



PART A DEFINITIONS

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

“Application” means application for water use licence PM04-416 and placer mining land use approval AP04416, including any subsequent information presented to the Yukon Water Board, up to the date of the Yukon Water Board’s decision.

“Board” means the Yukon Water Board.

“Diversion” means any direct or indirect alteration of a portion of or all of the water flowing in a course, route, bed, bank or boundaries of a river, stream lake or watercourse.

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

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

“Instream Settling Facility” means a water compound 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 water is so common and so long continued as to mark the soil of the bed of the lake, stream or other body of water a character distinct from the banks thereof, both in respect of 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.

“Regulation” means the *Waters Regulation*.

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

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

“Work Area” 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 to:
  - a) obtain water from Henry Gulch, Hunker Creek and groundwater at a maximum combined quantity of 21,820 cubic metres per day; and
  - b) divert the stream channels of Henry Gulch, Hunker Creek and 21 Pup; and
  - c) use this water for a placer mining undertaking on claim (grant) numbers as per Appendix A, attached: and
  - d) return a flow of water to Henry Gulch and Hunker Creek and to deposit a waste into Henry Gulch and Hunker Creek

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, the conditions of this licence shall prevail.

2. The Board has relied on the representation, warranties and undertakings provided by the Licensee in the materials filed with the Application. Such representation, warranties and undertakings are considered, by the Board, to be part of the licence, but shall be subject to, and may be modified by, the conditions of the licence.
3. All work authorized by this licence shall occur on property that the Licensee has the right to enter upon and use for that purpose.
4. Effluent Quality Standard: Any grab sample at the point of discharge from the final settling facility shall not exceed settleable solids of 5.0 millilitres per litre above levels in the stream immediately above the uppermost mine operation.
5. Except as otherwise provided in this licence, the Licensee shall not deposit or permit the deposit of a waste containing:
  - a) anything toxic to fish;
  - b) floating solids;
  - c) visible oil or grease; or
  - d) a total concentration of mercury in excess of 0.005 milligrams per litre

into a receiving stream, or in any place, under conditions where such waste, or any other waste, that results from the deposit of such waste, if resulting waste contains any of the items prohibited by this paragraph, may enter the receiving stream.

6. If, subsequent to the issuing of this licence, the Licensee uses water and/or deposits waste in one or more ways not authorized by this licence, and the combined effect of those uses and/or deposits of wastes, as determined by an Inspector:

- a) has no potential for adverse environmental effects; and
- b) does not interfere with existing rights of other water users or waste depositors; and
- c) 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.

- 7. 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.

#### PART C MINING ACTIVITIES

- 8. Stream channel Diversions may be constructed.
- 9. Instream Reservoir and Instream Settling facilities may be constructed only on Henry Gulch.
- 10. The use of the stream as a conduit is permitted on Henry Gulch, provided the effluent standard of 5.0 millilitres per litre settleable solids is met and a high-water bypass channel around the settling ponds is constructed.
- 11. The Licensee may construct an intake ditch to an out of stream pump pond/reservoir.
- 12. The Licensee shall provide barriers consisting of fish guards, screen, coverings or nets on all water intakes drawing water from Hunker Creek as follows:
  - a) Screen and nets shall have a minimum of 3.5 openings per centimetre 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 centimetres of open screen area for every 205 litres per minute being withdrawn.
  - d) The barriers shall be monitored and maintained to ensure 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 distribution 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 to the bed or bank of the water channel.

13. All instream earthworks, Diversions, ditches, spillways and other water related structures built or otherwise constructed for the storage or conveyance of water shall be able to withstand seasonal floods.
14. All storage and settling facilities and associated spillways, drains and water supply ditches located outside the stream channel shall be of adequate capacity and construction.
15. All works associated with the undertaking, including but not limited to, all dams, weirs, spillways, stream crossings, ditches, gates, water intakes, culverts and settling facilities shall be maintained in good repair.
16. A protective berm shall be constructed and maintained along the stream channel Diversions.
17. Settling facilities shall be provided for all mining wastewater.
18. Available overburden shall be stockpiled for future site restoration and such stockpiles shall be located where they will not adversely affect water quality in any Watercourse.

#### PART D WATERCOURSE CROSSINGS

19. The Licensee may modify the bed and banks of the streams to allow for fording of the watercourses. The number of fords shall be limited to those shown in the Application.
20. The Licensee may place a bridge construction across Hunker Creek, as described in the Application.
21. The Licensee shall adhere to the following conditions regarding fording of creek channels:
  - a) All crossings shall be at right angles to the stream.
  - b) Removal of vegetation adjacent to the crossings shall be minimized.
  - c) Non-erodible materials shall be placed on the bank on both sides of the crossings to stabilize the banks.
  - d) The stream crossing approaches shall be low and stable enough to support the vehicles and equipment.
  - e) The stream shall be crossed on either a firm rock bottom or a coarse gravel bottom.
  - f) Equipment crossing the watercourse shall be mechanically sound and free of leaks.
  - g) The blade or bucket on equipment shall be left in the raised position when crossing the Watercourse.

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

The Licensee shall adhere to the following conditions regarding construction of all Diversions, redirection of the Watercourse into the natural channel and restoration:

22. The Diversion channel width shall be no less than 9.0 metres on Hunker Creek, shall be no less than 1.5 metres on Henry Gulch and shall be no less than 0.5 metres on 21 Pup.
23. The Diversion channel depth shall be no less than 1.6 metres on Hunker Creek and shall be no less than 0.6 metres on Henry Gulch and 21 Pup.
24. The Diversion channel grade on both watercourses shall be between 0.0 % and 2.0% on Hunker Creek and Henry Gulch and shall be between 0.0% and 10.0% on 21 Pup.
25. The bed and the banks of the Diversion channels shall be left in a stable condition.
26. The bed and banks of any tributary (gulch or pup) of Hunker Creek, Henry Gulch and 21 Pup shall be left in a stable condition.
27. Class I armouring shall be used, as directed in Schedule 1, attached.
28. Structures, such as boulder groupings or rock islands, shall be provided, and shall be spaced no further than 108 metres apart in the reconstructed channel of Hunker Creek.
29. Topsoil and organic overburden or fines from washed tailings shall be spread on the graded areas on both sides of the restored channel of Hunker Creek.
30. Active re-vegetation measures are required on at least one side of the restored channel of Hunker Creek.
31. The stream channel shall be left in such a manner so that erosion is controlled and re-vegetation is possible on Hunker Creek.

#### PART F SEASONAL CLOSURE

The Licensee shall comply with the following conditions pertaining to seasonal closure:

32. The mine shall be left in a stable condition at the end of each mining season.
33. An Inspector shall be contacted not less than 2 weeks prior to seasonal closure.
34. To prevent flood damage during Spring Freshets, the water reservoir intake ditch shall be blocked, a bypass channel shall be constructed around the settling ponds, any weir used shall be removed from the watercourse and the Diversion ditches shall be constructed and maintained to withstand and convey flood flows.
35. Spring freshets shall not be routed through Work Areas. Where Diversions around working areas are built or excavated, they shall be open in preparation for Spring freshets.
36. 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

Prior to final decommissioning and/or expiry of this licence, the Licensee shall:

37. Ensure the final Watercourse channel approximates its pre-licence condition in length, width, gradient and stability, except as may otherwise be required in this licence; and
38. Ensure the bridge structure is removed; and
39. Ensure that all dams and dikes across Watercourses are removed; and
40. Contact an Inspector not less than 2 weeks prior to final decommissioning.

PART H REPORTS, SAMPLING & ANALYSAIS

41. Where there is a surface discharge from the settling facility, the licensee shall take weekly samples at the point upstream of the water supply intake and at the point of discharge from the final settling facility, and shall analyze these samples, using the Imhoff cone 1-hour test.
42. Where no discharge from the settling facility to a receiving stream occurs, whether by surface discharge or seepage, no sampling is required.
43. On or before the anniversary of the date of the 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.
44. Annual reports shall include the information required by this licence and by the Regulation, including, but not limited to:
  - a) the quantity of water used under the licence, and
  - b) the quantity, concentration and type of any waste deposited under the licence, and
  - c) all data collected as a result of any sampling which is required by this licence, and
  - d) a description of the reclamation that has taken place, and
  - e) a list of claim (grant) numbers where the reclamation has taken place,
 during the year reported.

PART I GENERAL CONDITIONS

45. The expiry date of this licence shall be May 31, 2015.
46. Sewage, including all human excreta and wastewater associated with daily camp operations, shall be disposed of in accordance with the *Public Health and Safety Act* of Yukon.
47. The location of subsurface grey water pits and/or pit privies shall be not less than 30 metres from the high water mark of any Watercourse and at least 1.2 metres above bedrock or the water table.

48. If very permeable soils are encountered, the pit privy or grey water pit shall be lined with 0.6 metres of sand or silt.
49. All garbage and refuse shall be kept in a covered container until removed from site or, where appropriate, incinerated and buried under no less than 1 metre of compacted soil in pits not less than 30 metres from the Natural Boundary of any Watercourse.
50. The Licensee shall 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 report of any such event, including but not limited to, dates, quantities, parameters, causes and other relevant details shall be submitted to the Board no later than 10 days after its occurrence.
51. No condition of the water licence limits the application of any federal, territorial, first nation or municipal legislation.
52. 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 this licence.
53. Where any direction, notice or order 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:

John Alton  
Box 628  
Dawson City, YT Y0B 1G0

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

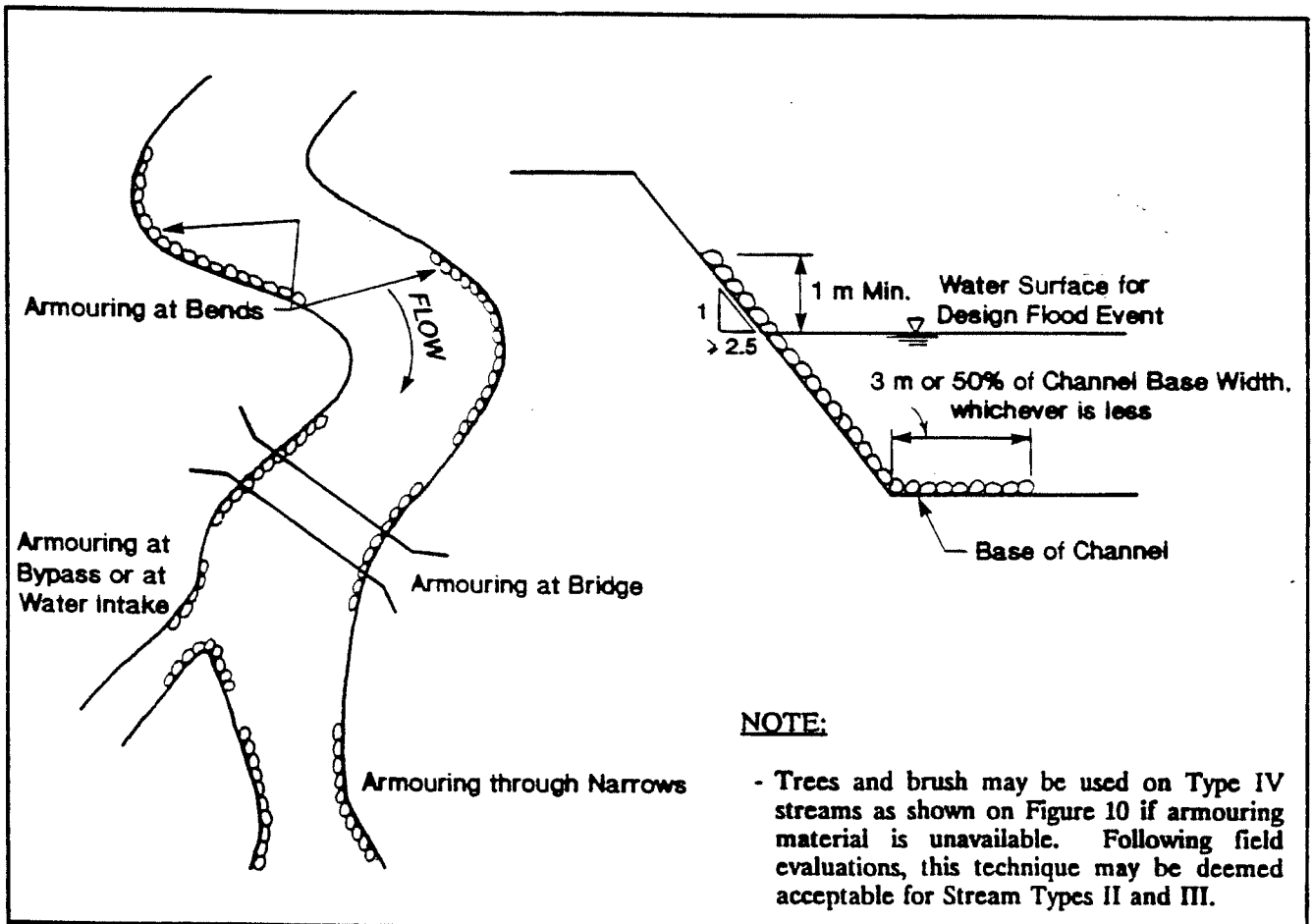
and shall be deemed to have been given to the Board on the day it was delivered or faxed or 7 days after it was mailed, as the case may be.

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APPENDIX A

<b>Claim</b>	<b>Claim</b>	<b>Claim</b>	<b>Claim</b>	<b>Claim</b>	<b>Claim</b>
P23989	P4668	P20738	P24995	P24991	38773
P23990	P4669	P20739	P24996	P24992	P37013
P23991	P4670	P28053	P30917	P24993	P35383
38674	P4671	P28054	P30918	P24994	P35384
38675	42025	P28055	P30919	P19933	P35385
38676	42026	P28060	P30920	P10245	P35417
38677	42027	P20306	P24988	P21261	P23986
38678	P24973	P20314	P24989	P20582	
38681	P20737	P25016	P24990	P20583	

# SCHEDULE 1



**PURPOSE:**

- To control bank erosion at bends or curves, at bridge approaches and abutments and through channel narrows.

**DESIGN:**

- Channel armouring should extend from the base of the channel to at least 1 m above the water surface (depth of flow) for the design flood event.
- Armouring should extend beyond the toe of the channel bank along the base of the channel 3 m or 50% the base width of the channel, whichever is less.
- The bank or channel side slopes should be no steeper than 2.5H:1V where the bank is to be armoured.
- Use the following table to determine what size of armouring material should be used.

SUGGESTED STONE SIZES FOR ARMOURING MATERIAL

	Riprap Class					
	1		2		3	
	mm	inches	mm	inches	mm	inches
Maximum Stone Size	450	18	800	32	1200	47
Average Stone Size	300	12	500	20	800	32
Velocity	< 3 m/s		3 to 4 m/s		4 to 4.7 m/s	

**CONSTRUCTION:**

- Place material on bank using available equipment.
- Ensure that there is a fairly uniform mix of armour material sizes on bank.

## ARMOURING TECHNIQUES