil Discovery Protocol (Appendix D) are also recommended in the event that vertebrate remains are uncovered during construction.

5.5 CAMP

The construction and operation camp will be situated on a glaciofluvial terrace with intact deposits from the Middle Pleistocene Reid Glaciation. There is moderate potential to encounter palaeontological resources in this terrace. No major ground excavation is expected in this area during camp construction. The likelihood of Project effects on palaeontological resources in the camp area is considered low since ground disturbance will be limited.

A palaeontological education program for the equipment operators and adherence to the Fossil Discovery Protocol (Appendix D) is recommended during the construction stage, in the event that vertebrate remains are encountered.

5.6 WASTE ROCK STORAGE AND TOPSOIL STOCKPILE AREAS

Stockpile and WRSAs will be cleared, but little subsurface disturbance is expected. The likelihood of development disturbing palaeontological resources is considered low. No effects on palaeontological resources are expected from these project components. No further palaeontological studies or mitigation are recommended.

5.7 ACCESS ROAD AND TRANSMISSION LINE

In most areas, the access road and transmission line pass through surficial deposits that have been reworked by placer gold mining, or through areas of colluvium, bedrock, and organic deposits. In these areas, no Project effects on palaeontological resources are expected by improvement of the access road or development of the transmission line and no further palaeontological studies or mitigation are recommended.

At the unnamed creek crossing at DG26 (Figure 2), access road improvements could disturb intact surficial strata of early Holocene age. A palaeontological education program for the equipment operators and adherence to the Fossil Discovery Protocol (Appendix D) is recommended during the construction stage in the event that vertebrate material is encountered.

5.8 IMPACT SUMMARY AND RECOMMENDED MITIGATION MEASURES

Overall, the likelihood of the Project affecting palaeontological resources is considered low as most of the strata with high palaeontological potential in the area have been disturbed by placer gold mining. As the Heap Leach Facility design advances, greater detail will be available to refine predictions and focus the application of mitigation. The overall mitigation measures recommended are:

- Use of a Palaeontological Education Program to teach equipment operators how to recognize a fossil, and what do if a fossil is found
- Adherence to a Fossil Discovery Protocol (Appendix D), where all fossils encountered during construction are recovered and the site context is recorded
- Early reporting of the discovery of any fossil remains to allow the opportunity for a palaeontologist to visit the site and investigate any fossiliferous units before they are removed
- Review of changes to the Project design and footprint by a palaeontologist to better predict where fossils could be encountered during construction.

Discovery of vertebrate fossils during Project construction could result in a significant *positive* environmental effect through the recovery of the fossils and recording of the site context.

6 REFERENCES CITED

Bleiler, L.R., C.R. Burn and M. O'Donoghue

2006 Heart of the Yukon: A Natural and Cultural History of the Mayo Area. Village of Mayo, YT.

Bond, J.D.

1999 ***Glacial Limits and Ice-Flow Map, Mayo Area, Central Yukon.*** Exploration and Geological Services Division. Yukon Region, Indian and Northern Affairs Canada. Open File 1999-13. 1:250,000 map.

1997 ***Surficial Geology of Dublin Gulch, Central Yukon, NTS 106D/4.*** Exploration and Geological Services Division, Indian and Northern Affairs Canada. Geoscience Map 1998-6 (G). 1:50,000 map.

Bond, J.D. and P.S. Lipovsky (Compilers)

2009 ***Yukon Digital Surficial Geology.*** Preliminary Data Release. Yukon Geological Survey Open File 2009-42. Data obtained December 2, 2009 by request to J.D. Bond.

Harington, C.R.

1997 Pleistocene vertebrates of Sixtymile, Yukon Territory: a preliminary discussion. *In:* M.E. Edwards. A.V. Sher and R.D. Guthrie (Ed.). ***Terrestrial Paleoenvironmental Studies in Beringia.*** Alaska Quaternary Center, University of Alaska, Fairbanks, AK. 83-90.

1996 Pleistocene mammals of Dublin Gulch and the Mayo District, Yukon Territory. *In:* K.M Stewart and K.L. Seymour (Ed.). ***Palaeoecology and Palaeoenvironments of Late Cenozoic Mammals.*** Tributes to the Career of C.S. (Rufus) Churcher. University of Toronto Press, Toronto, ON. 346-374.

1989 Pleistocene vertebrate localities in the Yukon. I L.D. Carter, T.D. Hamilton and J.P. Galloway (Ed.). ***Late Cenozoic History of the Interior Basins of Alaska and the Yukon.*** U.S. Geological Survey Circular 1026:93-98.

Hein, F.J. and W.P. LeBarge
1997 Geological setting and stratigraphic framework of placer deposits, Mayo area, Yukon. *In:* W.P. LeBarge and C.F. Roots (Ed.). ***Yukon Quaternary Geology,*** Volume 2, 10-29. Exploration and Geological Services Division, Northern Affairs Program, Yukon Region, YT.

Jackson, L.E., Jr., and C.R. Harington
1991 Middle Wisconsinan mammals, stratigraphy and sedimentology at the Ketza River site, Yukon Territory. ***Géographie Physique et Quaternaire*** 45: 69-77.

LeBarge, W.P., J.D. Bond and F.J. Hein
2002 ***Placer Gold Deposits of Mayo Area, Central Yukon***. Exploration and Geological Services Division, Northern Affairs Program, Yukon Region, Bulletin 13.

Lipovsky, P., J. Bond and W. LeBarge
2001 ***Mayo Area Placer Activity Map.*** Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada. Open File Map 2001-31. 1:250,000 map.

Matthews, J.V., C.E. Schweger and O.L. Hughes
1990 Plant and insect fossils from the Mayo Indian village section (central Yukon): new data on Middle Wisconsinan environments and glaciation. ***Géographie Physique et Quaternaire*** 44(1):15-26.

Mayo Historical Society
1999 ***Gold and Galena: A History of the Mayo District.*** Compiled by L.E.T. MacDonald and L.R. Bleiler. Mayo Historical Society, Mayo, Yukon.

Morin, J.A., W.D. Sinclair, D.B. Craig and M. Marchand
1977 ***Mineral Industry Report 1976 Yukon Territory.*** EGS 1977-1. Department of Indian and Northern Affairs.

Sinclair, W.D., J.A. Morin, D.B. Craig and M. Marchand
1976 ***Mineral Industry Report 1975 Yukon Territory.*** EGS 1976-15. Department of Indian and Northern Affairs.

Storer, J.E.
1998 ***Dublin Gulch Project: Paleontological Impact and Mitigation.*** Letter to K. Simpson of the Department of Indian Affairs and Northern Development, November 30, 1998. Prepared by J.E. Storer, Yukon Paleontologist, Yukon Tourism. Whitehorse, YT.

Tashe, N.
2009 Soil Scientist, Stantec. Email communication to L. Bohach. August 14, 2009.

Wardrop Engineering Inc. (Wardrop)

2009 ***Technical Data Report on the Dublin Gulch Property, Yukon Territory, Canada.*** Prepared for StrataGold Corporation. February, 2009. Available at: http://www.victoriaresourcecorp.com/site/victoria_gold/assets/pdf/dublin_technical_report.pdf

APPENDIX A
SITE PHOTOGRAPHS

Note: View to the northwest from Eagle Zone.

Plate 1 Dublin Gulch Overview

Note: View to the east from near camp: area disturbed by placer mining.

Plate 2 Dublin Gulch Disturbance

Note: View to the north.

Plate 3 Drill Site in Granodiorite, Waypoint DG10

Notes: View to the southeast, along access road east of Dublin Gulch.

Plate 4 Test Pit in Granodiorite, Waypoint DG9

Note: View to the southwest of bedrock exposed along creek, near confluence of Ann Gulch with Dublin Gulch.

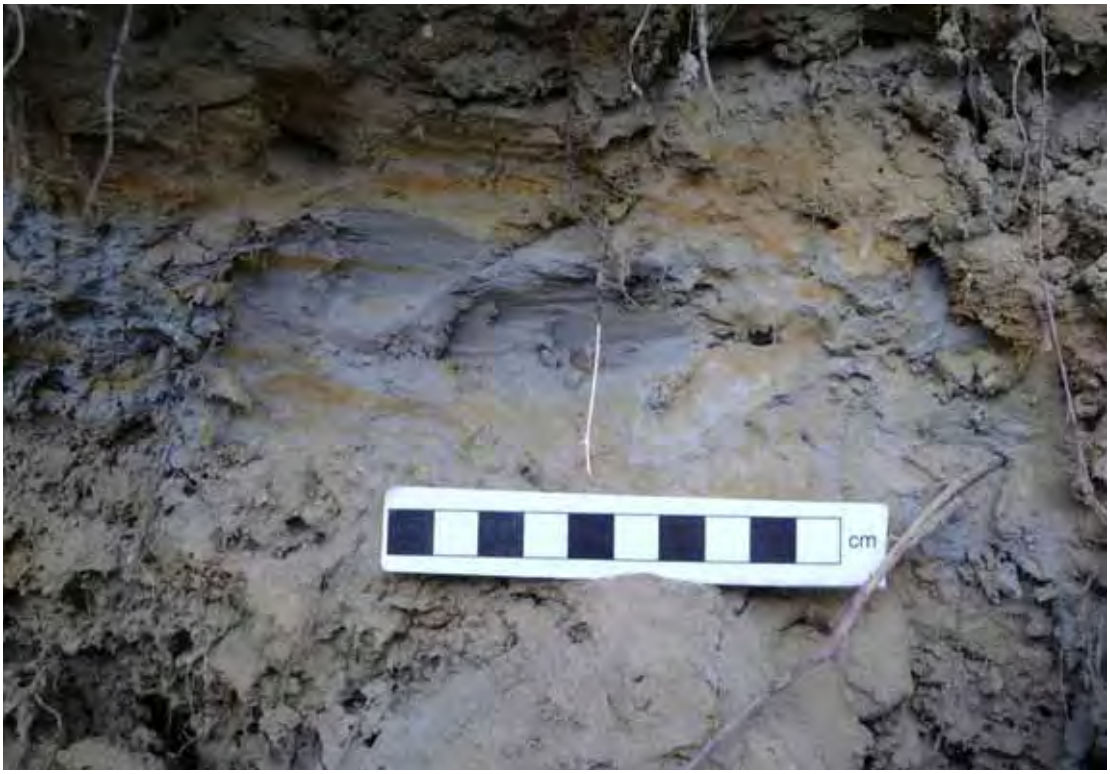
Plate 5 Phyllite Exposure, Base of Dublin Gulch

Note: View to the south.

Plate 6 Gravel Exposure, Waypoint DG1

Note: Deposits at top of slope.

Plate 7 Fine-Grained Deposits, Waypoint DG1



Note: Extremely fine-grained purplish silt lens in sand with orange oxidized layers.

Plate 8 Silt Lens, Waypoint DG1

Note: View to the south. Exposure of clay, possibly an ice thrust deposit, between sand and gravel horizons.

Plate 9 Muck, Waypoint DG2

Note: View to the south.

Plate 10 Bedded Sand and Gravel, between Waypoints DG1 and DG2

Note: View to the west near Stuttle Gulch. Dublin Gulch in midground.

Plate 11 Fine-Grained Upper Slope Deposits, Waypoint DG6

Note: View to the west of uppermost deposits.

Plate 12 Sand and Silt Layers, Waypoint DG6

Note: Compressed plant material, radiocarbon dated at 12,960 +/- 250 years (calibrated, conventional).

Plate 13 Organic Lens, Waypoint DG6

Note: View to the north at roadcut.

Plate 14 Dublin Gulch North Slope Exposure, Waypoint DG11

Note: Cobble layer overlain by bedded sand and silt with organic lenses (arrows).

Plate 15 Fine-Grained Upper Sequence, Waypoint DG11

Note: Closeup of organic lens (left side of Plate 15) radiocarbon dated at 10,330 +/- 90 years (calibrated, conventional).

Plate 16 Organic Layer and Sheet of Flat Clasts, Waypoint DG11

Note: View to the southeast of south valley wall.

Plate 17 Exposures along Dublin Gulch Approaching Eagle Pup, Waypoint DG7

Note: View to the southeast.

Plate 18 Diamicton, Waypoint DG7

Note: View to the north along access road, north side of Dublin Gulch.

Plate 19 Reid Till, Waypoint DG8

Note: View to the northeast of colluvium overlying bedded sand and silt.

Plate 20 Test Pit Exposure along Ann Gulch, Waypoint DG12

Note: Closeup of lower sediments in Plate 20.

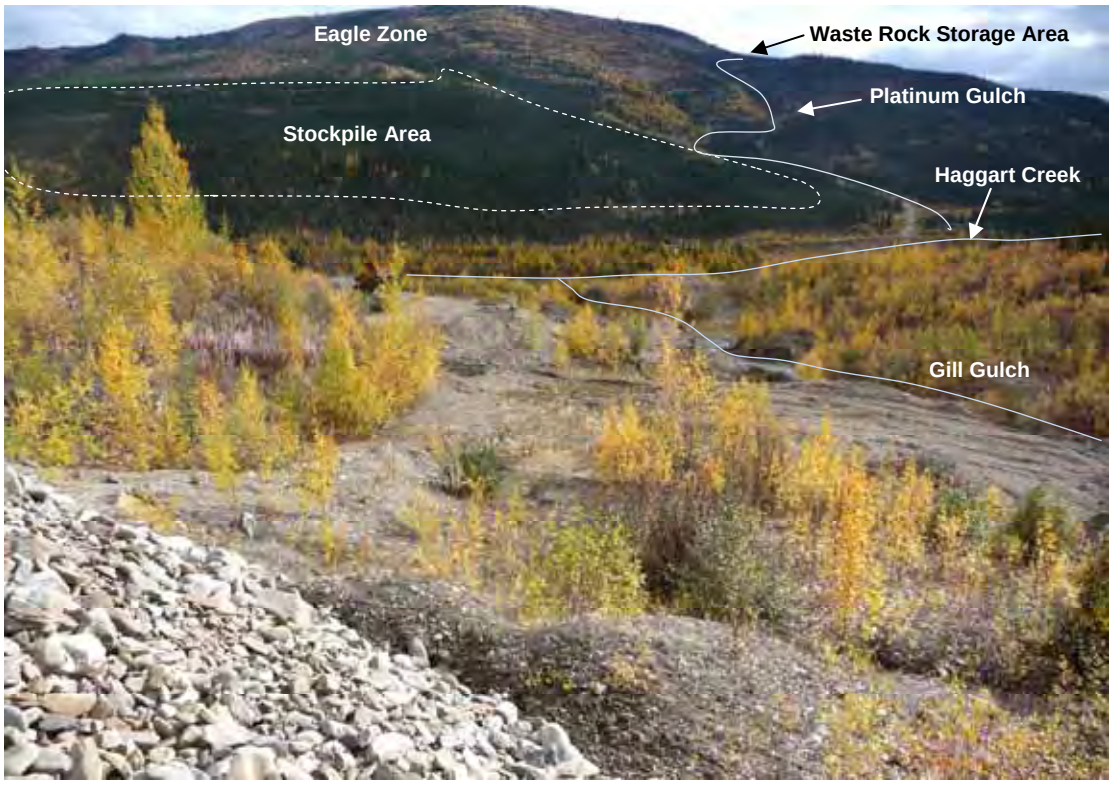
Plate 21 Bedded Sand and Silt, Waypoint DG12

Note: View to the east near confluence of Stewart Gulch with Dublin Gulch.

Plate 22 Placer Tailings, Waypoint DG17

Note: View to the east at confluence of Dublin Gulch stream with Haggart Creek.

Plate 23 Placer Tailings, Waypoint DG14



Notes: View to the southeast from Gill Gulch at waypoint DG18. Boundaries of topsoil stockpile area are approximate.

Plate 24 Platinum Gulch

Note: View to the northwest of current mining area at Gill Gulch from the access road.

Plate 25 Gill Gulch, Waypoint DG18

Note: View to the southeast from access road near waypoint DG19.

Plate 26 Remnant Valley Wall Deposits, Haggart Creek

Note: View to the northeast.

Plate 27 Upper Surficial Sequence along Haggart Creek, Waypoint DG19

Note: Closeup of Plate 27 interbedded sand and silt deposits with pockets of organic material.

Plate 28 Sand and Silt Deposits, Waypoint DG19

Note: View to the south showing disturbed valley fill deposits.

Plate 29 Access Road Crossing of Haggart Creek, Waypoint DG20

Note: View to the west, up-gulch.

Plate 30 Reworked Deposits at 45 Pup, Waypoint DG21

Note: View to the west.

Plate 31 Reworked Deposits at Secret Creek, Waypoint DG23

Note: View to the northwest of roadcut.

Plate 32 Access Road cut through Bedrock, Waypoint DG24

Note: Closeup of deposits in Plate 32.

Plate 33 Phyllite Scree, Waypoint DG24

Note: View to the south along roadcut through quartzite and phyllite.

Plate 34 Access Road cut through Bedrock, Waypoint DG25

Note: View to the north along roadcut through phyllite.

Plate 35 Access Road cut through Bedrock, Waypoint DG27

Note: View to the north. Intact deposits on west side of road.

Plate 36 Access Road Crossing of Unnamed Creek, Waypoint DG26

Note: View to the east from road, downstream toward Haggart Creek.

Plate 37 Reworked Deposits at Unnamed Creek, Waypoint DG26

Note: View to the west of roadcut (see Plate 36). Hammer and bag mark collecting site for wood.

Plate 38 Intact Deposits, Waypoint DG26

Note: Wood sample radiocarbon dated at 2,730 +/- 50 years (calibrated, conventional).

Plate 39 Preserved Wood, Waypoint DG21

Note: View to the northwest from west valley slope.

Plate 40 Test Pit at Bawn Boy Gulch, Waypoint DG16

Note: Found in disturbed surface layer (see Plate 42).

Plate 41 Moose Humerus, Waypoint DG15

Note: View to the northwest.

Plate 42 Stripped Topsoil at Bawn Boy Gulch, Waypoint DG15

APPENDIX B
MAPS

Figure 1 Eagle Gold Project Location

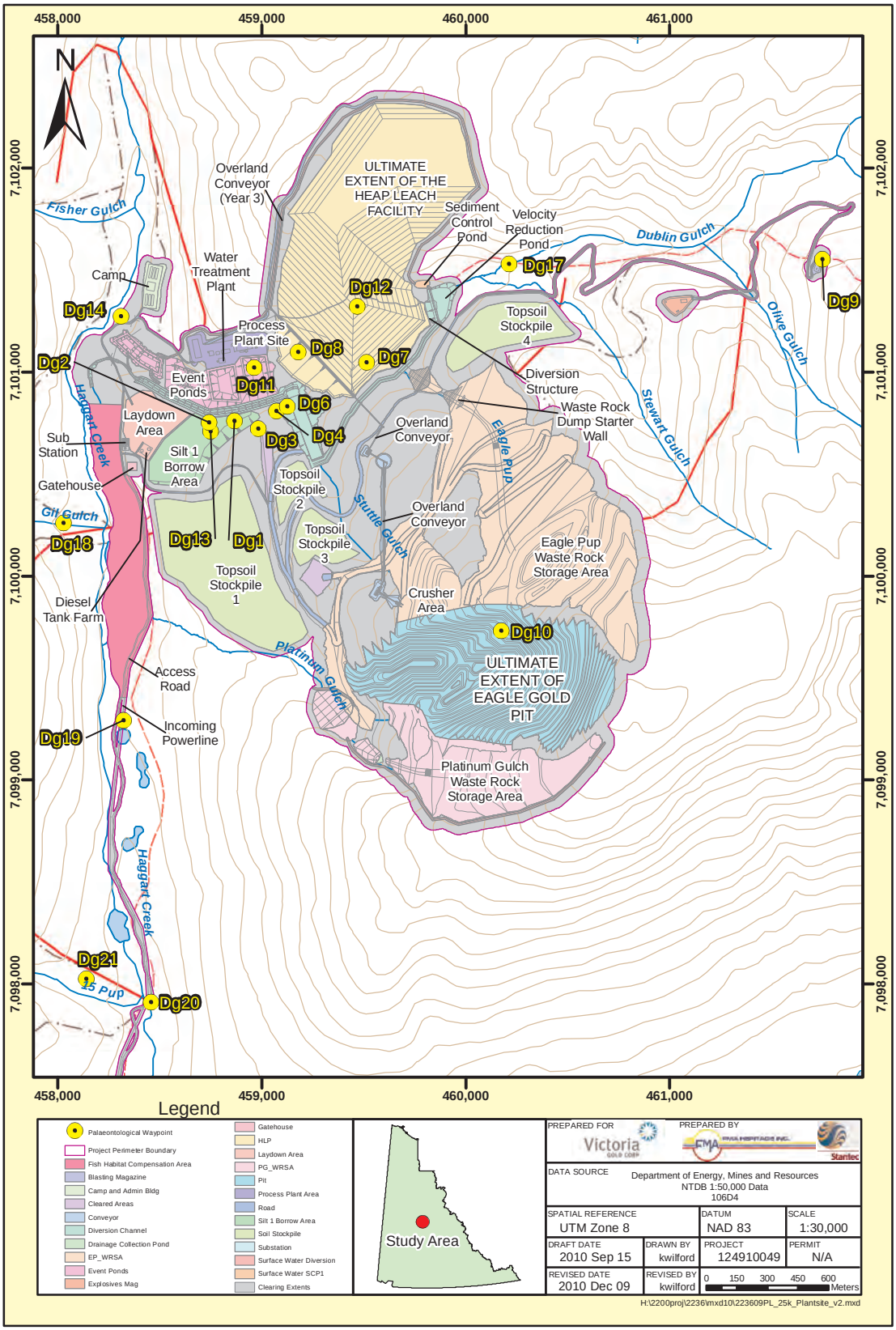
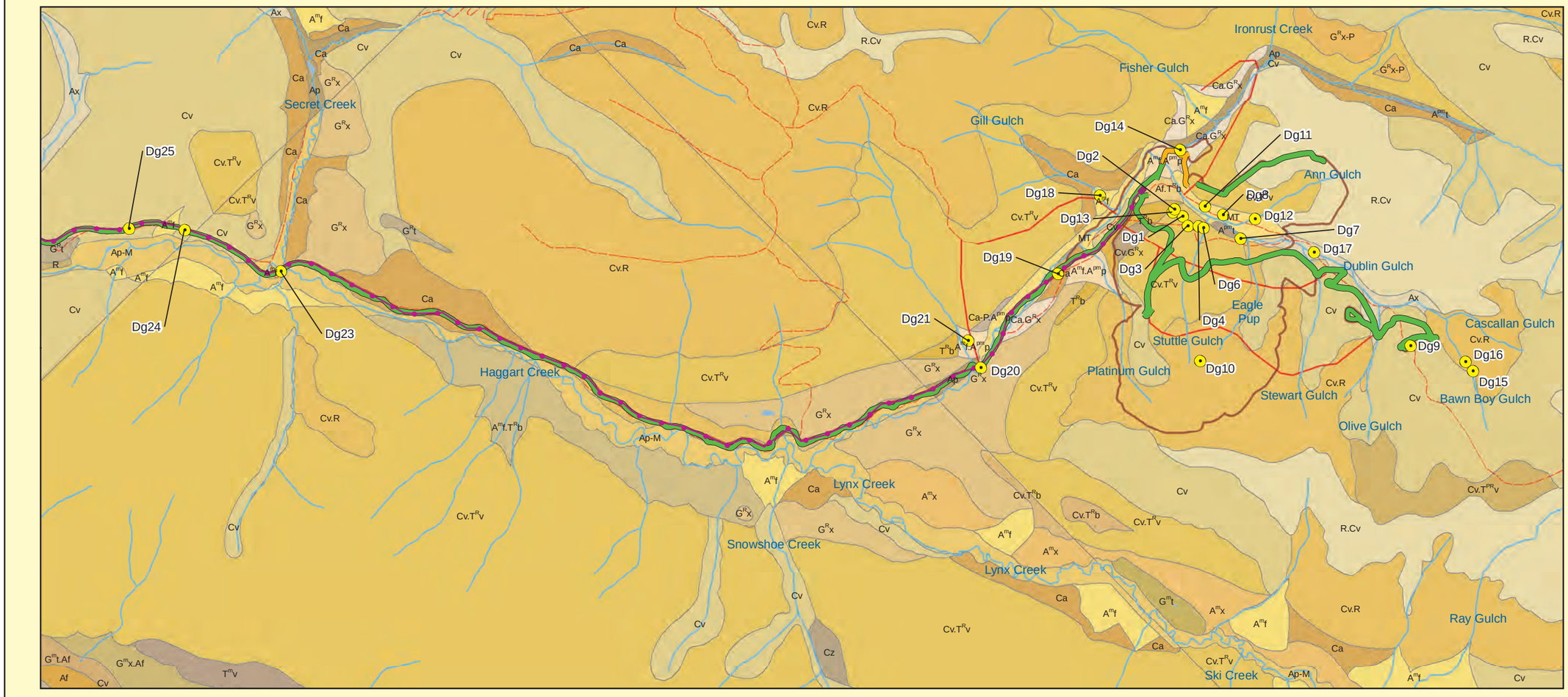


Figure 2 Project Components at Eagle Gold

Table B-1 Surficial Geology Map Legend

Label	Surficial Geology
Af	Alluvial fan (Holocene)
$A^{m}f$	Alluvial fan (Wisconsinan - McConnell Glaciation)
$A^{m}x$	Alluvial fan, plain and terrace complex, undivided (Wisconsinan - McConnell Glaciation)
Ap	Alluvial plain (Holocene)
$A^{pm}p$	Alluvial plain (Middle Pleistocene - Pre-McConnell Glaciation - Undivided)
$A^{pm}t$	Alluvial terrace (Middle Pleistocene - Pre-McConnell Glaciation - Undivided)
$A^{pm}x$	Alluvium fan, plain and terrace complex, undivided (Middle Pleistocene - Pre-McConnell Glaciation - Undivided)
At	Alluvial terrace (Holocene)
Ax	Alluvial fan, plain and terrace complex, undivided (Holocene)
Ca	Colluvium apron (Pleistocene and Holocene Undivided)
Cv	Colluvium veneer (Pleistocene and Holocene - Undivided)
$G^{m}p$	Glaciofluvial plain (Wisconsinan - McConnell Glaciation)
$G^{m}t$	Glaciofluvial terrace (Wisconsinan - McConnell Glaciation)
$G^{m}x$	Glaciofluvial complex (Wisconsinan - McConnell Glaciation)
$G^{R}c$	Glaciofluvial channel (Middle Pleistocene - Reid Glaciation)
$G^{R}t$	Glaciofluvial terrace (Middle Pleistocene - Reid Glaciation)
$G^{R}x$	Glaciofluvial complex (Middle Pleistocene - Reid Glaciation)
MT	Placer mine tailings
R	Bedrock (Proterozoic to Cambrian)
$T^{m}b$	Till blanket (Wisconsinan - McConnell Glaciation)
$T^{m}v$	Till veneer (Wisconsinan - McConnell Glaciation)
$T^{m}x$	Till complex (Wisconsinan - McConnell Glaciation)
$T^{PR}v$	Till veneer (Early Pleistocene - Pre-Reid Glaciations)
$T^{R}b$	Till blanket (Middle Pleistocene - Reid Glaciation)
Label	**Process**
K	Thermokarst (Holocene)
M	Meandering (Holocene)
fO	Fenland (Holocene)
P	Piping (Holocene)
S	Solifluction (Holocene)
Cz	Mass wasting (Pleistocene Undivided)

Notes: On the maps, surficial geology units are show first, followed by the process. Combined surficial geology units are separated by a dot with the dominant unit listed first (e.g., $Ca.G^{R}x$ is Colluvium Apron [Pleistocene and Holocene Undivided] and Glaciofluvial complex [Middle Pleistocene - Reid Glaciation]. Processes are preceded by a dash. The age of the deposits is designated by a superscript (e.g., $A^{m}f$ is an alluvial fan of Wisconsinan age from the McConnell Glaciation).



Legend

- Palaeontological Waypoint
- Road Existing
- Realigned Road
- Road Proposed/Upgrade
- Transmission Centreline
- Transmission Substation
- Clearing Boundary

Study Area

0 0.5 1 1.5 2
Kilometers

Data Source:
Geological Survey of Canada Bond 1998.
Surficial Geology 1:50,000 Data 105M, 106D, 115P, and 116A

Surficial Geology — Map 01

PREPARED FOR: Victoria Gold Corp		PREPARED BY: FMA Heritage Inc.	
SPATIAL REFERENCE: UTM Zone 12		DATUM: NAD 83	SCALE: 1:50,000
DRAFT DATE: 2009/09/18	DRAWN BY: EF	PROJECT: 124910049	PERMIT: N/A
REVISED DATE: 2010/09/15	REVISED BY: KW	FILE: 223609PL_mpbk_geo_50k_v3.mxd	

Figure 3 Surficial Geology Map 1: Project Infrastructure and Access Road

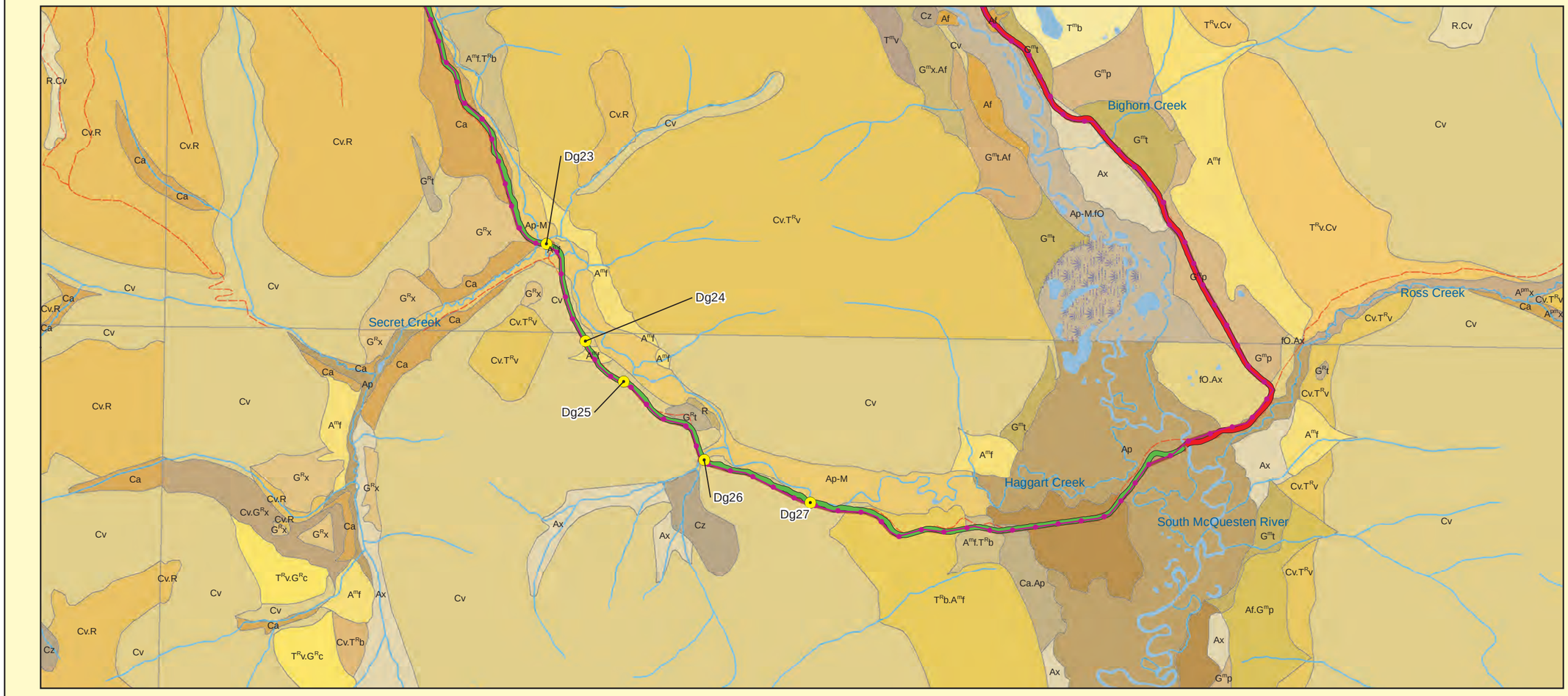
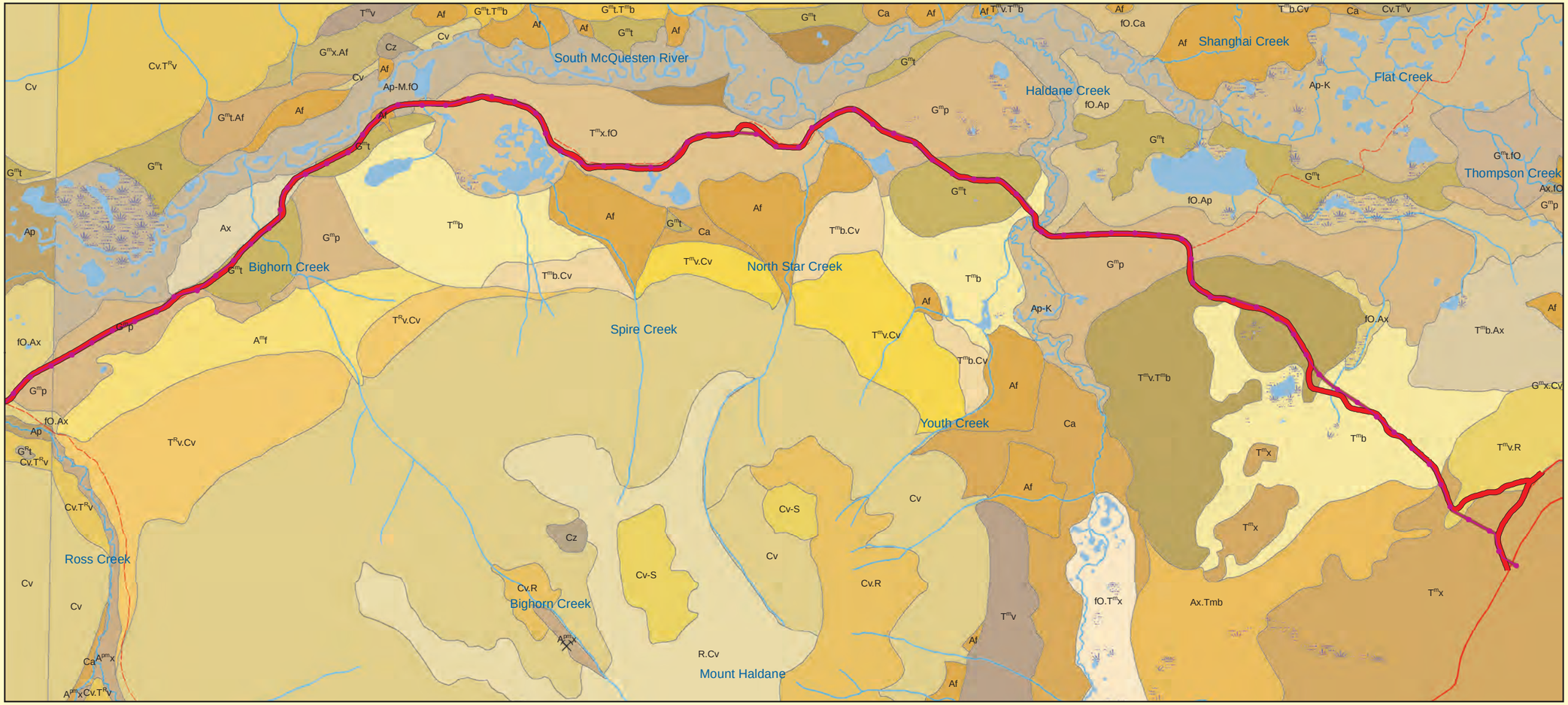


Figure 4 Surficial Geology Map 2: Access Road



Legend

- Palaeontological Waypoint
- Road Existing
- Realigned Road
- Road Proposed/Upgrade
- Transmission Centreline
- Transmission Substation
- Clearing Boundary

Study Area

N

0 0.5 1 1.5 2

Kilometers

Data Source:
Geological Survey of Canada
Bond 1998.
Surficial Geology 1:50,000 Data
105M, 106D, 115P, and 116A

Surficial Geology

Map 03

PREPARED FOR: Victoria Gold Corp		PREPARED BY: FMA Heritage Inc.	
SPATIAL REFERENCE: UTM Zone 12		DATUM: NAD 83	SCALE: 1:50,000
DRAFT DATE: 2009/09/18	DRAWN BY: EF	PROJECT: 124910049	PERMIT: N/A
REVISED DATE: 2010/09/15	REVISED BY: KW	FILE: 223609PL_mpbk_geo_50k_v3.mxd	

Figure 5 Surficial Geology Map 3: Access Road

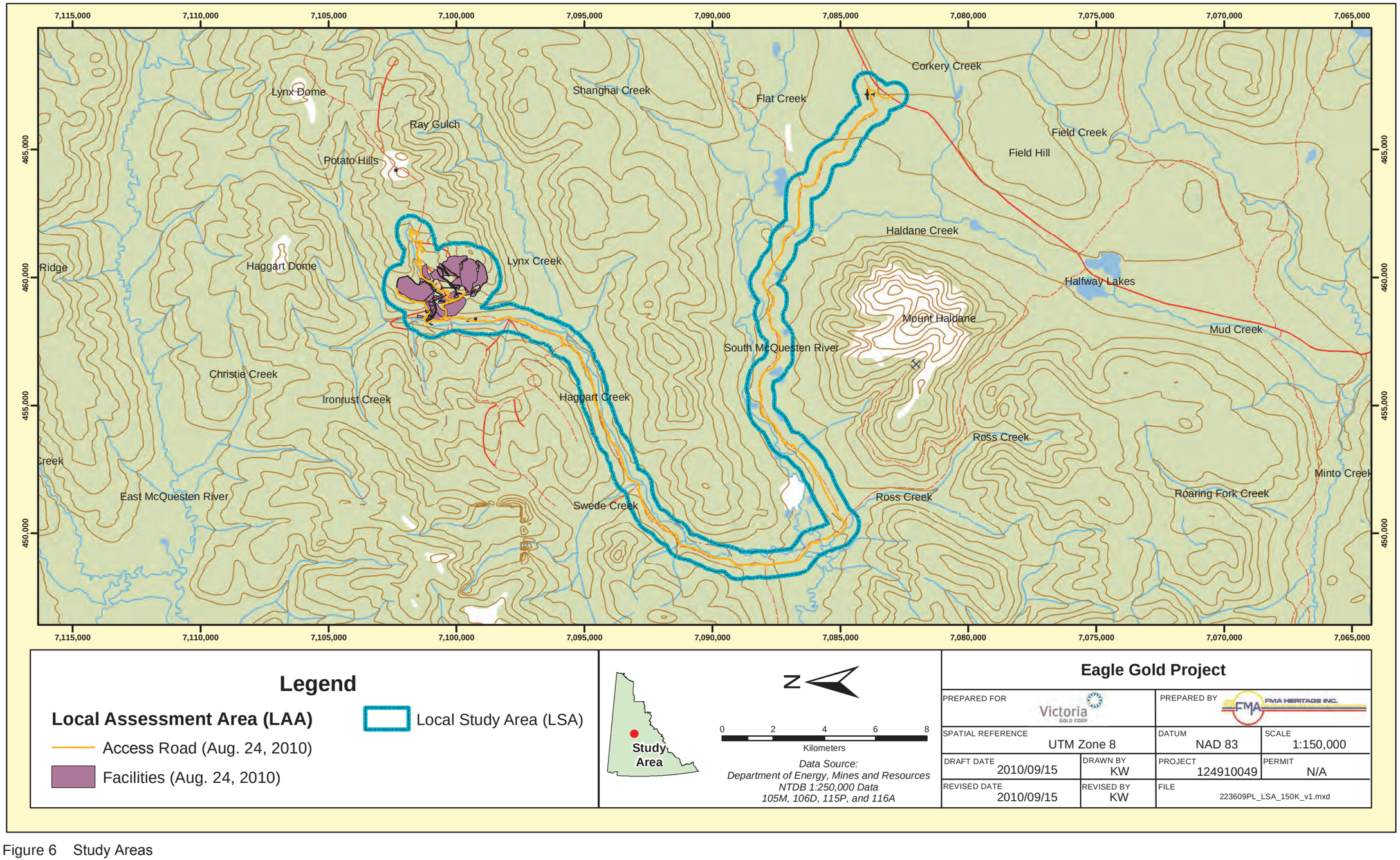
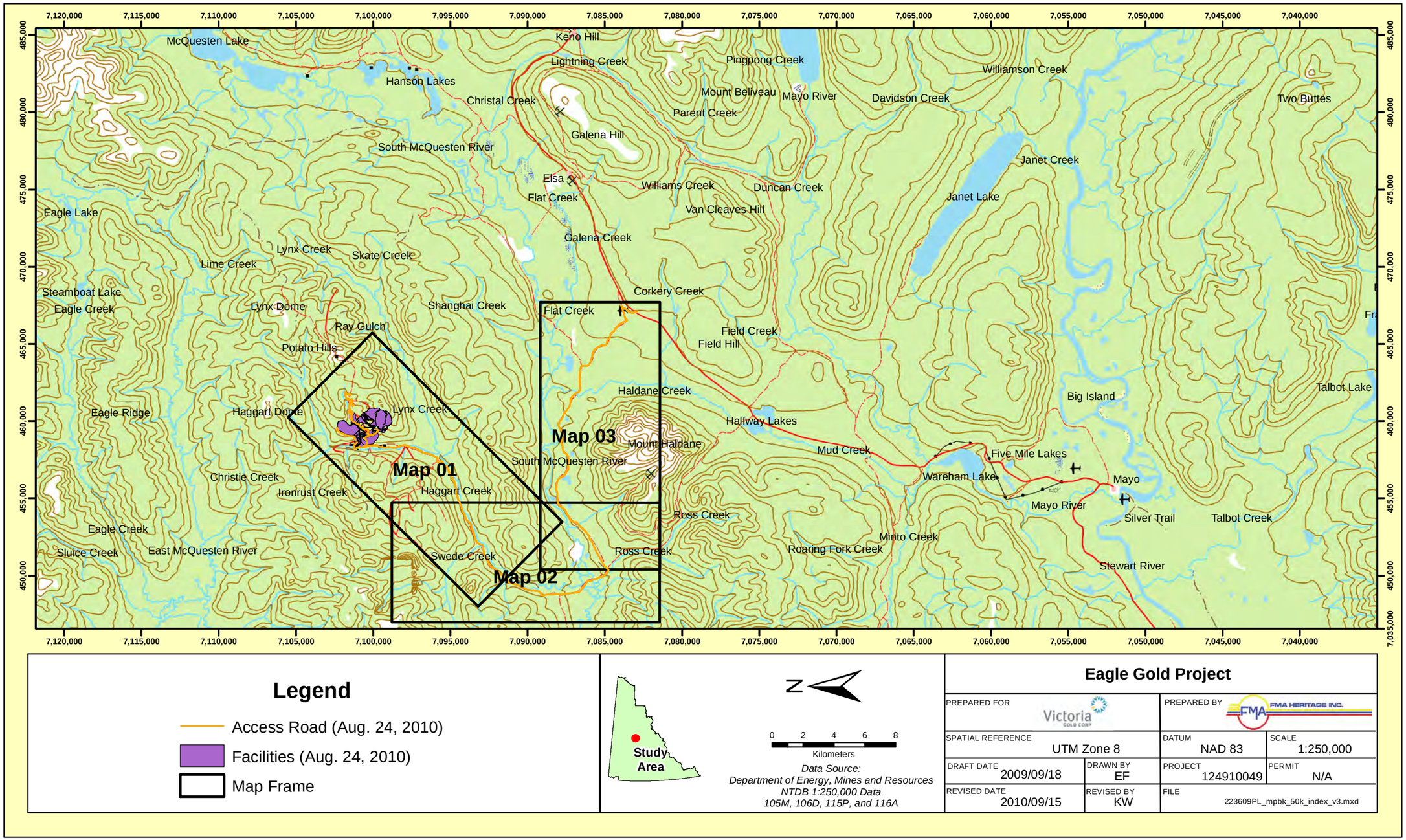


Figure 6 Study Areas



Legend

- Access Road (Aug. 24, 2010)
- Facilities (Aug. 24, 2010)
- Map Frame

Study Area

N

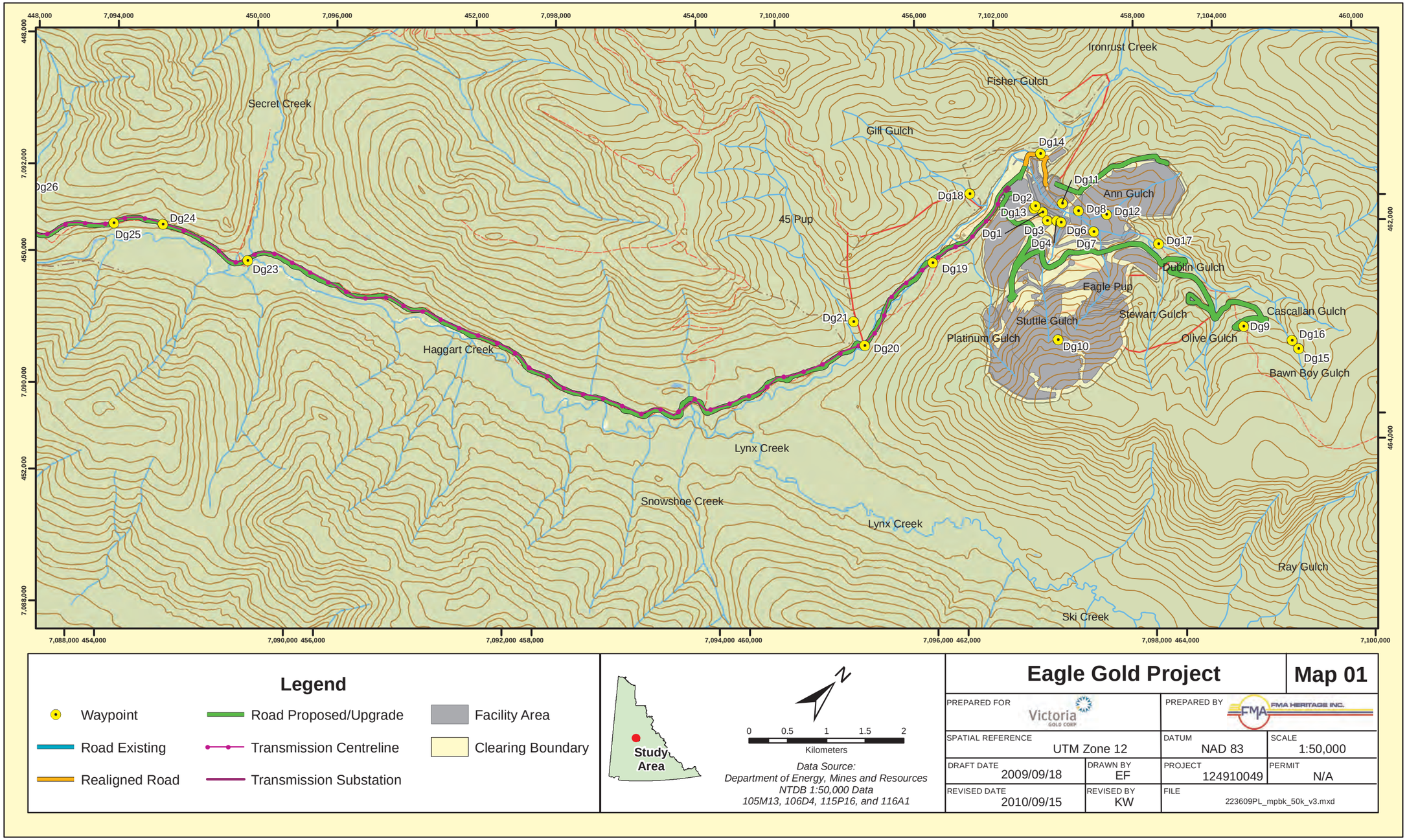
0 2 4 6 8
Kilometers

Data Source:
Department of Energy, Mines and Resources
NTDB 1:250,000 Data
105M, 106D, 115P, and 116A

Eagle Gold Project

PREPARED FOR: Victoria Gold Corp		PREPARED BY: FMA Heritage Inc.	
SPATIAL REFERENCE: UTM Zone 8		DATUM: NAD 83	SCALE: 1:250,000
DRAFT DATE: 2009/09/18	DRAWN BY: EF	PROJECT: 124910049	PERMIT: N/A
REVISED DATE: 2010/09/15	REVISED BY: KW	FILE: 223609PL_mpbk_50k_index_v3.mxd	

Figure 7 Topographic Map Index



Legend

- Waypoint
- Road Existing
- Realigned Road
- Road Proposed/Upgrade
- Transmission Centreline
- Transmission Substation
- Facility Area
- Clearing Boundary

Study Area

0 0.5 1 1.5 2
Kilometers

Data Source:
Department of Energy, Mines and Resources
NTDB 1:50,000 Data
105M13, 106D4, 115P16, and 116A1

Eagle Gold Project

Map 01

PREPARED FOR: Victoria Gold Corp		PREPARED BY: FMA Heritage Inc.	
SPATIAL REFERENCE: UTM Zone 12		DATUM: NAD 83	SCALE: 1:50,000
DRAFT DATE: 2009/09/18	DRAWN BY: EF	PROJECT: 124910049	PERMIT: N/A
REVISED DATE: 2010/09/15	REVISED BY: KW	FILE: 223609PL_mpbk_50k_v3.mxd	

Figure 8 Topographic Map 1: Project Infrastructure and Access Road

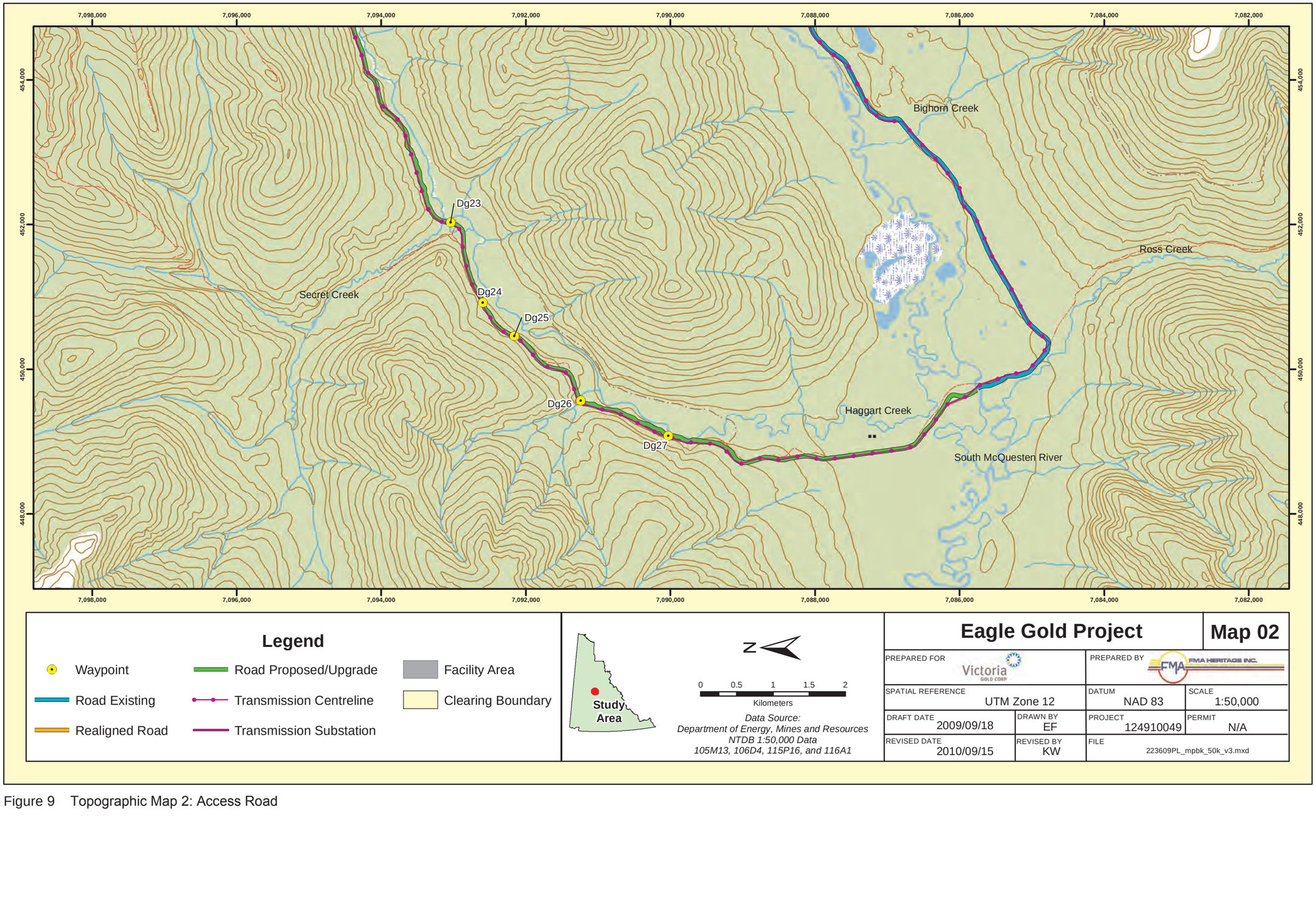


Figure 9 Topographic Map 2: Access Road

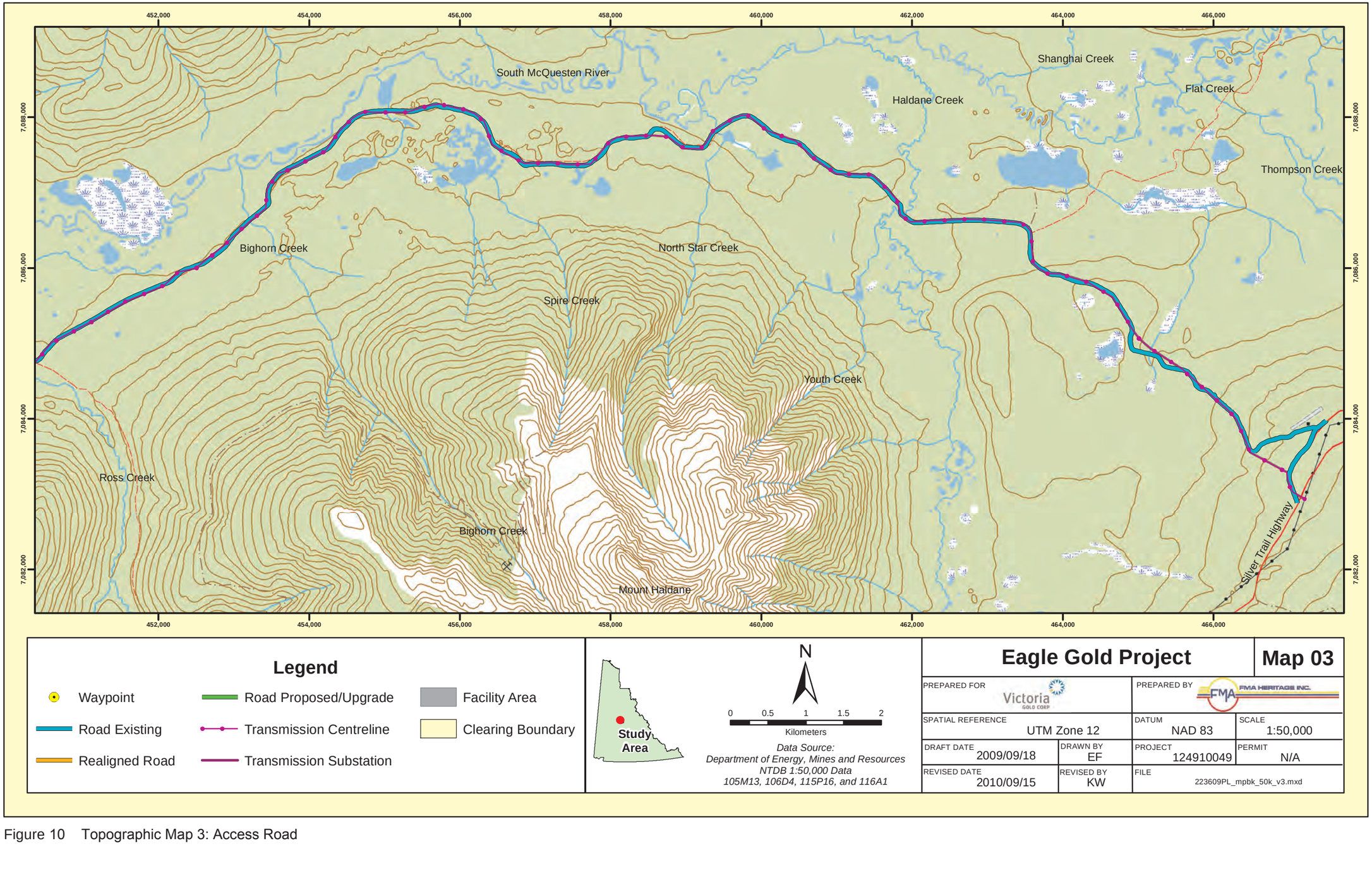


Figure 10 Topographic Map 3: Access Road

APPENDIX C
RADIOCARBON LAB REPORTS

BROCK UNIVERSITY EARTH SCIENCES

RADIOCARBON LAB REPORT

Date of Analysis: Dec. 2, 2009.

Brock Sample Number: BGS 2910

Client's Sample Number: DG-6

Geographical Location or Site Name: Dublin Gulch, Mayo District, Yukon
64.03187072 -135.83671871

Request for Dating By: Dr. Lisa Bohach, FMA Heritage Inc. Calgary, AB

Sample Description: Material Type: Wood

Size of sample: Very small

Condition of sample: Adhering silt.

Pretreatment: (1) Removal of foreign material Yes

(2) Pretreatment for Humic Acid No

(3) Acid Leach with 10% HCl Yes

(4) Distilled water rinse Yes

(5) Comments: I picked off a few small roots and rinsed off the silt.
Clean dry weight = 2.9 gm

Wt. of Benzene produce: 0.8469 gm

Calculated age of sample: 10,920 +/- 250 yrs BP

Calibrated age : 12,960 +/- 250 yrs BP

BROCK UNIVERSITY EARTH SCIENCES

RADIOCARBON LAB REPORT

Date of Analysis: Dec. 9, 2009.

Brock Sample Number: BGS 2911

Client's Sample Number: DG-11

Geographical Location or Site Name: Dublin Gulch, Mayo District, Yukon
64.03355238 -135.84007147

Request for Dating By: Dr. Lisa Bohach, FMA Heritage Inc. Calgary, AB

Sample Description: Material Type: Wood

Size of sample: Good size of sample

Condition of sample: Contained pebbles and silt

Pretreatment: (1) Removal of foreign material Yes

(2) Pretreatment for Humic Acid No

(3) Acid Leach with 10% HCl Yes

(4) Distilled water rinse Yes

(5) Comments: I washed off the silt and pebbles. No rootlets.
Clean dry weight = 8.5 gm (Original wt = 32 gm)

Wt. of Benzene produce: 3.6200 gm

Calculated age of sample: 9,197 +/- 80 yrs BP

Calibrated age : 10,330 +/- 90 yrs BP

BROCK UNIVERSITY EARTH SCIENCES

RADIOCARBON LAB REPORT

Date of Analysis: Dec. 10, 2009.

Brock Sample Number: BGS 2912

Client's Sample Number: DG-26

Geographical Location or Site Name: Dublin Gulch, Mayo District, Yukon
63.94454344 -136.02916301

Request for Dating By: Dr. Lisa Bohach, FMA Heritage Inc. Calgary, AB

Sample Description: Material Type: Wood

Size of sample: A very large sample

Condition of sample: Only clean large portion used

Pretreatment: (1) Removal of foreign material Yes

(2) Pretreatment for Humic Acid Yes

(3) Acid Leach with 10% HCl Yes

(4) Distilled water rinse Yes

(5) Comments: The sample was given a full pretreatment. I cut off clean solid portions to use for the Radiocarbon date.

Wt. of Benzene produce: 4.1356 gm

Calculated age of sample: 2,546 +/- 50 yrs BP

Calibrated age : 2,730 +/- 50 yrs BP

UNIVERSITY OF WASHINGTON
QUATERNARY ISOTOPE LAB
RADIOCARBON CALIBRATION PROGRAM REV 4.3
based on Stuiver, M. and Reimer, P.J., 1993, Radiocarbon, 35, p. 215-230.
Listing file: c14res.doc
Export file: c14res.txt

BGS 2910
DG-6
Small wood sample
Radiocarbon Age BP 10920 +/- 250 yrs BP

Reference
Calibrated age(s) cal BC 11015 **(Stuiver et al., 1998a)**
cal BP 12964

Reported Age: 12,960 +/- 250 yrs BP

cal AD/BC (cal BP) age ranges obtained from intercepts (Method A):
one Sigma** cal BC 11204 - 10865 (13153 - 12814)
10777 - 10709 (12726 - 12658)
two Sigma** cal BC 11492 - 10630 (13441 - 12579)
10577 - 10383 (12526 - 12332)

Summary of above:

maximum of cal age ranges (cal ages) minimum of cal age ranges:
1 sigma cal BC 11204 (11015) 10709
cal BP 13154 (12964) 12659
2 sigma cal BC 11492 (11015) 10383
cal BP 13442 (12964) 12333

cal AD/BC & cal BP age ranges (cal ages as above)
from probability distribution (Method B):

#	% area enclosed	cal BC (cal BP) age ranges	relative area under probability distribution
#	68.3 (1 sigma)	cal BC 11234 - 10822 (13183 - 12771)	0.817
#		10814 - 10682 (12763 - 12631)	0.174
#		10495 - 10490 (12444 - 12439)	0.009
#	95.4 (2 sigma)	cal BC 11804 - 11759 (13753 - 13708)	0.008
#		11518 - 10349 (13467 - 12298)	0.972
#		10284 - 10179 (12233 - 12128)	0.020

****

BGS 2911
DG-11
Wood sample
Radiocarbon Age BP 9197 +/- 80 yrs BP

Reference
Calibrated age(s) cal BC 8427, 8423, 8412 **(Stuiver et al., 1998a)**
8394, 8380, 8371
8358, 8352, 8336

cal BP 10376, 10372, 10361
10343, 10329, 10320
10307, 10301, 10285

Average Age Reported: 10,330 +/- 80 yrs BP

cal AD/BC (cal BP) age ranges obtained from intercepts (Method A):
one Sigma** cal BC 8539 - 8491 (10488 - 10440)
8480 - 8288 (10429 - 10237)
two Sigma** cal BC 8628 - 8618 (10577 - 10567)
8613 - 8263 (10562 - 10212)

Summary of above:

maximum of cal age ranges (cal ages) minimum of cal age ranges:
1 sigma cal BC 8539 (8427, 8423, 8412, 8394, 8380, 8371,
8358, 8352, 8336) 8288
cal BP 10489 (10376, 10372, 10361, 10343, 10329, 10320,
10307, 10301, 10285) 10238
2 sigma cal BC 8628 (8427, 8423, 8412, 8394, 8380, 8371,
8358, 8352, 8336) 8263
cal BP 10578 (10376, 10372, 10361, 10343, 10329, 10320,
10307, 10301, 10285) 10213

cal AD/BC & cal BP age ranges (cal ages as above)
from probability distribution (Method B):

#	% area enclosed	cal BC (cal BP) age ranges	relative area under probability distribution
#	68.3 (1 sigma)	cal BC 8520 - 8514 (10469 - 10463)	0.047
#		8470 - 8295 (10419 - 10244)	0.953
#	95.4 (2 sigma)	cal BC 8603 - 8269 (10552 - 10218)	1.000

****

BGS 2912
DG-26
Large wood sample
Radiocarbon Age BP 2546 +/- 50 yrs BP

Reference
Calibrated age(s) cal BC 785 **(Stuiver et al., 1998a)**
cal BP 2734

Reported Age: 2,730 +/- 50 yrs BP

cal AD/BC (cal BP) age ranges obtained from intercepts (Method A):
one Sigma** cal BC 797 - 760 (2746 - 2709)
682 - 666 (2631 - 2615)
631 - 591 (2580 - 2540)
577 - 559 (2526 - 2508)
two Sigma** cal BC 806 - 518 (2755 - 2467)
458 - 453 (2407 - 2402)
436 - 434 (2385 - 2383)
416 - 415 (2365 - 2364)

Summary of above:

maximum of cal age ranges (cal ages) minimum of cal age ranges:

1 sigma	cal BC 797 (785) 559	
	cal BP 2746 (2734) 2508	
2 sigma	cal BC 806 (785) 415	
	cal BP 2755 (2734) 2364	

cal AD/BC & cal BP age ranges (cal ages as above)
from probability distribution (Method B):

#	% area enclosed	cal BC (cal BP) age ranges	relative area under probability distribution
#	68.3 (1 sigma)	cal BC 797 - 759 (2746 - 2708)	0.334
#		685 - 662 (2634 - 2611)	0.173
#		641 - 584 (2590 - 2533)	0.317
#		583 - 549 (2532 - 2498)	0.176
#	95.4 (2 sigma)	cal BC 812 - 511 (2761 - 2460)	0.984
#		463 - 448 (2412 - 2397)	0.008
#		438 - 425 (2387 - 2374)	0.008

#

References for calibration datasets:
Stuiver, M., Reimer, P.J., Bard, E., Beck, J.W.,
Burr, G.S., Hughen, K.A., Kromer, B., McCormac, F.G.,
v.d. Plicht, J., and Spurk, M. (1998a)
Radiocarbon 40:1041-1083.
Stuiver, M., Reimer, P.J., and Braziunas, T.F. (1998b)
Radiocarbon 40:1127-1151. (revised dataset);
Stuiver, M. and Braziunas, T.F. (1993) The Holocene
3:289-305. (original dataset)

Comments:
* This standard deviation (error) includes a lab error multiplier.
** 1 sigma = square root of (sample std. dev.^2 + curve std. dev.^2)
** 2 sigma = 2 x square root of (sample std. dev.^2 + curve std. dev.^2)
where ^2 = quantity squared.
[ ] = calibrated with an uncertain region or a linear
extension to the calibration curve
0* represents a "negative" age BP
1955* denotes influence of nuclear testing C-14

NOTE: Cal ages and ranges are rounded to the nearest year which may be too precise in many instances. Users are advised to round results to the nearest 10 yr for samples with standard deviation in the radiocarbon age greater than 50 yr.

APPENDIX D
FOSSIL DISCOVERY PROTOCOL

Victoria Gold Corp. is committed to the protection of historic resources. During construction activities, all palaeontological and archaeological remains will be reported to the environmental manager. All fossils and artifacts will be recovered and the sites will be recorded using the following Discovery Record form.

All discoveries will be reported as soon as possible to the Yukon Department of Tourism and Culture to allow the opportunity for a palaeontologist to visit the site and investigate any fossiliferous units before they are removed entirely.

Victoria GOLD CORP

Eagle Gold Project Fossil and Artifact Discovery Record

Location (Gulch name, etc.) _____

GPS Coordinates (Lat/Long or UTMs from GPS) _____

Activity at Time of Discovery (e.g., backhoe excavation) _____

Name of Person who Discovered the Fossil _____

Reporter Contact Information _____

Date of Discovery _____

Description of Find _____

STRATIGRAPHIC INFORMATION

Context (disturbed or un-disturbed ground conditions) _____

Depth from Surface _____

Strata (describe the material in which the fossil/artifact was found) _____

_____

_____

Sketch of location where fossil was found (please include photographs)

Completed forms are to be sent with the fossils or artifacts to the attention of:

Dr. Grant Zazula, Yukon Palaeontologist
Government of Yukon
Department of Tourism and Culture
Yukon Palaeontology Program
133A Industrial Road
Whitehorse, YT Y1A 2C6
Ph. (867) 667-8089
Fax. (867) 667-5377
grant.zazula@gov.yk.ca

Dr. Ruth Gotthardt, Yukon Archaeologist
Government of Yukon
Department of Tourism and Culture
Yukon Archaeology Program
133A Industrial Road
Whitehorse, YT Y1A 2C6
Ph. (867) 667-5983
Fax. (867) 667-5377
ruth.gotthardt@gov.yk.ca

APPENDIX C

Fossil and Artifact Discovery Record

THIS PAGE INTENTIONALLY LEFT BLANK

Fossil and Artifact Discovery Record

Location (Gulch Name, etc.) _____

GPS Coordinates (Lat/Long or UTMs from GPS) _____

Activity at Time of Discovery (e.g., backhoe excavation) _____

Name of Person who discovered the Fossil _____

Reporter Contact Information _____

Date of Discovery _____

Description of Find _____

Sketch of location where fossil was found (please include photographs)

Stratigraphic Information

Context (disturbed or undisturbed ground conditions) _____

Depth from Surface _____

Strata (describe the material in which the fossil/artifact was found) _____

_____

_____

Heritage Resource Contact List

Todd Goodsell
SGC Environmental Manager
Ph. (867) 393-4655
C: (867) 334-2655
tgoodsell@vitgoldcorp.com

Dr. Ruth Gotthardt, Yukon Archaeologist
Government of Yukon
Department of Tourism and Culture
Yukon Archaeology Program
133A Industrial Road
Whitehorse, YT Y1A 2C6
Ph. (867) 667-5983
Fax. (867) 667-5377
ruth.gotthardt@gov.yk.ca

Dr. Grant Zazula, Yukon Palaeontologist
Government of Yukon
Department of Tourism and Culture
Yukon Palaeontology Program
133A Industrial Road
Whitehorse, YT Y1A 2C6
Ph. (867) 667-8089
Fax. (867) 667-5377
grant.zazula@gov.yk.ca

Ron Peter
FNNND – **SGC** Environmental Monitor
Mayo, Yukon
Ph. (867) 996-2265 x 138
Fax. (867) 996-2267

FNNND Heritage Manager
Mayo, Yukon
Ph. (867) 996-2265 x116
Fax. (867)996-2267
heritagemgr@nndnf.com

RCMP Mayo Detachment
P.O. Box 70
Mayo, YT Y0B 1M0
Phone: 867-996-2677
Fax: 867-996-2801

Fossil and Artifact Discovery Record

Discovery Type	Features	Required Contacts	Comments
Prehistoric:	**remains resulting from the traditional occupation of the Yukon by Aboriginal people before contact with European traders**		
Habitation	Housepit, cave, rock shelter	SGC Environmental Coordinator (on-site) ↓ SGC Environmental Manager ↓ **Archaeologist, Department of Tourism and Culture**	
Trail	Visible, bent trees, trail markers		
Campsite	Fire-cracked rock, calcined bone, stone tools, artificial cobble concentration, culturally modified trees (stone axe-cute stump, old bark stripping)		
Cache	Ground cache (depression), boulder cache		
Subsistence	Caribou fence (wood/stone), rock hunting blind, fish trap, net sinker stones)		
Burial Sites	Ground depression, mound, grave offerings, cremation site		
Human Remains	Partial skeletons, bones, cremated remains, complete human bodies,	SGC Environmental Coordinator (on-site) ↓ SGC Environmental Manager ↓ **RCMP**	Based on the information, the RCMP will notify: (1) Coroner's office if the site is of forensic or criminal in nature, or (2) both the FNNND and the Archaeologist, Department of Tourism and Culture
Fossils	Leaves, seeds, nests, dinosaur tracks, fish, invertebrates, mammoth tusks, etc.	SGC Environmental Coordinator (on-site) ↓ SGC Environmental Manager ↓ **Palaeontologist, Department of Tourism and Culture**	Eagle Gold Project Fossil and Artifact Discovery Record
Historic:	**these can be Aboriginal or non-Aboriginal, and date from the time of European contact until 45 years ago**		
Structure	Brush camp, tent frame, log building	SGC Environmental Coordinator (on-site) ↓ SGC Environmental Manager ↓ **Archaeologist, Department of Tourism and Culture**	
Structural traces	Building outline, berm, foundation (log, stone or concrete), depressions		
Cultural material	Tin cans, bottles, axe-cut stumps, culturally modified trees (bark stripping, ringed)		
Subsistence feature	Deadfall trap, hunting blind, fish wheel, fish net, net sinker stones, animal traps (leg hold and 'houses', snares		
Mining	Placer workings, 'glory holes', mine adits (entrances)		
Travel	Trail, blazed trees, wagon road, watercraft		
Burial Sites	Grave house, grave fence, cross, unmarked or ground disturbed, depression		
Human Remains	Partial skeletons, bones, cremated remains, complete human bodies	SGC Environmental Coordinator (on-site) ↓ SGC Environmental Manager ↓ **RCMP**	Based on the information, the RCMP will notify: (1) Coroner's office if the site is of forensic or criminal in nature, or (2) both the FNNND and the Archaeologist, Department of Tourism and Culture
Fossils	Leaves, seeds, nests, dinosaur tracks, fish, invertebrates, mammoth tusks, etc.	SGC Environmental Coordinator (on-site) ↓ SGC Environmental Manager ↓ **Palaeontologist, Department of Tourism and Culture**	See Eagle Gold Project Fossil and Artifact Discovery Record