

February 6, 2019

Yukon Environmental and Socio-economic Assessment Board
Watson Lake Designated Office
P.O. Box 294
Watson Lake, Y0A 1C0

ISSUED FOR USE
FILE: MIN.VMIN03092-02
Via Email: watsonlake.do@yesab.ca

Attention: Ms. Kathie Thibaudeau – Manager, Watson Lake Designated Office

Subject: 2018-0211 – Mactung Class 4 Quartz Exploration – Responses to Information Requests

Please find below responses to the Information Requests issued by the Watson Lake Designated Office on January 8, 2019. Tetra Tech Canada Inc. (Tetra Tech) has prepared these responses in consultation with the proponent, the Government of the Northwest Territories (GNWT). We would like to preface the responses provided below with the caveat that the primary purpose of this application is to allow prospective buyers of the Mactung Property the opportunity to purchase the property with an active Class 4 Mining Land Use approval in hand which would allow them to efficiently conduct limited on-site activities following their purchase of the property. Should their desired on-site activities differ substantially or exceed those proposed under the current application, the expectation would be for the new proponent to apply for an amendment to the Class 4 Mining Land Use approval, in accordance with the regulatory processes established for Yukon.

The responses are structured as follows: the questions posed by the Watson Lake Designated Office of the Yukon Environmental and Socio-economic Assessment Board (YESAB) are presented in regular font with proponent (GNWT) responses provided in italics directly below.

Claims

1. Please confirm the number of claims that are to be assessed as a part of this proposed project.

GNWT currently holds 113 quartz mining claims and 38 quartz mining leases (per Appendix A-1 and A-2 of the Project Proposal, respectively) for the Mactung Property. The distribution of claims and leases is presented in Figure 1-2. It is anticipated that possible future site activities would focus primarily on the claims and leases in and around the existing camp, exploration adit, and along the existing trail/road network (covering approximately 40 mining claims). A ground-based geochemistry survey consisting of contour traverses to verify the originally defined deposit is the only mineralized area may be conducted in future. An airborne geophysical survey might also be conducted in future which would cover the broader claim/lease area.

Access

2. Page 1 of the Project Proposal states, “The site is most easily accessed directly via helicopter. The closest road to the property is the North Canol Road, which provides access to the Macmillan Pass airstrip. The property can be accessed by a tote road from the decommissioned portion of the North Canol Road in the NWT.”

- a. Please indicate if all methods of access described above will be utilized for this Project (North Canol Road, tote road in the NWT, MacPass airstrip for helicopters/fixed-wing).

The primary means of accessing the site would be via the existing road and trail system through the NWT. Limited helicopter flights may occur to support the following types of activities:

- *Environmental work (possibly 2 flights per month from June – September and likely fewer in the off-season)*
- *Drill support (possibly 4 flights per day for crew transport and occasional drill moves from June – September)*
- *Geochemistry survey (possibly 3 flights per day for a two-week period from June – September)*

An airborne geophysical survey may also be conducted in 2019. The property would be flown at an approximate spacing of 50 – 100 m over a period of two weeks.

- b. Please give an estimate of helicopter flight paths and flight frequencies required for the Project. (This information aids in the assessment of effects from flying on values such as wildlife, other users).

Please see the responses provided for 2a above. Flight paths would focus on the areas in and around the existing camp, adit, and road/trail network. Flights will avoid sensitive wildlife features such as raptor nesting sites and will fly no lower than 600 m above ground level when wildlife is present.

3. Will the Project require the use of any existing fords? If so, please indicate on a map where they are located.

The Project will not require the use of any existing fords.

Current Activities

4. The Mining Land Use Approval application (MLUA) indicates that there is active mineral exploration work and active mine development/production on site.

- a. Please describe the activities that are currently occurring in the project area.

The “Active” boxes for “Evidence of mineral exploration work” and “Mine developments and production” were selected in error. Instead, the “Non-active/abandoned” boxes should have been selected for both. There is currently no active mineral exploration, mine development, or production underway. On-site activities have been limited to monitoring the core facility and adit, reducing on-site risks by removing items such as drums and miscellaneous waste, and maintaining and inventorying the historical core. Please advise if identifying this correction here is sufficient or if we need to re-submit the form with the correct boxes ticked.

- b. Maps have been provided showing the existing roads/trails and camp location. Please describe other existing infrastructure that is in place (underground workings, buildings, heli-pads, etc.) and provide a map showing locations of the infrastructure.

In addition to the camp, the latest site inspection report from September 2018 identified the presence of two Atco trailers, a wood enclosed building, storage building, bulk propane tank, core storage area and meteorological station (all within approximately 100 m of the camp). An existing exploration adit is also present with limited underground workings. A lined sump is also present near the portal. The site is located above the treeline so the construction of formal heli-pads or vegetation clearing for such purposes has not been required. Figure IR-1 shows the approximate location of the infrastructure described above.

- c. Is the camp currently in use on-site?

No, the camp is not currently in use.

Clearing and Drilling

5. The MLUA indicates that project activities will not require any vegetative clearing. The MLUA also indicates that project activities include diamond drilling. The Project Proposal indicates that the project area is located in un-forested high alpine terrain, and forest stands only occur at lower elevations below about 1 400 m a.s.l. Please confirm if our understanding is correct, that clearing is not required as all drilling activities will occur in non-forested, alpine. If not, please explain why clearing is not required.

The understanding is correct; the possible drilling that may occur during the term of the requested new Class 4 Mining Land Use approval would be for the purpose of confirming the presence of a mineral resource, which currently occurs above the treeline, in alpine areas with minimal vegetation cover. Should some vegetation removal be required (e.g., dwarf alpine vegetation or herbaceous mats), it will be stripped and conserved in a stockpile for future re-use in site reclamation. Access would be via existing drill roads and pads, with some minor maintenance expected in areas where access may have been impaired.

6. On page 8 of the MLUA indicates that sumps will be used if drilling occurs. Given that it is believed that drilling will occur in alpine areas, are there areas in which a sump cannot be used, (e.g. rocky outcrops, shallow overburden, permafrost areas)? If so, how will return water be managed?

Sumps will be established within 10 m of each drill site and will be sized appropriately to receive and contain drilling fluids. Drilling mud will be re-circulated when possible. Following drilling in an area, sumps will be left in a condition that encourages the re-establishment of the vegetative mat (assuming one was present initially). Future exploration would be anticipated to occur within the confines of previous exploration target areas, where sumps were deemed possible at all foreseeable sites. Sumps were successfully used during previous drilling campaigns conducted at site. If a sump cannot be used in an area, however, alternative means of capturing return water will be sought (e.g., through the use of portable storage tanks).

7. Please give an estimate for the maximum number of drill holes the Project will require.

Given the proposed maximum of 50,000 metres of exploration drilling, we anticipate approximately 300 drill holes could be commissioned over the 10-year term.

Water Use

8. Page 10 of the Project Proposal indicates that if drilling occurs, up to 240 m³ per day of water will be used. Domestic water will be supplied from the pond of melt water above Mactung camp with Tributary C as a backup source.
 - a. Please indicate the maximum amount of water anticipated for camp purposes.

Surface water sources used as potable water will be subject to filtration and UV treatment. Bottled water will be also be available as a supplemental source of drinking water. The Yukon Environmental Health Services Guidelines for Greywater Disposal at Remote Camps (2012) were used to estimate the amount of supplementary water that might be required for camp purposes. Based on this reference, a maximum daily volume of 90 litres/person of greywater was used, which converts to approximately 2,250 litres/day (2.25 m³/day) assuming a maximum camp capacity of 25 people at any one time.

- b. It is unknown where drilling is expected to occur and therefore, is presumed to potentially occur on any of the claims within the 10-year period. It is unknown where water will be sourced for drilling and therefore it is unknown what aquatic resources may depend on the flow downstream of water withdrawal. How will it be determined if the source waterbody(s) for activities have enough flow to support project activities and still maintain an adequate volume of flow for aquatic resources?

Future exploration drilling would focus primarily on known deposits and any geophysical/geochemical anomalies that present as worthwhile targets (most likely in the vicinity of the existing exploration adit). Should drilling occur in areas that cannot be serviced practically using the pond of melt water above the Mactung camp, the water source will likely switch to Tributary C. Based on the hydrology studies conducted for the Project Proposal in 2008, Tributary C had an average flow of 0.85 m³/s and a low flow of 0.4 m³/s. Assuming approximately 20,000 litres of water (20 m³) could be used per drill per day, Tributary C would have sufficient capacity to service the anticipated drilling requirements while still maintaining an adequate flow volume for aquatic resources. Efforts would also be made during drilling to recycle water where feasible, which would help lower the overall water use requirements. All pumps drawing from Tributary C will be screened.

Waste Management

9. Page 10 of the MLUA notes that the Environmental Health Services Work Camp Assessment Form is to be completed. If possible, please provide this form.

The Environmental Health Services Work Camp Assessment Form has been completed and is attached.

Fuel Storage

10. Please confirm our understanding that the only fuel storage to occur on site for the duration of project (10-year) activities is 3 785 L (1 000 US gal) of propane.

In addition to the amount of propane identified, it is anticipated that approximately 50 barrels of fuel will be stored on-site at any one time, with a plan to resupply through Ross River (our apologies – this should have been included as part of the MLUA). Barrels will be stored in a lined, bermed facility near the existing camp that will be constructed prior to the barrels arriving at site. Fuel will be stored a minimum of 30 m away from the nearest waterbody. The approximate location of the proposed fuel storage area is shown on Figure IR-1.

Decommissioning

11. On page 21 of the Project Proposal, it indicates that if the Property doesn't sell in the 10-year term for the applied for Approval, then decommissioning activities will take place. If this is the case, please indicate if a proposal will be submitted for assessment of the decommissioning activities or if you are proposing that decommissioning be a part of this assessment? If it is to be scoped into this assessment, additional information will be required, including a decommissioning plan.

A separate proposal will be submitted for assessment of the decommissioning activities should the Property not sell within the 10-year term. We are proposing that decommissioning not be included as part of this assessment.

Additional Information Request Sent via Email January 10, 2019

12. It appears that 9 claims in the claim list overlap and fall partially within the NWT to varying extents. These claims are (as listed in the claims list provided):

- Border 1 Extens
- Border 5A Extens
- Border 6 Extens
- Border 9 Extens
- Border 10 Extens
- Betty 4 Extensi
- Betty NO, (claim #3)
- Border No. (claim #1)
- Border No. (claim #5)

Please indicate if any proposed activities will occur on the NWT portion of these claims during the 10-year temporal scope?

All proposed activities are currently planned for the YT portion of the claims during the 10-year temporal scope. During the course of the 10-year term, however, should it become apparent that conducting activities on the NWT side of the claims listed above would be beneficial, they would only occur after obtaining permission from applicable regulatory agencies.

We trust this document meets your present requirements. Should you have any further questions or comments, please contact the undersigned.

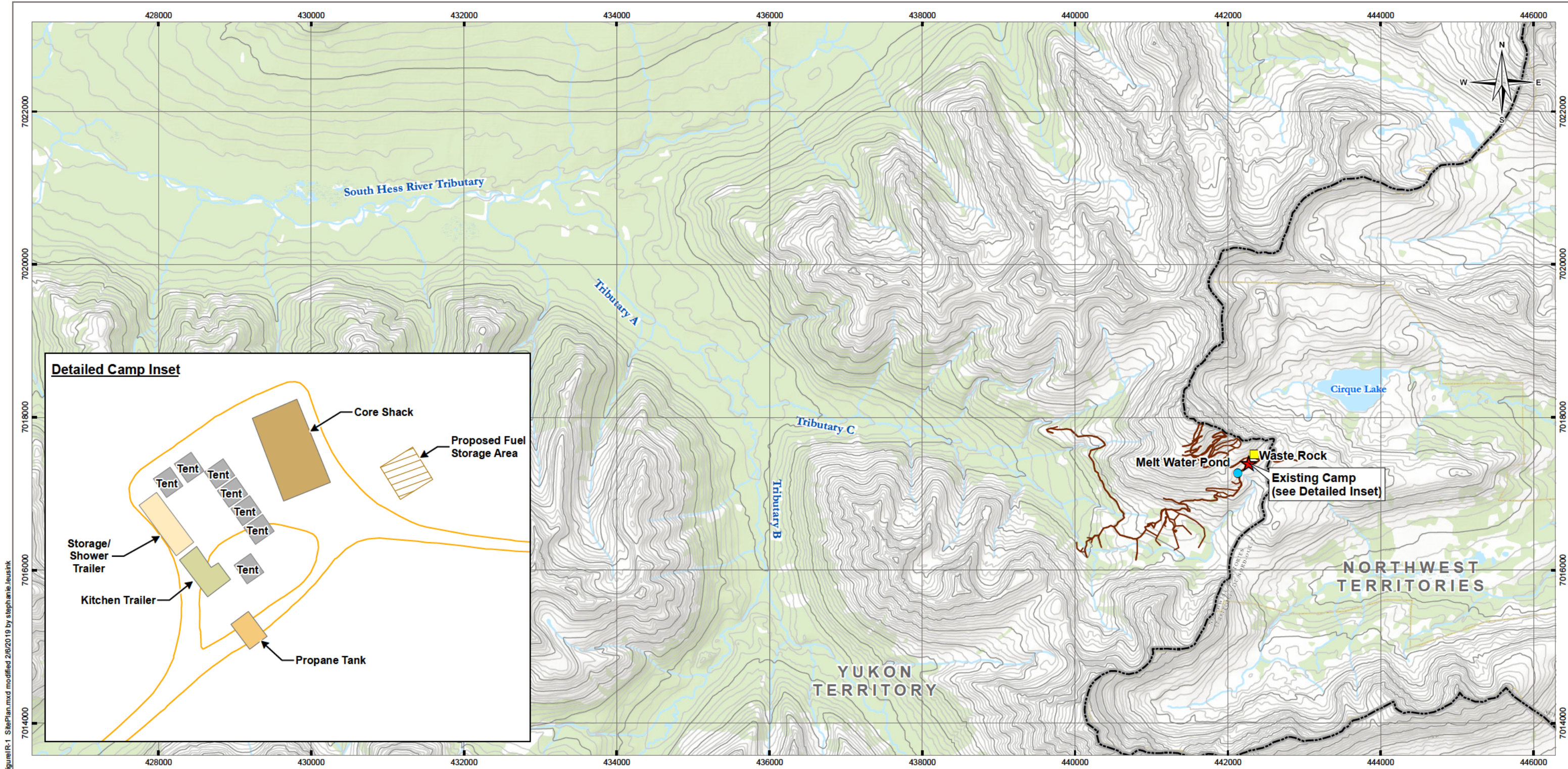
Respectfully submitted,
Tetra Tech Canada Inc.

SIGNATURE REDACTED

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Q:\Vancouver\GIS\MIN\G\M\MIN\MIN\03092-02\FigureIR-1_SitePlan.mxd modified 2/6/2019 by stephanie.leusink

LEGEND

- ★ Existing Camp
- Existing Waste Rock
- Melt Water Pond
- Core Shack
- Fuel Storage Area
- Kitchen Trailer
- Propane Tank
- Storage/Shower Trailer
- Tent
- Existing Trail or Road
- Contour (20 m)
- Contours (100m)
- Watercourse
- Waterbody
- Yukon - NWT Border



NOTES
 Base data source:
 Yukon Geomatics (accessed April 2017)
 NWT Centre for Geomatics (accessed April 2017)
 CanVec 1:50,000 (2016)
 Esri Basemap Gallery (2018)

STATUS
ISSUED FOR USE

**MACTUNG
QUARTZ MINING LAND USE APPROVAL**

Site Plan

PROJECTION UTM Zone 9	DATUM NAD83	CLIENT
Scale: 1:50,000		
FILE NO. VMIN03092-02_FigureIR-1_SitePlan.mxd		
OFFICE Tl-VANC	DWN SL	CKD YL
APVD TP	REV 0	
DATE February 6, 2019	PROJECT NO. MIN.VMIN03092-02	

Figure IR-1

Watson Lake Designated Office Evaluation

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NOTE TO FILE:

DATE: February 13, 2019

ASSESSOR: Kathie Thibaudeau

PROJECT NUMBER: 2018-0211

RE: Clarification on clearing and trails

On February 11, 2019, the Designated Office asked the following for clarification:

In the Mining Land Use Approval application (YOR 2018-0211-007-1, p.6) it indicates that activities include the construction of new trails (5 km x 3 m wide) and temporary trails (40 km x 3 m wide) if required, to undertake exploration drilling. The response to the information request (YOR 2018-0211-013-1, p.3) indicates that clearing is not expected but if required, it will be minimal (dwarf alpine vegetation and herbaceous mat) and further notes that access via existing drill roads and pads will be used, with minor maintenance. Please confirm whether clearing will be required for the construction of the trails and temporary trails. Please confirm whether clearing activities will be required for the trails or if they too will have minimal, if any clearing.

The Designated Office received the following response:

The focus of activities will be above the treeline, using existing trails to the greatest extent possible. Some new trails (5 km x 3 m per the MLUA) may be constructed. The 40 km x 3 m of temporary trails indicated on the MLUA would be “used”, not “developed” (it is our understanding that this is the approximate extent of the existing trail network).

Per the responses provided, clearing is not expected, but if required would be minimal (restricted to removal of the vegetation described, which would be stockpiled for later re-use in reclamation activities). No drill targets are planned at lower elevations, so no substantial vegetation clearing (e.g., larger shrubs or trees) would be required. Basically, we wanted to cover our proverbial bases wrt clearing vegetation above the treeline. We will endeavour not to clear, but may need to in some restricted spots.