

## YUKON WATER BOARD

Pursuant to the *Waters Act* and *Waters Regulation*, the Yukon Water Board hereby grants a Type B water use licence for placer mining undertaking to:

Jim Stuart  
P.O. Box 103  
Armstrong, BC V0E 1B0

**LICENCE NUMBER:** PM09-636

**LICENCE TYPE:** B **UNDERTAKING:** PLACER

**WATERSHED:** Indian River

**HABITAT CLASSIFICATION:** Freshwater Fisheries Production Zone

**LOCATION:** Latitude: 7081500 N Longitude: 607400 W

**WATER SOURCE:** Caribou Creek, a tributary of Dominion Creek  
Lion Creek, a tributary of Dominion Creek  
Dominion Creek, a tributary of the Indian River

**MAXIMUM QUANTITY:** 7,638 cubic metres per day

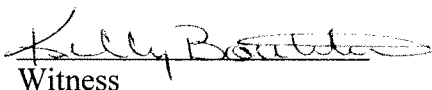
**EFFECTIVE DATE:** The effective date of this licence shall be the date on which the signature of the Chairperson of the Yukon Water Board is affixed.

**EXPIRY DATE:** July 1, 2019

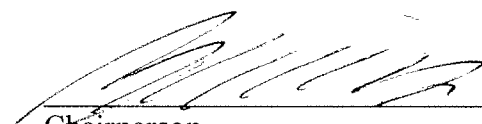
This licence shall be subject to the restrictions and conditions contained herein, and to the restrictions and conditions contained in the *Waters Act* and the *Waters Regulation* made thereunder.

Dated this 11<sup>th</sup> day of

September, 2009

  
Witness

Approved by:

  
Chairperson  
YUKON WATER BOARD

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**PART A      DEFINITIONS**

“Act” means *Waters Act* and any amendments thereto.

“Action Level” means the end-of-pipe sediment concentrations that must not be exceeded, on average, for the life of the mining operation.

“Application” means application for water use licence PM09-636 and placer mining land use approval AP09636 and any subsequent information presented to the Yukon Water Board up to the date of the Board’s decision.

“Board” means the Yukon Water Board.

“Compliance Level” means a maximum end-of-pipe concentration that shall never be exceeded.

“Design Target” means the best settling facility that can be established at a placer mining operation, given the prevailing site characteristics.

“Inspector” means any person designated as an Inspector under the Act.

“Instream Reservoir” means any water impoundment structure, where water is collected and retained for use, which is constructed in a natural channel or in a diversion, and through which the entire creek flow may be directed at any time.

“Instream Settling Facility” means a water impoundment structure, pond, or series of ponds, where effluent is collected and retained for treatment, which is constructed in a natural channel or in a diversion, and through which the entire creek flow may be directed at any time.

“Natural Boundary” means the visible high water mark of any lake, river, stream or other body of water where the presence and action of the water is so common and usual, and so long continued, as to mark upon the soil of the bed of the lake, stream or other body of water, a character distinct from that of the banks thereof, both in respect to vegetation and in respect to the nature of the soil itself. In addition, the best estimates of the edge of dormant or old side channels and marsh areas are considered to be natural boundaries.

“Permanent Diversion” means any direct or indirect alteration of a portion, or all, of the water flowing in the route, bed, bank or boundaries of a river, stream, lake or watercourse and is in place for a period of over 5 years.

“Regulation” means the *Waters Regulation*.

“Riparian Zone” means a portion of the stream bank, either vegetated or not, immediately adjacent to the stream channel and is measured from the high water mark on each bank of the watercourse and follows the shape of the channel.

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“Spring Freshet” means the sudden increase in flow carried by a stream as snowmelt occurs at higher elevations in the watershed.

“Waste” means any substance as defined in the Act.

“Watercourse” means any stream, lake, pond, river, creek, spring, ravine or swamp, whether ordinarily containing the water or not.

“Work Areas” means any area disturbed and/or altered by mining activities, excluding any stable diversion channel.

## **PART B WATER USE AND WASTE DEPOSIT**

1. The Licensee is hereby authorized:
  - a) to obtain water from Caribou Creek, Lion Creek, and Dominion Creek at a maximum combined quantity of 7,638 cubic metres per day; and
  - b) to use this water for a placer mining undertaking on the grant numbers as shown in Appendix A, attached; and
  - c) to return a flow of water to Caribou Creek, Lion Creek, and Dominion Creek; and
  - d) to deposit Waste into Caribou Creek, Lion Creek, and Dominion Creek; and
  - e) to construct Instream Reservoirs and Instream Settling Facilities on Caribou Creek and Lion Creek; and
  - f) to construct Permanent Diversions on Caribou Creek, Lion Creek, and Dominion Creek.
2. All of the activities authorized in Part B (1) shall be as described in the Application and subject to the conditions of this licence. Where there is a discrepancy between the Application and the conditions of this licence, then the conditions of this licence shall prevail.
3. All work authorized by this licence shall occur on the property that the Licensee has the right to enter upon and use for that purpose.
4. Where there is a discrepancy between this licence and the Indian River Watershed Authorization, as attached as Appendix B, then the conditions of the Watershed Authorization shall prevail.

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5. Effluent Quality Standard: The Licensee shall comply with the following effluent discharge standards for any grab sample taken at the point in the effluent flow immediately before it enters the natural stream flow:
- The Design Target for effluent discharge shall be 0.2 ml/L; and
  - The Action Level for effluent discharge shall be 1.0 ml/L; and
  - The Compliance Level for effluent discharge shall be 2.5 ml/L.
6. All effluent discharge levels included in this licence are identified in excess of natural background concentrations in the Watercourse at the time of sampling.
7. Except as otherwise authorized by this licence, the Licensee shall not deposit, or permit the deposit of Waste containing:
- Anything toxic to fish;
  - Floating solids;
  - Visible oil or grease; or
  - A total concentration of mercury in excess of 0.005 milligrams per litre;
- into a receiving Watercourse, or in any place, under conditions where such Waste, or any other Waste results from the deposit of such Waste, if resulting Waste contains any of the items prohibited by this paragraph, may enter the receiving Watercourse.
8. Except as authorized by this licence, no Waste shall enter any Watercourse as a result of any operation carried out by the Licensee.
9. If subsequent to the issuing of this licence, the Licensee uses water and/or deposits Waste in one or more ways not authorized in this licence, and the combined effect of those uses and/or deposits of Wastes, as determined by an Inspector:
- has no potential for significant adverse environmental effects; and
  - does not interfere with existing rights of other water users of Waste depositors; and
  - satisfies the criteria set out in column 2 of Schedule 6 of the Regulation;
- no amendment to this licence will be required for that use of water and/or deposit of Waste.
10. Fuels, lubricants, cleansers, solvents and similar chemicals or substances shall be used, transported, stored and disposed of in such a way that said substances are not deposited in, or allowed to be deposited in, waters.

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**PART C MINING ACTIVITIES**

11. Instream Reservoirs and Instream Settling Facilities may be constructed on Caribou Creek and Lion Creek. The Instream Reservoirs, Instream Settling Facilities and overflow spillways shall be constructed and maintained to withstand and convey at least a 1:2 year flood flow.
12. The Licensee may construct Permanent Diversions on Caribou Creek, Lion Creek, and Dominion Creek, as described in the Application and subject to the Indian River Watershed Authorization.
13. The Licensee may construct cross-valley dams on Caribou Creek and Lion Creek.
14. A plug shall be left in place when constructing the diversions at the upstream end and the downstream end until the diversions are completed.
15. After the diversions have been completed, the Licensee shall first remove the plug at the downstream end of the diversions and then gradually remove the plug at the upstream end of the diversion.
16. Armouring shall be installed at both the upstream and downstream ends of the diversions.
17. Prior to opening of the diversion channel, the sump for the pump shall be constructed at the downstream end of the diversion.
18. The Licensee may construct an intake ditch to an out-of-stream reservoir on Dominion Creek.
19. Armouring shall be installed at the confluence of the intake ditch and the Watercourse.
20. All instream earthworks, diversions, ditches, spillways and any other water related structures built, or otherwise constructed, for the storage or conveyance of water shall be able to withstand seasonal floods.
21. All storage and settling facilities and associated spillways, drains and water supply ditches located outside the Watercourse channel shall be of adequate capacity and construction.
22. All works associated with the undertaking, including, but not limited to, all dams, weirs, spillways, stream crossings, ditches, gates, water intakes, and settling facilities shall be maintained in good repair.
23. A protective berm shall be constructed and maintained along the Watercourse channel diversions.
24. Settling facilities shall be provided for all mining wastewater.

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25. Available overburden shall be stockpiled for use in future site restoration, and such stockpiles shall be located where they will not adversely affect water quality in any Watercourse.
  26. The Licensee shall comply with the Riparian Zone requirements for Freshwater Fisheries Production Zones.
  27. The Licensee shall provide barriers consisting of fish guards, screens, coverings or nets on all water intakes as follows:
    - a) Screens or nets shall have a minimum of 3.5 openings per centimeter and openings no greater than 3.2 millimetres along any given side.
    - b) If a punch plate or similar material is used, openings shall be no greater than 3.2 millimetres in length or width.
    - c) There shall be no less than 929 square centimeters of open screen for every 205 litres per minute being withdrawn.
    - d) The barriers shall be monitored and maintained to ensure that they function effectively at all times when water is being withdrawn.
    - e) The barriers shall be designed and installed in such a manner that the screen is submerged and a uniform flow is maintained through the total screen area.
    - f) Water shall not be withdrawn when the barrier is removed for renewal, repair or inspection.
    - g) The Licensee shall cease pumping or decanting and take remedial action if there is alteration the Riparian Zone and/or bed or bank of the Watercourse.

#### **PART D WATERCOURSE CROSSINGS**

28. The Licensee may modify the bed or banks of streams to allow fording of the Watercourse. The distance between fords shall be limited to every 300 metres, or shall not exceed more than 4 fords every 1,000 metres.
29. The Licensee shall adhere to the following conditions when maintaining fords:
  - a) The width of the approach to the ford shall be a maximum of 10 metres; and
  - b) All crossings shall be at a right angle to the Watercourse; and
  - c) Removal of vegetation adjacent to the crossings shall be minimized; and
  - d) Non-erodible materials shall be placed up the bank on both sides of the crossing to stabilize the banks; and
  - e) The Watercourse crossings approaches shall be low and stable enough to support the vehicles and equipment; and

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- f) The Watercourse shall be crossed on either a firm rock bottom or a coarse gravel bottom; and
  - g) Equipment crossing the Watercourse shall be mechanically sound and free of leaks; and
  - h) The blade or bucket on equipment shall be left in a raised position when crossing the Watercourses.

## **PART E DIVERSION/CHANNEL CONSTRUCTION AND RESTORATION**

30. The Licensee shall adhere to the following conditions regarding construction of all diversions, redirection of the Watercourse into the original channel and restoration:
- a) The Permanent Diversion shall be built to a 1:5 flood design level.
  - b) The Permanent Diversion channel width shall be no less than 0.6 metres on Lion Creek.
  - c) The Permanent Diversion channel depth shall be no less than 0.15 metres on Lion Creek.
  - d) The Permanent Diversion channel grade shall be between 0.0% and 14% on Lion Creek.
  - e) The Permanent Diversion channel width shall be no less than 1.4 metres on Caribou Creek.
  - f) The Permanent Diversion channel depth shall be no less than 0.3 metres on Caribou Creek.
  - g) The Permanent Diversion channel grade shall be between 0.0% and 2.6% on Caribou Creek.
  - h) The Permanent Diversion channel width shall be no less than 4.8 metres on Dominion Creek.
  - i) The Permanent Diversion channel depth shall be no less than 0.45 metres on Dominion Creek.
  - j) The Permanent Diversion channel grade shall be between 0.0% and 0.33% on Dominion Creek.
  - k) The bed and banks of the diversion channel shall be left in a stable condition.
  - l) The bed and banks of any tributary (gulch or pup) of Lion Creek, Caribou Creek and Dominion Creek shall be left in a stable condition.
  - m) Structures such as rock islands shall be provided and spaced no further than:
    - i) 6 metres apart on Lion Creek;
    - ii) 14 metres apart on Caribou Creek; and
    - iii) 48 metres apart on Dominion Creek.

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- n) Topsoil and organic overburden or fines from washed tailings shall be spread on the graded areas on both sides of the restored channel.
  - o) The streamside shall be left in such a manner so that erosion is controlled and revegetation is possible.
  - p) Willows shall be planted along any sharp bends of the Permanent Diversion channel.
31. The Licensee shall comply with the Riparian Zone requirements for Freshwater Fisheries Production Zones for completed Permanent Diversion channels.

#### **PART F SEASONAL CLOSURE**

32. The Licensee shall comply with the following conditions pertaining to seasonal closure:
- a) The mines site shall be left in a stable condition at the end of each mining season.
  - b) An inspector shall be contacted not less than 2 weeks prior to seasonal closure.
  - c) To prevent flood damage during freshet, the out-of-stream water reservoirs shall be drained, the settling facilities shall be dewatered. Instream dams and dikes shall be breached.
  - d) When Spring Freshet is routed through Work Areas, the effluent standard in clause 5 of this licence shall be met.
  - e) All mined or otherwise disturbed ground surfaces, including cut banks, fill slopes and tailings piles shall be stabilized annually to prevent erosion and surface runoff from carrying sediment into adjacent Watercourses.

#### **PART G DECOMMISSIONING**

33. Prior to final decommissioning and/or expiry of this licence, the Licensee shall:
- a) ensure that the final creek channel approximates its pre-licence condition in length, gradient and stability, except as may otherwise be required in this licence; and
  - b) ensure that all dams and dikes across Watercourse channels are removed; and
  - c) contact an Inspector not less than 2 weeks prior to final decommissioning.

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**PART H      REPORTS, SAMPLING AND ANALYSIS**

34. Where there is a surface discharge from the settling facilities, the Licensee shall take weekly samples at a point upstream of the water supply and intake and at a point in the effluent flow immediately before it enters the natural stream flow, and shall analyze these samples for settleable solids using the Imhoff cone 1 hour test or laboratory analysis.
35. Where no discharge from the settling facility to a Watercourse occurs, whether by surface discharge or seepage, no sampling is required.
36. On or before the anniversary date of issuance of this licence, and for each year during which this licence is in effect, the Licensee shall submit an annual report to the Board.
37. Annual reports during the year reported shall include the information required by this licence and by the Regulation including, but not necessarily limited to:
  - a) The quantity of water used under this licence; and
  - b) The quantity, concentration and type of any Waste deposited under this licence; and
  - c) All data collected which is required by this licence; and
  - d) A description of the reclamation that has taken place; and
  - e) A list of grant numbers of claims where any reclamation has taken place.

**PART I      GENERAL CONDITIONS**

38. The expiry date of this licence shall be July 1, 2019.
39. Sewage, including all human excreta and wastewater associated with daily camp operations, shall be deposited of in accordance with the *Public Health and Safety Act* of the Yukon.
40. The location of subsurface grey water pits and/or privies shall be not less than 30 metres from the Natural Boundary of any Watercourse, and at least 1.2 metres above bedrock or the water table.
41. If very permeable soils are encountered, the pit privy or grey water pit shall be lined with 0.6 metres of sand or silt.
42. All garbage and refuse shall be kept in a covered container until removed from the site or, where appropriate, incinerated and buried under not less than 1 metre of compacted soil in pits located not less than 30 metres from the Natural Boundary of any Watercourse.

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43. The Licensee shall immediately contact the 24-hour Yukon Spill Report number (867) 667-7244, and implement the Spill Contingency Plan should a spill or unauthorized discharge occur. A detailed written report on any such event including, but not limited to, dates, quantities, parameters, causes and other relevant details and explanations shall be submitted to the Board no later than 10 days after its occurrence.
44. No condition of the water use licence limits the application of any federal, territorial, first nation or municipal legislation.
45. In the event that the Licensee fails to comply with any provision or condition of this licence, the Board may, subject to the Act, cancel the licence.
46. Where any direction, notice, order or report under this licence is required to be in writing, it shall be given:

- a) To the Licensee, if delivered or mailed by registered mail, to the following address:

Jim Stuart  
P.O. Box 103  
Armstrong, BC V0E 1B0

and shall be deemed to have been given to the Licensee on the day it was delivered, or 7 days after the day it was mailed, as the case may be; or

- b) To the Board, if delivered, faxed or mailed by registered mail, to the following address:

Yukon Water Board  
Suite 106, 419 Range Road  
Whitehorse, YT Y1A 3V1

Fax#: (867) 456-3890

and shall be deemed to have been given to the Board on the day it was delivered or faxed, or 7 days after the day it was mailed, as the case may be.

- c) The Board or the Licensee may, by notice in writing, change its address for delivery.
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**APPENDIX A**

<b>Grant Number</b>	<b>Grant Number</b>	<b>Grant Number</b>
P04502	P04531	P24051
P04457	P04532	P24052
P04458	P04479	P24053
42209	P01711	P24054
42208	P01712	P24055
P01674	P01713	P24056
P04459	P04361	P24057
42264	P04362	P24058
42263	P06323	P24059
P00347	P06324	P27975
P04527	P06325	42622
P04528	P06326	42621
P04529	P24049	38738
P04530	P24050	