

YUKON WATER BOARD  
REASONS FOR DECISION  
Water Use Application PM06-547, Sixty Mile Placers Ltd.  
and Mining Land Use Approval AP06547

The Yukon Water Board (“the board”) has made licensing decisions with respect to water use application PM06-547 for a type B licence for a placer mining undertaking and mining land use approval AP06547.

Notice of the application was provided in accordance with the requirements of the *Waters Act* and the *Placer Mining Land Use Regulation*. In response, the board received interventions from the following parties:

Fisheries and Oceans Canada (“DFO”);  
Government of Yukon (“GY”), Energy, Mines and Resources, Client Services and Inspections Branch; and  
Tr’ondëk Hwëch’in.

No party requested a public hearing. The applicant responded to the Tr’ondëk Hwëch’in intervention.

This application required an environmental assessment under the *Yukon Environmental and Socio-economic Assessment Act* (“YESAA”). In making licensing decisions pertaining to this application, the board took into account the *Waters Act*, *Waters Regulation*, the application, the YESAA Decision Document, recommendations from the interveners, the board's standard licence requirements, Territorial Resources Base Maps 116C/01, 116C/02, 115O/12, 115N/9 and 115N/16, the Umbrella Final Agreement and board policies.

Neither the applicant nor the Decision Document proposed alternative approaches to the operating conditions in the *Placer Mining Land Use Regulation*. These operating conditions have been incorporated into the Placer Land Use Approval For a Class 4 Operating Plan.

### **DFO**

The effluent standards recommended by DFO are the same standards as referenced in the Yukon Placer Authorization (YPA). The YPA is an authorization under the *Fisheries Act* for the harmful alteration, disruption or destruction of fish and fish habitat in certain streams, or portions of streams, in the Yukon for placer mining works and undertakings, subject to compliance with the standards of allowable sediment discharge. The board has adopted the YPA as policy for the minimum allowable discharge standard. With the exception of the effluent standard that was provided for Twenty Mile Creek the effluent discharge standards and operating standards, which are stipulated in the YPA, have been incorporated in the licence. The applicant does not propose to discharge into Twenty Mile Creek.

DFO provided specific recommendations for the use of the creek as a conduit and instream settling; however, the applicant does not propose to use the creek as a conduit or to instream settle. The licence only authorizes those undertakings described in the application, therefore, the licence does not permit either of these activities.

DFO provided standard recommendations for fuel, lubricants, cleansers, solvents and similar chemicals or substances to be transported, stored and disposed of in such a way as to ensure that they are not deposited in, or allowed to be deposited in, waters. The typical condition to transport, store and dispose of fuels, lubricants, cleansers, solvents and similar chemicals or substances in such a way as to ensure that they are not deposited in, or allowed to be deposited in, waters has been included in the licence.

DFO provided standard recommendations that all diversions, ditches, drains, dams, or any structure built or otherwise effected is able to withstand seasonal floods. The typical condition that requires all diversions, ditches, drains, dams or any structure built or otherwise effected to withstand seasonal floods has been included in the licence.

DFO provided standard recommendations to ensure that spring freshet is not routed through work areas. The typical conditions not to allow spring freshet to be routed through work area has been included in the licence.

DFO provided recommendations for the use of fish screens on all water intakes when withdrawing water. The board has included fish screens in all licences when withdrawing water from a fish stream.

DFO provided specific recommendations for diversions channels for Twelve Mile Creek, California Creek, Boucher Creek and Enchantment Creek. The board has included DFO's recommendations in the licence pertaining to diversion channel width, depth, grade, habitat structures and stability of the banks.

DFO provided recommendations for leave strips along the Sixty Mile River, Fish Creek, Fifty Mile Creek and Twenty Mile Creek. The board has included DFO's recommendations in the licence pertaining to leave strip widths, operation of heavy equipment, construction of works, clearing of vegetation and placement of materials.

DFO provided specific recommendations for the use of existing fords on the Sixty Mile River, Fish Creek, Fifty Mile Creek and Twenty Mile Creek as well as specific recommendations for the construction of fords on the Sixty Mile River. The board has included DFO's requirements for the use of existing fords and the construction of new fords in the licence.

## **GY**

GY recommended that all solid waste be safely stored on site during operation and disposed at a dump or waste disposal facility as per the *Solid Waste Regulations*. The approval requires solid waste to be disposed of in accordance with the Solid Waste Regulations which would satisfy this concern.

## **Tr'ondëk Hwëch'in**

Tr'ondëk Hwëch'in recommended that mining activities, including the proposed diversion near settlement land parcel S-75B, be carried out in a manner that does not negatively impact water resources or substantially alter the quality, quantity or rate of flow of water on, through or adjacent to settlement land. The applicant responded to this intervention stating claims in this

area have prior rights. As well the recommended discharge of 2.0 ml/l of settleable solids along with the requirements of the “White Book” would provide adequate safeguards for water resources and wildlife. The applicant went on to state that restored placer mining areas provide the best moose hunting in the Sixty Mile area and that they do intend to contact Tr’ondëk Hwëch’in before mining or exploration activities are carried out on S-75B. The board decided that the diversion criteria provided by DFO and clauses 12-14 of the licence will ensure that the diversion will not negatively impact the water resources.

Tr’ondëk Hwëch’in advised the board that settlement land parcel S-14B is located upstream of S-14B on California Creek and recommended that mining activities not negatively affect water resources on California Creek. The applicant responded to this intervention by stating S-14B is not located within the scope of the proposed activity. The board is satisfied that the project will not impact upstream water resources.

Tr’ondëk Hwëch’in recommended that the proposed operation not substantially alter the quality, quantity and rate of flow of water on, through or adjacent to settlement land parcel S-79A, which is located downstream of the proposed operation on the Sixty Mile River. The applicant responded to this intervention stating S-79A is located more than 6 km downstream of the nearest claims for this operation and that discharges into the Sixty Mile River will be in accordance with the YPA. In its deliberations the board considered that the applicant is proposing to obtain approximately 2% the total flow available from Sixty Mile River during the mining season and decided this will ensure the quantity and rate of flow of water on through or adjacent to this parcel of settlement land is substantially unaltered. The effluent standards provided by DFO will ensure that the quality of the water is not substantially altered.

Tr’ondëk Hwëch’in recommended that the burning of materials be minimized whenever possible, in order to reduce the impact that burning of fossil fuels have on climate change. Tr’ondëk Hwëch’in noted that burning kitchen waste to ash can be prudent and acceptable to minimize the attraction of wildlife. The applicant responded to this intervention to say that environmentally sound mining practices will be adhered to. The typical clause pertaining to the disposal of kitchen waste has been included in the licence to ensure kitchen waste are adequately disposed of.

Tr’ondëk Hwëch’in advised that an Air Emissions Permit would be needed if burning more than 5 kg of waste per day and the burning of used oils in an approved furnace requires a special waste permit. The applicant responded to this intervention stating they will obtain any necessary permits for the burning of waste oils. The board included a clause in the approval that requires waste petroleum products to be disposed of in accordance with the *Solid Waste Regulations*, which should satisfy these concerns.

Tr’ondëk Hwëch’in recommended that contaminated metals and substances containing petroleum products not be buried. The applicant responded to this intervention to say non-hazardous metal waste will be buried or removed as required. The applicant also argued that iron is one of the most commonly occurring elements in the earth’s crust and wouldn’t pose a risk to bury it at least 50 metres from a stream. Clauses 6 and 50 in the approval requires all solid waste and waste petroleum products to be disposed of in accordance with the *Solid Waste Regulations* which should satisfy this concern.

Tr'ondëk Hwëch'in questioned the rationale to burn used oil at the site and argued that, if products can be safely transported to the site, they could also be safely transported out of the site. Tr'ondëk Hwëch'in recommended the applicant contact GY regarding used oil pick up services from the site. The applicant responded to this intervention stating petroleum products will be transported to the site in sealed containers. However, transport out would be in unsealed containers over rough roads and by boat or barge, which could pose a greater environmental risk to the Sixty Mile and Yukon Rivers than burning. The applicant also noted that Dawson City Landfill will only receive small quantities of waste oil (ie < 20 litres). Clause 50 of the approval requires all waste petroleum products on the site to either be safely stored, removed to a special waste management facility or disposed of in accordance with the Solid Waste Regulations. The board determined that the burning of waste oil is allowed under the Solid Waste Regulations, subject to the applicant obtaining the necessary permits.

**YESAA Decision Document:**

The board considered those aspects of the Decision Document that are applicable to water related activities. The Decision Document included a requirement that activities not be carried out within the Swede Creek Hunting Camp historic site. Since the licence cannot be contrary to the Decision Document and it does allow for the use of water on all the claims that are identified in the licence, the board included a clause in the licence to prohibit mining of the historical Swede Creek Hunting Camp.

The Decision Document also contained several requirements that the board did not include in the licence as follows:

“Length of diversions are required to be minimized in as much as possible.” The licensee has indicated the length for each diversion in the application. The licence contains the provision to carry out activities as described in the application. The board is satisfied that each diversion will be limited by the length provided in the application.

“All stream channels are constructed and restored in accordance with the *Guidelines for the Design and Construction of Stream Channels for Yukon Placer Mined Streams* (or any successor guidebook).” The board did not include this recommendation in the licence, but did include recommendations that were provided by DFO specific to this project.

“No alteration to the bed or banks should occur during travel. If travel is not feasible without alterations to the bed or banks, the applicant should consult DFO.” and “the number of trips should be kept to a minimum.” The board included the terms and conditions in the licence for fording to provide adequate mitigation for watercourse crossings which will satisfy these concerns.

“Where stream crossings are required, use of small clear-span bridges is preferred. If the use of small clear-span bridge is not a viable option, and culvert installations are necessary, the proponent will need to consult DFO.” Since the applicant did not propose culverts and indicated that all crossings would be via fords, the board did not include this recommendation in the licence.

“The proponent shall ensure there is adequate flow available at all times during project operations for downstream users and for fish and fish habitat.” Since most of the water obtained for use in this operation will be returned to the watercourse and on streams where water cannot be returned the applicant is proposing to recycle 80-100% of the water it obtains, the board decided not to include this recommendation in the licence as there would be adequate flow available to downstream users, fish and fish habitat.

“Where feasible, drilling will be undertaken instead of trenching.” The approval provides terms and conditions that provide adequate mitigation measures for trenching

“One end of each trench and test pit should be sloped to provide for wildlife escapement.” The applicant stated in the application the trenches would be sloped. As the licensee will be required to carry out activities as described in the application, the board did not include this in the licence.

“All known or suspected mineral licks shall be avoided during project operations. The board did include a clause in the licence that prohibits mining activity on any known mineral licks. However, suspected mineral licks were not included in this clause since this would not be enforceable.

“Every effort must be made not to impede or negatively impact trapping activities within the project area.” and “Every effort should be made to avoid covering, disturbing, damaging or destroying traps, snares and trapping equipment that may be found or that the proponent has been made aware of.” The board would like to advise the licensee to take care when working near/around trapping equipment.

“The holders of RTC’s 22, 52 and 56 shall be contacted by the proponent at least ten days prior to the start of the project and/or prior to mobilizing activities each season to determine any overlap in activities.” The board encourages the licensee to contact the registered trapping concession holders prior to the start of the project or each season.

“Prior to undertaking activities on claims located from 1km downstream of the confluence of Fifty Mile Creek and the Sixty Mile River to 1km upstream of the confluence of California Creek and Sixty Mile River the proponent must communicate with Tr’ondëk Hwëch’in regarding the results of any heritage impact assessment that has been undertaken and maintain a 30 metre buffer from any site(s) identified in the assessment.” The board encourages the licensee to contact Tr’ondëk Hwëch’in prior to the start of mining regarding any assessments carried out in this area.

“Helicopter and fixed-wing flights shall be minimized between October 1 and 15” and “Flights should avoid caribou to the extent possible and be a minimum of 600 metres above any sighted caribou.” The board did not include these requirements in the licence since the Decision Document was not sufficiently specific and the interventions did not provide further guidance.

As per section 86 of the YESAA, the board is satisfied that the licence and approval is not contrary to the Decision Document.

**Chapter 14 of the Umbrella Final Agreement**

The board examined the proposed use of water as it relates to Chapter 14 of the Umbrella Final Agreement, as to quantity, quality, or rate of flow of water flowing on, through or adjacent to settlement land, including seasonal rate of flow, as follows:

Territorial Resources Base Maps 116C/01&02, 115O/12 and 115N/9&16, as referenced in the Tr'ondëk Hwëch'in Final Agreement, were reviewed for settlement land.

Map 115O/12 indicates that settlement land parcel S-79A is located approximately 12 Km downstream of the proposed operation on the Sixty Mile River at the confluence with the Yukon River. The applicant indicated there is 2,592,000 cubic metres of water per day available in the Sixty Mile River during the mining season. The applicant is proposing to obtain water at a maximum combined rate of 49,095 cubic metres per day. This represents approximately 1.89 % of the available flow, therefore the quantity and rate of flow of water flowing on, through or adjacent to settlement land parcel S-79A, including seasonal rate of flow will not be substantially altered.

Map 116C/01 indicates that settlement land parcel S-14B is located approximately 2.8 km upstream of the operation on California Creek. Since this parcel is located upstream of the operation, the quantity, quality and rate of flow of water flowing on, through or adjacent to settlement land parcel S-14B, including seasonal rate of flow will not be substantially altered.

Map 116C/01 indicates that a portion of settlement land parcel S-75B is located within the operation on claims P01046 and P01047 on California Creek at the Confluence with the Sixty Mile River. The applicant indicated there is 155,520 cubic metres of water per day available in California Creek during the mining season. The applicant is proposing to obtain between 16,365 and 49,095 cubic metres a day from California Creek, which represents approximately 10.5 - 31.5 % of the flow available during the mining season. This could substantially alter the quantity and rate of flow of water from California Creek that would flow through settlement land parcel S-75B.

Because of the potential for substantial alteration to the quantity and rate of flow, the following considerations were made, per Chapter 14 of the Umbrella Final Agreement:

**Notice given to the affected Yukon First Nation (section 14.8.3.1):**

Tr'ondëk Hwëch'in was provided notice of the application and was sent a copy of the application on July 23, 2007. Tr'ondëk Hwëch'in responded on August 17, 2007.

**Alternate which could reasonably satisfy the requirements of the applicant (section 14.8.3.2 (a):**

The licensee could obtain a lesser amount of water from California Creek than what they are proposing to take. The licensee agreed to operate one pump on California Creek at any given time, which will limit the daily amount of water taken from the California Creek to 16,365 cubic metres which represents 10.5 % of the flow during mining season.

Reasonable measures to avoid the interference (section 14.8.3.2 (b)):

Water obtained from California Creek would be returned back to the creek through the overflow from the settling facilities.

Effect of water use on fish, wildlife and their habitats (section 14.8.4.1):

At the request of the board, DFO considered the effect of the extraction of 10.5% of the daily flow from California Creek and determined that this amount will not be a threat to fish or fish habitat provided fish screens are utilized on all water withdrawals from the stream.


The applicant is proposing to carry out reclamation activities on the site as mining progresses. A 10 metre leave strip is required on the Sixty Mile River and as California Creek drains into the Sixty Mile River this leave strip will extend up the mouth of California Creek, leaving wildlife access to California Creek downstream of the operation. Also with reclamation of the site ongoing each year as mining progresses the wildlife will have the ability to access water upstream of this operation, therefore, the board concluded that there would be no effect of water use on wildlife and their habitats.

Effect of water use on the Yukon First Nation or on a Yukon Indian Person (section 14.8.4.2):

Tr'ondëk Hwëch'in advised that settlement land parcel S-75B is located within the proposed operation and that any activities associated with the proposed undertaking should not substantially alter the quality, quantity and rate of flow. They did not indicate that there would be an effect of water use on their First Nation or on a Yukon Indian Person. There is no information on which to conclude that an effect is likely.

To help mitigate the effect on quantity and rate of flow of water flowing through settlement land, the licence included a condition in the licence that limits amount of water obtained from California Creek to 16,365 cubic metres per day and a condition that authorizes the return of water back to California Creek through the settling ponds.

The effluent standards recommended by DFO for California Creek and the Sixty Mile River and stipulated in the YPA of 2.0 ml/l of settleable solids along with the licence clauses pertaining to the opening of the diversions to limit sediment release, will ensure that the quality of water flowing on, through or adjacent to settlement land parcels S-79A and S-75B including seasonal rate of flow should not be substantially altered.

  
Chairperson

Yukon Water Board

Oct 15 2007  
Date