

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:

Hernani Quilala
Box 23328
Grand Prairie, AB T8V 7G7

LICENCE NUMBER: PM08-596

LICENCE TYPE: B **UNDERTAKING:** PLACER

WATERSHED: White River

WATERSHED SENSITIVITY: Freshwater Fisheries Production Zone

LOCATION: Latitude: 62° 03' N Longitude: 137° 12' W

WATER SOURCE: Nansen Creek, a tributary of Nisling River

MAXIMUM QUANTITY: 5,456 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.

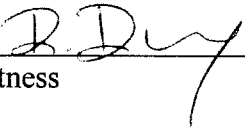
EXPIRY DATE: June 30, 2018

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.

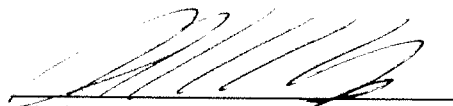
Dated this 17 day of

October, 2008

Witness



Approved by:



Chairperson
YUKON WATER BOARD

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 PM08-596 and placer mining land use approval AP08596 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.

"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.

"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 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 Nansen Creek at a maximum quantity of 5,456 cubic metres per day; and
 - b) to use this water for a placer mining undertaking on grant numbers P23388, P23389, P23390, P23391 and P23392; and
 - c) to return a flow of water to Nansen Creek, and to deposit Waste into Nansen Creek; and
 - d) to construct Permanent Diversions on Nansen 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. In this licence, the Board has relied on the representations, warranties and undertakings provided by the Licensee in the material filed in the Application.
4. All work authorized by this licence shall occur on property that the Licensee has the right to enter upon and use for that purpose.
5. Where there is a discrepancy between this licence and the Watershed Authorization for the White River, as attached as Appendix A, then the conditions of the Watershed Authorization shall prevail.
6. 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:
 - a) the Design Target for effluent discharge shall be 0.2 ml/L; and
 - b) the Action Level for effluent discharge shall be 1.0 ml/L; and
 - c) the Compliance Level for effluent discharge shall be 1.5 ml/L.
7. All effluent discharge levels included in this licence are identified in excess of natural background concentrations in the Watercourse at the time of sampling.

8. Except as otherwise authorized by this licence, the Licensee shall not deposit, or permit the deposit of 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 Watercourse, 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 Watercourse.
9. Except as authorized by this licence, no Waste shall enter any Watercourse as a result of any operation carried out by the Licensee.
10. 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:
- a) has no potential for significant 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.
11. 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

12. The Licensee may construct Permanent Diversions on Nansen Creek, as described in the Application and subject to the Watershed Authorization for the White River.
13. A plug shall be left in place when constructing the diversions at the upstream end and the downstream end until the diversions are completed.
14. 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.
15. Armouring shall be installed at both the upstream and downstream ends of the diversions.

16. The Licensee may construct an intake ditch to an out-of-stream reservoir.
17. Armouring shall be installed at the confluence of the intake ditch and the creek.
18. 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.
19. 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.
20. All works associated with the undertaking, including, but not limited to, spillways, stream crossings, ditches, gates, water intakes and settling facilities shall be maintained in good repair.
21. A protective berm shall be constructed and maintained along the Watercourse channel diversions.
22. Settling facilities shall be provided for all mining wastewater.
23. 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.
24. The Licensee shall comply with the Riparian Zone requirements for Freshwater Fisheries Production zones for Nansen Creek.
25. 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 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 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.

PART D WATERCOURSE CROSSINGS

26. The Licensee may use existing fords.
27. The Licensee shall adhere to the following conditions:
- a) all crossings shall be at a right angle to the Watercourse; and
 - b) removal of vegetation adjacent to the crossings shall be minimized; and
 - c) non-erodible materials shall be placed up the bank on both sides of the crossing to stabilize the banks; and
 - d) the Watercourse crossing approaches shall be low and stable enough to support the vehicles and equipment; and
 - e) the Watercourse shall be crossed on either a firm rock bottom or a coarse gravel bottom; and
 - f) equipment crossing the Watercourse shall be mechanically sound and free of leaks; and
 - g) the blade or bucket on equipment shall be left in a raised position when crossing the Watercourses.

PART E DIVERSION/CHANNEL CONSTRUCTION AND RESTORATION

28. 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 diversion shall be built to a 1:5 flood design level.
 - b) The diversion channel width shall be no less than 3.6 metres.
 - c) The diversion channel depth shall be no less than 0.7 metres.
 - d) The diversion channel grade shall be between 0.0% and 2.1%.
 - e) The bed and banks of the diversion channel shall be left in a stable condition.
 - f) The bed and banks of any tributary (gulch or pup) of Nansen Creek shall be left in a stable condition.
 - g) Structures such as boulder groupings or rock islands shall be provided and spaced no further than 25 metres apart.

- h) Topsoil and organic overburden or fines from washed tailings shall be spread on the graded areas on both sides of the restored channel.
 - i) Active revegetation measures are required on at least one side (both sides) of the restored channel.
 - j) The streamside shall be left in such a manner so that erosion is controlled and revegetation is possible.
29. The Licensee shall comply with the Riparian Zone requirements for Freshwater Fisheries Production zones for completed Permanent Diversion channels.

PART F SEASONAL CLOSURE

30. The Licensee shall comply with the following conditions pertaining to seasonal closure:
- a) The mine 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 intake ditch to the water reservoir shall be blocked and the diversion ditches shall be constructed and maintained to withstand and convey flood flows.
 - d) Spring Freshet shall not be routed through Work Areas.
 - 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

31. Prior to final decommissioning and/or expiry of this licence, the Licensee shall:
- a) ensure that the final creek channel is not left in a perched condition; and
 - b) 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
 - c) ensure that all dams and dikes across stream channels are removed; and
 - d) contact an Inspector not less than 2 weeks prior to final decommissioning.

PART H REPORTS, SAMPLING AND ANALYSIS

32. Where there is a surface discharge from the settling facilities, the Licensee shall take weekly samples at a point upstream of the water supply 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.
33. Where no discharge from the settling facility to a Watercourse occurs, whether by surface discharge or seepage, no sampling is required.
34. On or before the anniversary of the 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.
35. 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

36. The expiry date of this licence shall be June 30, 2018.
37. 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 the Yukon.
38. The location of subsurface grey water pits and/or pit 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.
39. If very permeable soils are encountered, the pit privy or grey water pit shall be lined with 0.6 metres of sand or silt.
40. 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.

- 41. 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.
- 42. No condition of the water use licence limits the application of any federal, territorial, first nation or municipal legislation.
- 43. 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.
- 44. 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:

Hernani Quilala
 Box 23328
 Grand Prairie, AB T8B 7G7

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.



WHITE RIVER WATERSHED
AUTHORIZATION FOR WORKS OR UNDERTAKINGS AFFECTING FISH HABITAT
FOR SPECIFIED STREAMS IN THE YUKON TERRITORY

Pursuant to Section 35(2) of the Federal *Fisheries Act*;

The Minister of Fisheries and Oceans Canada (the “Minister”) hereby revokes the conditions of the Yukon Placer Authorization (June 1993) and subsequent amendments pertaining to placer mining works or undertakings and sediment discharge standards in the White River watershed.

The Minister hereby authorizes the “*harmful alteration, disruption or destruction of fish habitat*” resulting from placer mining works or undertakings and discharge of sediment at concentrations specified in this authorization, uncontaminated by deleterious substances, within certain streams or portions of streams in the White River watershed as identified on the *Yukon Placer Fish Habitat Suitability Map – White River Watershed* (Schedule 1).

Authorization issued to:

Individuals or companies conducting placer mining in certain streams or portion of streams within the White River watershed, Yukon Territory that hold a valid Water Use License pursuant to the *Yukon Waters Act* for Placer Mining activities.

Location of Project

The works and undertakings are located within the drainage basin of the White River watershed, in the Yukon Territory. This authorization applies to certain streams or portions of streams classified on the *Yukon Placer Fish Habitat Suitability Map - White River Watershed* (Schedule 1). Larger-scale maps may be available from the Yukon Placer Secretariat or Fisheries and Oceans Canada.

Valid Authorization Period

The valid authorization period for the harmful alteration, disruption and destruction of fish habitat resulting from placer mining works or undertakings is from March 31, 2008 until such time as this authorization is revoked, rescinded, amended or replaced by the Minister.

Amendments or revisions to the terms and conditions identified in this authorization may be required if placer mining activities result in an unforeseen risk to fish or fish habitat resources as demonstrated through monitoring of management parameters (water quality, aquatic health, and physical habitat compensation or rehabilitation). An annual and 5-year review will be conducted to review results of monitoring activities and should amendments be recommended, the process will be guided by the *Adaptive Management Framework for Yukon Placer Mining*, available from the Yukon Placer Secretariat or Fisheries and Oceans Canada.

Description of Works or Undertakings

This authorization permits the harmful alteration, disruption or destruction of fish habitat, in certain streams or portions of streams in the White River watershed resulting from placer mining works or undertakings: Those undertakings covered by this authorization are limited to:

- The Construction of diversion channels,
- In-stream works,
- Water acquisition, and;
- Discharge of sediment from settling facilities.

Works or undertakings are completed in accordance with methods identified in the *Guidebook of Mitigation Measures for Yukon Placer Mining* available from the Yukon Placer Secretariat and Fisheries and Oceans Canada.

Conditions of Authorization

1. The general watershed conditions of this authorization notwithstanding, should any specific works, undertakings, or activities authorized by this authorization, due to weather conditions, different soil, local topography, updated fisheries information or other natural conditions, appear in the opinion of the Fisheries and Oceans Canada, likely to cause greater adverse environmental effect than was contemplated by this watershed authorization, then Fisheries and Oceans Canada may direct the specific Placer Mining operation to suspend or alter works and activities to avoid or mitigate adverse effects with respect to fisheries resources. In circumstances where DFO holds the view that greater adverse environmental effects will occur at a specific site than were contemplated by this watershed authorization Fisheries and Oceans Canada may also modify the application of this authorization to that specific site. Should Fisheries and Oceans Canada propose such modification Fisheries and Oceans Canada will give the Placer Mining operation the opportunity to discuss and respond to the proposed modification.
 2. All works or undertakings will be conducted in accordance with:
 - 2.1. The measures identified in the *Guidebook of Mitigation Measures for Yukon Placer Mining* as per the fish habitat suitability classification of streams or portions of streams identified on the *Yukon Placer Fish Habitat Suitability Map - White River Watershed* (Schedule 1).
 - 2.2. Discharge standards for placer mine effluent identified in the *Sediment Discharge Standards for Placer Mine Effluent – White River Watershed* (Schedule 2).
 - 2.2.1. Sediment discharge standards will be phased in as identified in Schedule 2.
 3. Prior to proceeding with placer mining works or undertakings that are likely to result in the harmful alteration, disruption or destruction of fish habitat, the proponent will complete the applicable *Fish Habitat Design, Operation and Reclamation Worksheets* (Appendix A - G of the
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Guidebook of Mitigation Measures for Yukon Placer Mining) and include these worksheets as a component of their submission for project review to the Yukon Environmental and Socio-economic Assessment Board and the Yukon Water Board.

4. Fish habitat reclamation measures will be identified in the *Fish Habitat Design, Operation and Reclamation Worksheets* in accordance with the measures identified in *Guidebook of Mitigation Measures for Yukon Placer Mining*. These worksheets are to be included in the submission for project review to the Yukon Environmental and Socio-economic Assessment Board and the Yukon Water Board.
5. The proponent must ensure that all plans developed pursuant to this authorization have been duly prepared and acknowledges sole responsibility for all design, safety and workmanship aspects of all the works associated with this authorization.
6. In the event that any of the forgoing conditions cannot be met, the provisions of this authorization do not apply and the proponent will apply to Fisheries and Oceans Canada for review prior to proceeding.

The holder of this authorization is hereby authorized under the authority of section 35(2) of the Federal *Fisheries Act*. R.S.C., 1985, c.F. 14, to carry out the work or undertaking described herein. This authorization is valid only with respect to fish habitat and for no other purposes. It does not purport to release the applicant from any obligation to obtain permission from or to comply with the requirements of any other regulatory agencies. Failure to comply with any condition of this authorization may result in charges being laid under the Federal *Fisheries Act*.

Authorization #: 08-HPAC-PA5-00043

Date of Issuance: April 11, 2008

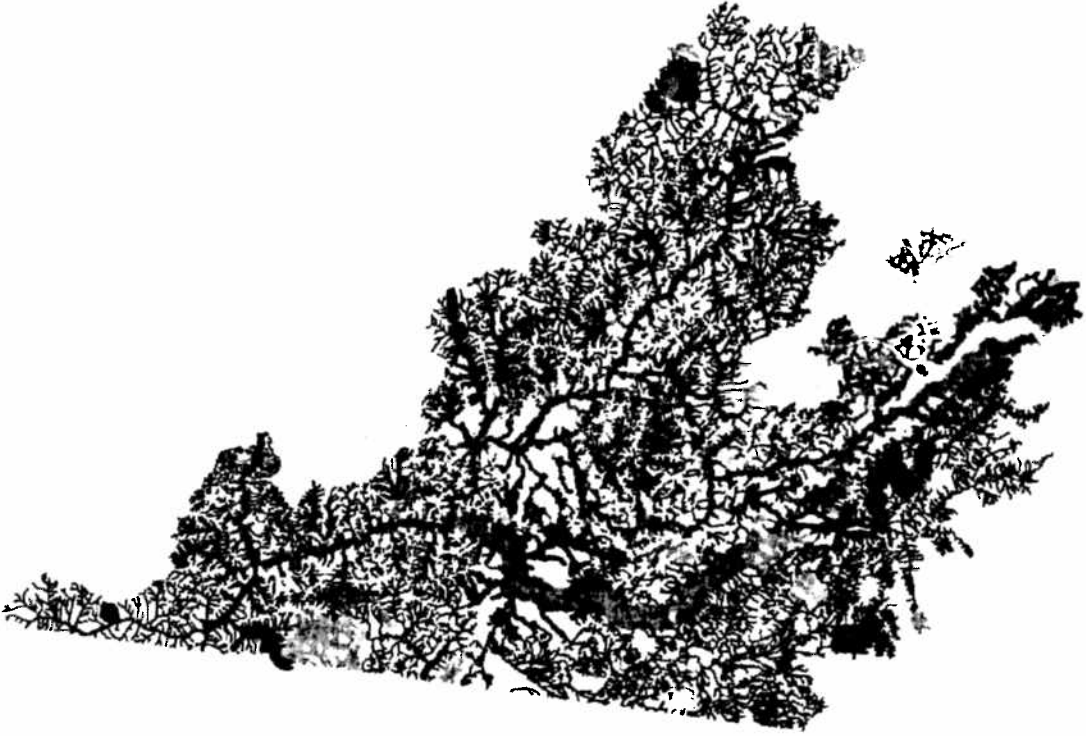
Approved by:



Steve Gotch

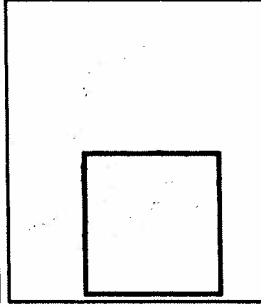
Title: Manager, Oceans Habitat and Enhancement Branch
Yukon / Transboundary Rivers Area
Fisheries and Oceans Canada

Schedule 1
Yukon Placer Fish Habitat Suitability Map - White River Watershed (Category B)



**White River Watershed
(Category B)
Yukon Placer Fish
Habitat Suitability Map**

- Reach Model Classification**
- Water Quality
 - Fresh Water Production Zones
 - Moderate-Low Suitability
 - Moderate-Moderate Suitability
 - Moderate-High Suitability
 - Chinook Salm on Production
 - Areas of Special Consideration
- Lakes**
- L - Small < 10%
 - L - Small 10-50%
 - L - Small > 50%
 - L3 - Large < 1%
 - L4 - Large 1-8%
 - L5 - Large > 8%
 - Lakes (12 - 12)
- Areas of Special Consideration**
- Previous Development Designation**
- Current
 - Historical
 - Extensive



0 10 20 40 Km

↑ ↓ Fisheries and Oceans Canada Pêches et Océans Canada



Sediment Discharge Standards for Placer Mine Effluent – White River Watershed

Habitat Sensitivity	Water Quality Objective	Sediment Discharge Standard for Mine Discharge
High	<25 mg/L	Compliance Level: 0 mg/L
Moderate-H	<25 mg/L	Compliance Level: <200 mg/L
Moderate-M	<100 mg/L	Design Target: 0.2 ml/L Action Level: 0.4 ml/L Compliance Level: 0.8 ml/L
Moderate-L	<200 mg/L	Design Target: 0.2 ml/L Action Level: 1.0 ml/L Compliance Level: 2.0 ml/L <small>2.0 ml/L is an interim standard with the goal to reduce it to 0.5 ml/L over 5 years subject to monitoring and adaptive management.</small>
Freshwater Fisheries Production Zones	<300 mg/L	Design Target: 0.2 ml/L Action Level: 1.0 ml/L Compliance Level: 2.5 ml/L <small>2.5 ml/L is an interim standard with the goal to reduce it to 1.0 ml/L over 5 years subject to monitoring and adaptive management.</small>
Small Tributary To Small Lake Trout Lake	<50 mg/L	Compliance Level: 200 mg/L
Medium Tributary To Small Lake Trout Lake	<50 mg/L	Design Target: 0.2 ml/L Action Level: 0.4 ml/L Compliance Level: 0.8 ml/L
Large Tributary To Small Lake Trout Lake	<25 mg/L	Design Target: 0.2 ml/L Action Level: 0.8 ml/L Compliance Level: 1.2 ml/L
Small Tributary To Large Lake Trout Lake	<80 mg/L	Compliance Level: 200 mg/L
Medium Tributary To Large Lake Trout Lake	<50 mg/L	Design Target: 0.2 ml/L Action Level: 0.8 ml/L Compliance Level: 1.2 ml/L
Large Tributary To Large Lake Trout Lake	<25 mg/L	Design Target: 0.2 ml/L Action Level: 1.0 ml/L Compliance Level: 1.5 ml/L

Sediment Discharge Standards for Placer Mine Effluent – White River Watershed - continued

Habitat Suitability	Water Quality Objective	Sediment Discharge Standard for Mine Discharge
<p>Water Quality Zones</p> <p>Judy Creek – Upstream of falls at 2700 ft contour</p> <p>Sakiw Creek – Upstream of where the creek goes underground at 3300 ft contour</p> <p>Swede Johnson Creek – Upstream of where the creek goes underground at 2800 ft contour</p> <p>Unnamed Tributary of Kluane Lake (61°25'00.0 N, 138°42'00.0 W) – Upstream of 2650 ft contour (canyon)</p> <p>Unnamed Tributary of Kluane Lake (61°24'00.0 N, 138°43'00.0 W) – Upstream of 2600 ft contour</p> <p>Unnamed Tributary of Gladstone Creek (61°20'28.6 N, 138°27'47.4 W) – Two tributaries upstream of confluence at 3500 ft and 3900 ft contours</p> <p>Unnamed Tributary of Gladstone Creek (61°18' N, 138°37'W) – Upstream of confluence with GC</p>	<p>Downstream WQO mg L⁻¹</p>	<p>Compliance Level: 2.5 ml/L</p> <p>Compliance Level: 2.5 ml/L</p> <p>Compliance Level: 2.5 ml/L</p> <p>Compliance Level: 200 mg/L</p> <p>Compliance Level: 200 mg/L</p> <p>Compliance Level: 1.5 ml/L</p> <p>Compliance Level: 1.5 ml/L</p>

Sediment Discharge Standards for Placer Mine Effluent – White River Watershed - continued

¹ The water quality objective is established for management and effectiveness monitoring purposes. The placer mine operator is not required to monitor or report on this objective for compliance purposes.

General Notes Regarding Sediment Discharge Standards

- The point at which the above-listed Sediment Discharge Standards for Mine discharge will be measured will be a point in the effluent flow immediately before it enters the natural stream flow.
- Sediment Discharge Standards for Mine discharge include all releases of effluent (both point and non-point sources) into the natural stream flow of a watercourse.
- All effluent discharge levels are identified in excess of natural background concentrations at the time of sampling.
- When the sediment discharge standard is a settleable solids standard (ml/l), measurement will either involve laboratory analysis, or utilizing an Imhoff cone.
- When the sediment discharge standard is a suspended solids standard (mg/l), measurement will either involve laboratory analysis, or utilizing a portable digital turbidity/suspended solids correlation meter.
- Samples collected for the purpose of determining compliance with the above-listed Sediment Discharge Standards for Mine discharge will be analysed via laboratory analysis.

Phase-In Schedule for Sediment Discharge Standards for Yukon Placer Mining

The Yukon placer mining industry's strong overall compliance record has been achieved through effective dialogue with inspectors from Energy Mines and Resources Yukon, which bases its activities on the principles of Education, Encouragement and Enforcement.

The phase-in schedule proposed below will allow inspectors and the Yukon Placer Secretariat enough time to ensure that each operator fully understands what is required to comply with the requirements of this Authorization and the new management system for Yukon placer mining.

The phase-in of new sediment discharge standards will adhere to the following requirements.

- 2008 – Licensed placer miners will be informed about the operating practices required to comply with the new system for managing placer mining activity under the *Fisheries Act*. Inspectors and the Yukon Placer Secretariat will ensure that each operator is aware of the specific changes required at his or her site.
- 2009 – All licensed placer miners must be oriented to the Design Target and Action Level, and must comply with a Sediment Discharge Standard for Mine discharge of no greater than 2.5 ml/L, or the standard stipulated in their existing water use license, whichever is more stringent.
- 2010 – All operations must be oriented to operate within the Design Target and Action Level, and must not exceed the Compliance Level stipulated in the table of ***Sediment Discharge Standards for Placer Mine Effluent*** for the habitat suitability classification and the watershed in which the mine is located.

**PLACER LAND USE APPROVAL FOR A CLASS 4
OPERATING PLAN**

Pursuant to the *Placer Mining Act* and the *Placer Mining Land Use Regulation* made thereunder, the Yukon Water Board hereby approves the Class 4 Placer Land Use Operating Plan as submitted by:

Hernani Quilala
Box 23328
Grand Prairie, AB T8V 7G7

APPROVAL NUMBER: **AP08596** **WATER LICENCE: PM08-596**

WATERSHED: White River

WATERSHED SENSITIVITY: Freshwater Fisheries Production Zone

LOCATION: Latitude: 62° 03' N Longitude: 137° 12' W

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

EXPIRY DATE: June 30, 2018


The operating plan shall be subject to the restrictions and conditions contained herein, and to the restrictions and conditions contained in the *Placer Mining Act* and the *Placer Mining Land Use Regulation* made thereunder.

Dated this 17 day of
October, 2008

Approved by:



Witness



Chairperson

PART A DEFINITIONS

"Act" means the *Placer Mining Act*.

"Application" means application for water use licence PM08-596 and placer land use approval AP08596, 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.

"Claims" means any parcel of land located or granted for placer mining; and "Mining Property" includes, besides claims, any ditches or water rights used for mining thereon, and all other things belonging thereto or used in the working thereof, for mining purposes.

"Inspector" means any person designated as an Inspector under the Act.

"Operation" means a placer land use operation.

"Operator" means a person who engages in a placer mining land use operation.

"Regulation" means *Placer Mining Land Use Regulation*.

"Road" means a pathway for vehicular traffic, the construction of which requires the movement of rock or earth.

"Special Waste Management Facility" means an operation which handles or disposes of special wastes generated by other persons or operations, and which is approved in accordance with the provisions of the *Special Waste Regulations* of the *Environment Act* of the Yukon Territory.

"Stripping" means excavation, undertaken as part of an operation, that is limited to the removal of trees, brush and vegetative mat.

"Trail" means an access to a site within a claim or lease that is constructed with little or no movement of rock or earth.

"Trenching" means excavation that extends below the vegetative mat, undertaken as part of an operation.

"Vegetative Mat" means the organic surface of soil characterized by the accumulation of organic matter, or partly decomposed organic matter, derived mainly from leaves, twigs and woody materials and includes the root mass of living vegetation.

PART B GENERAL CONDITIONS

1. This approval applies to those grant (claim) numbers that are included in water use licence PM08-596, including any amendments thereto.
2. The expiry date of this approval shall be June 30, 2018.
3. All operating activities must comply with the operating conditions contained in Schedule 1 of the *Placer Mining Land Use Regulation* and with the operating plan AP08596 submitted. Where there is a discrepancy between the operating plan submitted and this approval, the terms of this approval shall prevail.
4. The Operator must contact Department of Energy, Mines and Resources, Client Services and Inspections Branch at (867) 667-3209, every year before beginning operations and at least 2 weeks prior to leaving the site at the end of every season.
5. All risk of fire hazards must be avoided.
6. All solid waste, debris, equipment, fuel barrels and other waste on the Mining Property must be safely stored and disposed of in accordance with the *Solid Waste Regulation* when the Operation ceases.
7. Nothing in this approval limits the application of any federal, territorial, first nation or municipal legislation.

PART C WILDLIFE

8. All incidents with wildlife must be reported to the District Conservation Officer in Whitehorse.
9. Brush removed during the Operation must not be piled so that it blocks movement of wildlife or people.
10. At seasonal closure, any materials that may result in injury to wildlife including, but not necessarily limited to, wire, steel, glass or plastic must be removed or safely stored.

PART D RESTORATION PRACTICES

11. If the Vegetative Mat is disturbed during the mining operation, it must be removed so as to protect the seed and root stock contained within the Vegetative Mat.
12. The seed and root stock must be stored separately from any overburden or bedrock removed for use in re-establishing the Vegetative Mat when the Operation ceases.

13. All areas disturbed during the mining operation including, but not limited to, fuel and waste storage areas, clearings, corridors, camps, supporting infrastructure, trenches and drill sites, must be left in a condition conducive to re-vegetation by native plant species or other species adaptable to the local environment.
14. Conditions conducive to re-vegetation include provisions of an adequate soil layer with moisture retaining ability, no soil contamination by hydrocarbons or other hazardous substances, provision of adequate seed or root stock and contoured or otherwise stable slopes.
15. If adequate seed stock or root stock is not naturally available, re-seeding or transplanting of vegetation is required. Only non-invasive species may be used for re-seeding or transplanting.
16. All areas disturbed during the mining operation must be re-sloped, contoured or otherwise stabilized to prevent long-term soil erosion, slumping and subsidence.
17. All mining operations must be carried out to avoid or minimize damage to, and loss of, permafrost.
18. Available overburden must be stockpiled for use in future site restoration, and such stockpiles must be located where they will not adversely affect the water quality in any watercourse.
19. Tailings and overburden, or other relocated materials, must be levelled and contoured into low relief piles. The slope of these low relief piles must be no steeper than 2 horizontal to 1 vertical. Any such slope over 15 metres in height must be benched.
20. The following conditions apply to Stripping:
 - a) trees and brush must be cleared first,
 - b) topsoil and organic material must be stockpiled separately,
 - c) overburden must be located no closer than 5 metres from any standing trees,
 - d) overburden may be stacked along the valley wall, but must be contoured to blend with the natural topography.
21. All Trenching carried out by hand or with hand-held tools must be methodical. The trenches must be stabilized and marked in such a way as to minimize risk to the public.

22. If mechanized equipment is used for Trenching, all material must be segregated into two piles:
- a) Vegetative Mat; and
 - b) overburden and bedrock;
- to be conserved and used for backfilling the trenches.
23. Backfilling of the trenches must be conducted by replacing overburden and bedrock first, then covering with the Vegetative Mat.

PART E DRILLING

24. Vegetation other than within a drill sump must not be covered with drill cuttings.
25. Drill mud must be re-circulated when possible.
26. All drill fluids must be contained within a small (natural or artificial) sump in a suitable manner.
27. All drill holes that pose a hazard or that lead to ground water must be plugged in a suitable manner.
28. All drilling must be done in a way that minimizes its impact on wildlife and the public.
29. The location of drill holes must be marked on the ground by flagging or other suitable means.
30. There shall be no direct discharge from the drilling site to a watercourse.

PART F ARCHAEOLOGICAL SITES AND PALAEOONTOLOGICAL SITES

31. All archaeological sites or palaeontological sites must be avoided.
32. If any archaeological objects or palaeontological objects are encountered, the Operator must:
- a) immediately mark and protect the area from further disturbance; and
 - b) contact the Chief of Placer Land Use at (867) 456-3822; and
 - c) in the case of archaeological sites, human remains, grave sites, burial sites and all other abandoned, man-made structures older than 50 years old, immediately contact Heritage Resources at (867) 667-3771 or (867) 667-5386; and

- d) set aside and protect fossils that are unearthed, and at the end of each season the Operator shall contact Yukon Palaeontology at (867) 667-8089; and
- e) immediately contact Yukon Palaeontology if any mummified fossil remains with intact flesh are discovered; and
- f) prevent any further disturbances from being carried out within 30 metres of an archaeological or palaeontological site until the Chief of Placer Land Use indicates in writing that the activities may proceed.

PART G ACCESS ROADS AND/OR TRAILS

- 33. Off-Road and Trail routes must be reconnoitred and must be used in a way that minimizes ground disturbances, damage to permafrost and sensitive wildlife habitat. Trail routes must be flagged.
- 34. Vehicles must be operated in a manner which avoids rutting or gouging of a Road or Trail.
- 35. If rutting, gouging, ponding or permafrost degradation occurs off-Road or Trail, vehicle use must be suspended or relocated to ground that is capable of bearing the weight of the vehicle without causing such damage, and the former routes must be restored in compliance with Part D of this approval.
- 36. If there is no Road or Trail, the Operator must comply with the following conditions when mobilizing heavy equipment to a site:
 - a) Tracked vehicles with blades should be provided with mushroom pads to minimize terrain damage.
 - b) Dozers should travel with the blade raised, so as not to rip up the Vegetative Mat.
 - c) Vehicles may only be mobilized in ice-rich permafrost areas when the active layer is frozen, or when the surface is strong enough to support the vehicle without excessive permafrost degradation.
 - d) Use of skids on permafrost or wet ground is only allowed outside of winter, where it is not possible to use other means of equipment transportation.
- 37. At abandonment of a Road, compacted Road surfaces must be scarified to promote re-vegetation.

PART H CAMPS

- 38. All campsites must be kept clean and tidy.
- 39. All buildings and other facilities must be on well-drained soil.

40. Combustible and odorous kitchen waste must not be permitted to accumulate.
41. All wood debris, empty drums, junked equipment and metal waste must be kept in a secure area for final disposal.
42. Compacted soil must be loosened to allow for natural re-vegetation. Areas not likely to re-vegetate naturally must be spread with topsoil.

PART I FUEL HANDLING AND TRANSPORTATION

43. A spill contingency plan for petroleum products and other hazardous substances must be in place, and a copy posted in the camp and at all fuel handling locations.
44. All petroleum products, hazardous waste and chemicals must be transferred and handled in such a manner so as to prevent spillage.
45. All petroleum products, hazardous waste and chemicals must be stored in a secure manner no less than 30 metres from the ordinary high water mark of any water body.
46. All fuel tanks that exceed 4,000 litres must be registered according to the *Canadian Environmental Protection Act*.
47. When the fuel storage capacity exceeds 4,000 litres, secondary containment must be provided.
48. The secondary containment facility must be constructed of material impervious to petroleum products; and:
 - a) in the case of a single storage tank, be of sufficient size to accommodate at least 110% of the capacity of the storage tank; or
 - b) if there is more than one storage tank, be of sufficient size to accommodate 110% of the capacity of the largest tank or 10% of the total capacity of all the tanks, whichever size is greater.
49. All vehicles must be maintained and operated in a manner designed to prevent spills of fuel, lubricants, coolants or oil.
50. All waste petroleum products must be safely stored on site, be removed to a Special Waste Management Facility or disposed of in accordance with the *Special Waste Regulation*.
51. Sufficient spill clean-up equipment and materials must be in a state of readiness in order to clean-up all fuel spills.

52. If a spill or unauthorized discharge occurs, the Operator shall immediately implement the Spill Contingency Plan, and:
- a) contain and clean up the spill, and
 - b) contact the 24-hour Yukon Spill Report number, (867) 667-7244, and
 - c) contact an Inspector.
53. A detailed written report on any spills or unauthorized discharges including, but not limited to, dates, quantities, parameters, causes and other relevant details and explanations shall be submitted to the Board, and a copy to the Chief of Placer Land Use, no later than 10 days after its occurrence.
54. All fuel drums must be stored in an upright position.
55. All fuel and chemical containers must be sealed when not in use.
56. All containers of petroleum products with a capacity of 200 litres or greater must be clearly marked with the Operator's name and the contents.

PART J SEASONAL CLOSURE

57. The mine site must be left in a stable condition at the end of each mining season.
58. All mined or otherwise disturbed ground surfaces, including cut banks, fill slopes and tailings piles, must be stabilized annually.

PART K DECOMMISSIONING

59. At final decommissioning of the site everything must be removed including but not necessarily limited to, all buildings, machinery, materials, fuel drums, used hydrocarbons, unburied solid waste and metal waste, including junked vehicles.
60. The Operator must contact an Inspector not less than 2 weeks prior to final decommissioning.
61. The Operator may apply for a certificate of completion at the termination of the Operation, when all reclamation has been achieved.
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