



Archaeological Management for Exploration

Taseko Mines Limited

DOCUMENT #	
Revision	Published
0	2017-06-06

June 2017

Table of Contents

1.0	Purpose.....	3
2.0	Existing Environment.....	4
3.0	Management Plan Guidelines.....	5
4.0	Monitoring	6
5.0	Roles and Responsibilities.....	7
6.0	2017 Site Investigation Program Specific Considerations.....	8
7.0	Appendices	9

1.0 Purpose

The purpose of the Archaeological Management Plan for Exploration is to ensure the protection of known and unknown heritage sites and objects, as defined in the BC Heritage Conservation Act, during exploration of the New Prosperity project.

The objectives of the Archaeological Management Plan for Exploration are to:

- Protect known heritage resources through application of the **Archaeological and Heritage Protection Procedure for Exploration** (Appendix 1), and
- Protect newly discovered, or chance find, heritage resources through the implementation of the **Chance Find Protocol for Archaeological Sites New Prosperity Gold-Copper Project near Williams Lake, B.C.** (Appendix 2).

2.0 Existing Environment

An extensive Archaeological Impact Assessment (AIA) was completed by Terra Archaeology over a large part of the area. The AIA conducted was of a comprehensive nature with a total of over 3476 ha being assessed during the field program resulting in the confirmation of 79 protected (pre-1846) archaeological sites. The archaeological resources identified and evaluated, and their map locations, are compiled in the July 2008 confidential document Taseko Mines Ltd. Proposed Prosperity Gold-Copper Mine Located at Fish Lake, British Columbia Archaeological Survey Unit Report held by the BC Ministry of Forests, Lands and Natural Resource Operations. The AIA and archaeological sites are shown on Figure 3 in Appendix B of the NoW submission.

3.0 Management Plan Guidelines

Known archaeological and heritage resources, as identified in the AIA, will be protected through avoidance, supported by awareness training and monitoring, as per the **Archaeological and Heritage Protection Procedure for Exploration** (Appendix 1). The planning of exploration activities will take into consideration the location of known archaeological and heritage resources as defined by Terra Archaeology in the July 2008 *Taseko Mines Ltd. Proposed Prosperity Gold-Copper Mine Located at Fish Lake, British Columbia Archaeological Survey Unit Report*. Exploration activities will be planned to avoid these known sites. Exploration activities in areas that have not yet been assessed for archaeological and heritage resources are strictly prohibited until such time as a Preliminary Field Reconnaissance (PFR) or AIA has been completed.

If by chance an undiscovered archaeological or heritage resource is discovered during exploration, the **Chance Find Protocol for Archaeological Sites New Prosperity Gold-Copper Project near Williams Lake, B.C.** (Appendix 2) will be implemented immediately. The first step in this Protocol is to immediately halt work and all operations within at least 20 m in each direction of the discovery in order to prevent any further disturbance or destruction of the resource. The Environmental Monitor will review this Protocol with all field crew and equipment operators prior to the start of exploration activities, and periodically during the exploration program at safety meetings. This ensures that the process to protect undiscovered archaeological or heritage resources, is clearly understood by all persons exploring on the New Prosperity Project site.

4.0 Monitoring

Monitoring will be conducted daily by the Environmental Monitor, as discussed in the **Archaeological and Heritage Resources Protection Procedure for Exploration**. Monitoring will involve the ongoing protection of known archaeological and heritage resources by ensuring that exploration activities are contained within the defined exploration boundaries and are not impinging on known and delineated archaeological and heritage resources.

5.0 Roles and Responsibilities

The Mine Manager is responsible for:

- Designating an on-site Environmental Monitor during exploration
- Notifying the Archaeology Branch in the event that a chance find archaeology and heritage resource is discovered
- Providing guidance to exploration geologists, engineers and contractors in the avoidance of known archaeological and heritage resources during program planning

The Designated Environmental Monitor is responsible for:

- Those responsibilities as explicitly defined for the Environmental Monitor in the **Archaeological and Heritage Resources Protection Procedure for Exploration**
- Notifying the Mine Manager of a chance find discovery and ensuring that the steps as defined in the **Chance Find Protocol for Archaeological Sites** have been followed

Geologists and Engineering Field Crew, Equipment Operators and Contractors are responsible for:

- Being aware of the location of known archaeological and heritage resources
- Working within the defined exploration boundaries to avoid disturbance or destruction of known archaeological and heritage resources which many not be delineated
- Understanding how to implement the **Chance Find Protocol for Archaeological Sites**

6.0 2017 Site Investigation Program Specific Considerations

- AIA coverage in relation to 2017 NOW exploration sites is identified on Figure 3 in Appendix B.
- Archeological sites within the AIA are identified in pink on the attached map.
- There are short sections of access trail and test sites marginally outside of the AIA coverage area north of Wasp Lake, northwest of Fish Lake, and in Fish Creek area. A PFR will be conducted by a qualified professional on these segments once flagged in the field, and locations adjusted as necessary to ensure avoidance of any high potential sites, prior to site disturbance.

7.0 Appendices

Appendix 1 – Archaeology & Heritage Resources Protection Procedure for Exploration
New Prosperity Gold-Copper Project

Appendix 2 – Chance Find Protocol for Archaeological Sites
New Prosperity Gold-Copper Project

Appendix 3 – Map of AIA and Archaeological Sites
New Prosperity Gold-Copper Project

**Appendix 1 –
Archaeology & Heritage Resources Protection Procedure for Exploration
New Prosperity Gold-Copper Project**



New Prosperity Copper-Gold Project

Archaeological and Heritage Resources Protection Procedure for Exploration

Objective

The objective of the Archaeological and Heritage Resources Protection Procedure for Exploration is to:

- Through avoidance, minimize disturbance to, and protect, known archaeological and heritage sites within the New Prosperity project area as identified during Archaeological Impact Assessment surveys

Other Applicable Plans / Procedures / Policies

- *Chance Find Protocol for Archaeological Sites New Prosperity Gold-Copper Project.*

Pre-Exploration Planning

Working with the Mine Manager, geologists, engineers, equipment operators and other on-site contractors will:

- conduct a site orientation prior to conducting work on site. Refer to maps of known archaeological sites to determine if planned exploration activities are in the area of known archaeological or heritage resources.
- confirm that an archaeological impact assessment (AIA) or preliminary field reconnaissance (PFR) has been conducted in all areas in which exploration activities will occur.
- develop a field map that clearly outlines the areas in which exploration related activities can be conducted. No activities are permitted to occur outside these boundaries.

Pre-Exploration Activities

The designated Environmental Monitor will:

- in the field, locate all known archaeological or heritage resource sites that may be near planned exploration activities.
- clearly delineate sites in the field that are close to exploration activities with a 20 m flagged buffer.
- prior to commencement of work, conduct an in-field review of flagged sites with all field crew personnel and equipment operator(s).
- provide field crew and equipment operators with filed maps delineating exploration boundaries.
- highlight to all crew and equipment operators the importance of not deviating outside the exploration boundaries as defined on the field map.

During Exploration Activities

The Designated Environmental Monitor will:

- perform daily checks on exploration activities to ensure that they are not encroaching upon any flagged buffer zones.
- perform daily checks to ensure that exploration activities are not deviating outside the exploration boundaries as defined on the field map.
- immediately discuss situations of concern with the field crew and/or operator(s), and notify the Mine Manager of any concerns.
- record situations of concern and corrective measures / actions taken, including dates of situation, persons involved, etc. and review with the Mine Manager.
- halt work immediately if an incident has occurred and immediately notify the Mine Manager.

Post-Construction Activities

Once exploration has been completed in the areas of archaeological and heritage resource sites, flagging will be removed so as not to draw attention to the site.

**Appendix 2 –
Chance Find Protocol for Archaeological Sites
New Prosperity Gold-Copper Project**



Chance Find Protocol for Archaeological Sites, New Prosperity Gold-Copper Project near Williams Lake, B.C.

A Chance Find Protocol provides those involved in ground disturbing activities with a framework for identifying archaeological deposits and assists in avoiding unforeseen disturbance to cultural heritage resources. The protocol provides descriptive information regarding cultural materials commonly found in the region and those most likely to be encountered during the course of a specific project. It is recommended that all people involved in ground disturbing activities are familiar with the types of archaeological sites present in the region of development. In the event that archaeological or heritage resources are encountered, you are advised to stop all work in the vicinity of the find and contact a qualified archaeological professional.

What is an archaeological site?

An archaeological site is a location where there is physical evidence of past human activity. Archaeological sites can include things such as stone tools, cultural depressions, remains of prehistoric campsites and culturally modified trees. Archaeological sites represent only one component of a range of heritage resources found throughout the province, including historic buildings, shipwrecks, heritage trails, etc.

Types of archaeological sites with greatest potential to be present in the study area:

Habitation Sites:

Prehistoric habitation sites are most common in locations adjacent to or in the immediate vicinity of bodies of water, most commonly large streams, lakes and rivers but also gullies, creeks and other small drainages. In the Central Interior, this site type is characterized most typically by large circular depressions or house pits. House pit depressions are the archaeological remains of pit houses - semi-subterranean winter dwellings traditionally but not exclusively used by interior peoples. They tend to be found in protected valley bottoms rather than the surrounding higher ground.

Habitation sites are important for the study of past lifeways and generally have high heritage significance, particularly for ethnographically documented villages. Because of their nature as habitation locales, these sites frequently have more than one functional descriptor since cache pits, sweat lodge depressions, mat lodge depressions, roasting pit features, CMTs, lithic scatters, human burials and rock art are often present in some combination.

Subsistence Features:

Subsistence features are features associated with the hunting, fishing, gathering, storage or processing of foods. In the interior region, such features include cache pits, roasting pits and above ground caches. Like habitation sites, cache pits (subterranean storage pits) and roasting pits are often found in the vicinity of a water source and are often a component of larger multi-function sites. Subsistence features, however, can be found anywhere a temporary hunting, fishing or plant resource gathering camp may have been set up, often in locations away from principal habitation sites.

Lithic (Stone) Scatters:

Lithic scatters are sites comprised of stone tools, stone tool fragments, and *debitage* – the flakes of stone that are produced when stone tools are manufactured. These stone artifacts may be found scattered across the ground surface or may have been buried since their original deposition.

These sites may vary from a single, isolated artifact—a stone arrowhead, knife, or hide-scraper, for example—to extensive scatters of hundreds of tools, tool fragments and *debitage* (waste) flakes.

Culturally Modified Trees:

In the most general sense, culturally modified trees (CMTs) are any trees having evidence of human modification. In a more specific and commonly used sense, CMTs are trees that have been modified by aboriginal people for traditional purposes such as removal of bark or wood for traditional building materials, and removal of cambium for consumption. Provincial guidelines suggest most CMTs should be recorded as traditional use sites unless they pre-date AD 1846. In the interior of the province, bark-stripped lodgepole pine, ponderosa pine and birch are most common.

Archaeological and heritage sites recorded in the project area:

Numerous lithic scatter and CMT sites are recorded within or in the immediate vicinity of the proposed development area.

If you encounter archaeological or heritage resources:

If possible archaeological or heritage resources are encountered, or human remains are suspected, during the course of development, the following steps are required:

- Cease all forms of ground disturbance in the immediate vicinity of the find and leave all possible archaeological or heritage materials in place.
- Establish a protective buffer of at least 20 m surrounding the extent of the find area and demarcate the buffer in a highly visible and clear manner (eg. 'No Work Zone' flagging).
- Record GPS location of the found materials, if able.
- Briefly note the type of archaeological materials you think you've encountered, and their location, including, if possible, the depth below surface of the find
- Photograph the exposed materials, preferably with a scale (a yellow plastic field binder will suffice).
- Notify the Environmental Monitor immediately. The Environmental Monitor will then report the find to the Mine Manager who will promptly notify the Archaeology Branch of the Ministry of Forests, Lands and Natural Resource Operations directly or through a professional archaeologist.
- Should suspected human remains be discovered, procedures would follow the Archaeology Branch Policy Statement "Found Human Remains" (Archaeology Branch, 1999). Local law enforcement will also be informed in the event of found human remains



Lithic (Stone) Scatter



Debitage (waste material from stone tool manufacturing)



Projectile Points



Culturally Modified Tree (CMT)



House Pit Depressions

**Appendix 3 –
Map of AIA and Archaeological Sites
New Prosperity Gold-Copper Project**

