Hope Bay Project Madrid Bulk Sample Application Archaeological Assessment

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Madrid South

The landform on which the Madrid South portal and vent raise infrastructure and laydowns are proposed has been thoroughly covered by surveys for archaeological resources several times over the past years of intensive exploration activity. Thus, there is a low possibility for undiscovered archaeological resources within the portal infrastructure development zone.

There are three recorded archaeological sites in the portal-vent raise development area. One site, NaNh-7, is within 30m of proposed infrastructure and laydown pads. This site contains three stone semi-circles and associated hearths. It was partly mitigated in 2011. Due to the close proximity and intensity of advanced exploration activities related to the proposed bulk sampling and exploration program, it is recommended that the small amount of mapping and excavation still required be completed in order to fully mitigate this site.

One site, NaNh-8, is within the Quarry H outline, approximately 85m from the proposed vent raise pad. It contains four features distributed over a large area. Mitigation possibilities could include protection by staking and fencing and not using that section of the quarry. However, given the wide distribution of the site features together with the proximity and intensity of activities such as quarrying and proposed advanced exploration, full data recovery consisting of mapping to scale and excavation is recommended prior to development.

NaNh-74 is a single stone circle on a small bench on Wolverine Lake. It is about 40m from the limits of the infrastructure. This site was fully mitigated by mapping to scale in 2011; therefore, it presents no further concerns.

The waste rock stockpile is proposed on a large expanse of open tundra which typically has low potential for archaeological remains in this area. The east side of the stockpile area was examined in 2014 by pedestrian transects, from the tundra level to the upper height of the adjacent bedrock outcrop. One new site, NaNh-101, was recorded which consists of a stone circle and hearth on the upper bedrock surface. It is approximately 20m from the outline of the toe of the stockpile and the height of that pile is proposed to be several metres below the upper edge of the bedrock height. It is recommended to complete detailed mapping of this site and to regularly monitor the site as the height of the stockpile increases.

Road to Madrid South

The entire length of this proposed road route was visually assessed by low and slow helicopter overflight. Much of this road route is proposed over low lying open tundra that generally does not contain archaeological remains in this region. It passes by occasional bedrock outcrops of various heights. Adjacent edges of those outcrops were surveyed for archaeological resources by ground reconnaissance in both 2011 and in 2014. One site recorded in 2011, NaNh-84, is approximately 140m from the road centre line and occurs on a higher bedrock outcrop, thus, is unlikely to be affected. Two sites were recorded in 2014. One, NaNh-102, contains a stone circle with hearth and is about 75m from the road centre line on low bedrock. The other, NaNh-103, consists of a rock cluster possibly representing a cache or collapsed inukshuk, and is about 200m away. These sites are unlikely to be directly affected by the simple presence of the road, but it is recommended to conduct detailed mapping of the stone circle site due to its proximity. Care will be necessary during design and construction to ensure that no construction or operation related activities would be situated closer to these sites.

Proposed quarry G is a large bedrock outcrop which was surveyed by limited pedestrian transects in past years and covered fairly intensively in 2014. One previously recorded site, NaNh-76, is within Quarry G. This is a large multi-feature site in the southeast part of the uppermost surface of the bedrock outcrop. There is an associated area of small rocks on a bedrock surface approximately 70m northwest of the other features, more or less central within the quarry outline. Due to the location, distance from the rest of the site, and small size, the northwest feature was mapped to scale in 2014. Since this group of rocks is on bare bedrock, no further work is judged necessary relative to this feature. The remainder of this site will require full site data recovery mitigation involving accurate mapping to scale and excavation prior to quarry use.

Madrid North

The area identified for proposed Madrid North portal infrastructure was walked and visually assessed in 2014. All bedrock outcrops within and adjacent to this outlined area were examined. Much of this infrastructure area is typified by tussock tundra which is typically rated as low potential for archaeological sites in this region. The Madrid North vent raise is proposed on low lying tundra some distance south of the portal area, adjacent to the existing Doris-Windy road. This locality has been frequently viewed, has no known sites and is considered low potential for archaeological resources. One new site, NaNh-99, was recorded approximately 150m from the portal pad. This site was mapped to scale upon discovery and because it is on bare bedrock, no further work is considered necessary.

One site, NaNh-59, is in a vegetated pass and summit on a bedrock outcrop on the northern edge of the identified location for the waste rock stockpile which is proposed to extend up the pass.

The waste rock stockpile was designed to reach no closer than 30m from the original features, but three new features were found during ground reconnaissance in 2014. One of those features is approximately 6m from the waste rock stockpile crest limits which is well within the required avoidance zone. Minimally, recommended mitigation is detailed mapping to scale with protection and monitoring if the buffer zone can be increased to greater than 30m. If the waste rock stockpile cannot be redesigned to increase the buffer zone, it is recommended that this site be mitigated by detailed mapping to scale and some excavation prior to development.