

REPORT  
OF THE

**TASK FORCE**  
**ON**  
**PLACER MINING**

1986

REPORT OF THE  
TASK FORCE ON PLACER MINING

Tim E. Koepke, P. Eng.

Chairman

Whitehorse, Yukon  
May 27, 1986

# TASK FORCE ON PLACER MINING

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May 27, 1986

## Letter of Transmittal

Diane Granger  
Chairman  
Yukon Territory Water Board  
Suite 302, 4114 Fourth Avenue  
Whitehorse, Yukon  
Y1A 4N7

Dear Mrs. Granger:

I am pleased to submit herewith, fifteen copies of our Report of the Task Force on Placer Mining. In it we have addressed the Terms of Reference established by your Board and have provided a rationale for our recommendations.

After reviewing this report you and the Board will have some questions for the Task Force. We would be pleased to meet with the Board, preferably after my return to Whitehorse on June 12.

We thank you for the confidence you have placed in the Task Force members to undertake this important assignment.

Respectfully submitted,

Original Signed By  
I. E. Koepke

Tim E. Koepke, P. Eng., CLS, BCLS.  
Chairman.

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EXECUTIVE SUMMARY

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A general history of placer mining activity in Yukon is given in the context of the evolution of legislation and administrative requirements. The problem of conflicting and overlapping legislation is reviewed and recommendations are made to establish legal certainty within the placer mining industry.

A new valley classification system is proposed to supersede the existing stream classification which is based solely on fisheries criteria. This new system provides a means to address resource values other than water and fisheries.

Specific water quality standards for placer mining operations are recommended, along with a partial sediment budget program to be undertaken over a five year period to assess the relative impact of placer mining sediment discharge on Yukon's fisheries resource.

Recommendations are made for the introduction of requirements for rehabilitation of mined areas on a progressive basis to address environmental concerns.

A program of claim assessment credits and tax credits is outlined as a means of providing incentives for placer mining operators to develop techniques less disruptive to the stream and valley environments.

Finally, the timetable for implementation of the recommendations given in this report addresses the importance of resolving the existing problems and recognizes the vital importance of the placer mining industry to the Yukon economy.

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# CHAPTER I

## INTRODUCTION

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### A. HISTORICAL REVIEW

Placer mining, the working of earth, soil or gravel for the purpose of obtaining gold or other minerals, has been a major presence in the economy of Yukon since the late 1890's. The famous "Klondike Gold Rush" commenced in 1896 and the next few years saw a stampede of miners coming to Yukon to find their riches.

Additional discoveries were made on Klondike and Mayo area creeks until about 1905. Production of gold until this time was primarily by labour intensive methods, but with the completion of the White Pass and Yukon Route Railway in 1900, heavy machinery imported from the "Outside" began to appear.

The first large steam dredge appeared in the territory in 1905. Dredges and hydraulic mining operations were a major factor in Yukon's economy until the outbreak of war in 1939. The period from 1934 to 1939 saw a renewal of interest and activity as a result of the price of gold being set at US \$35 per ounce by the U.S. Government, almost double the previous price.

Dredges and some small operations continued mining until the mid-1960's. The last major dredge ceased operation in 1966. Subsequent increases in the price of gold in the early 1970's induced yet another increase in placer mining activity, which peaked in 1980 and 1981 when the price of gold reached approximately US \$800 per ounce.

In the past few years, a lower gold price in the US \$350 to \$450 per ounce range has resulted in fewer total placer mining operations, which vary from large-scale and highly mechanized to small-scale family operations.

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The common element for operators large and small is the requirement to use water for gravel washing operations, commonly known as "sluicing".

## B. THE LEGISLATION

The Yukon Placer Mining Act, virtually unamended since 1906, provides a framework for the acquisition of claims for placer mining and for the administration of placer mining rights conveyed by the Act. In 1970, the Northern Inland Waters Act (NIWA) was enacted to regulate the use of waters in Yukon and the Northwest Territories. Section 39 of this Act had the effect of repealing Sections 54 to 69 of the Yukon Placer Mining Act which had formerly governed water use for placer mining operations.

The Yukon Territory Water Board, established pursuant to NIWA, commenced the issuance of water use authorizations, a practice which subsequently ceased upon a successful challenge of the legality of such authorizations in the Northwest Territories.

In recent years the Board has been issuing water licences in accordance with NIWA, some of which required "objectives" for water quality and others which required "standards". Some recent licences have also included conditions not directly relating to the use of water.

Of constant presence in this regime has been the Fisheries Act which governs, among other things, the deposit of "deleterious substances" into fisheries waters. Such deposits, without being authorized by appropriate regulations, are clearly in contravention of the Act. Similarly the Act prohibits, in the absence of authorized regulations, the carrying on of works which result in the harmful alteration, disruption or destruction of fish habitat.

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The dilemma facing the placer miner, therefore, is as follows. Even though he holds a valid licence issued by the Yukon Territory Water Board pursuant to NIWA for the use of water, and he is operating in full compliance with the conditions of that licence, he may still be contravening the Fisheries Act. Herein lies the major problem of legal certainty for the placer mining industry.

### C. RECENT INITIATIVES

In 1983, the Interdepartmental Committee on Placer Mining (ICPM), comprised of senior officials from the three federal Departments of Indian Affairs and Northern Development, Fisheries and Oceans and Environment, prepared the proposed Yukon Placer Mining Guidelines. These proposed guidelines were given to a Yukon Placer Mining Guidelines Public Review Committee which held extensive hearings in Whitehorse and major placer mining areas of Yukon.

Vigorous and heated debate between the ICPM, the Klondike Placer Miners Association (KPMA), the Yukon Conservation Society, various interest groups and individuals during these hearings pointed to a serious lack of reliable data in many of the areas covered by the proposed guidelines. In particular, the impact of implementation of the proposed guidelines on the industry was a major point of disagreement between the ICPM and KPMA.

The report of the Public Review Committee was forwarded to the Minister of Indian Affairs and Northern Development and in May 1984 the Minister issued a Policy Directive to the Yukon Territory Water Board to govern the provisions for issuance of licences to use water in Yukon placer mining.

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This policy directive addressed specific items relating to stream classification, effluent standards, operations, development plans, diversions, levee strips, integrity of structures, rehabilitation, security bonding and linkage concerns.

To date no action has been taken to remove the problem of legal uncertainty previously described.

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**A. APPOINTMENT OF THE TASK FORCE**

The announcement of a task force on placer mining was made by the Minister of Indian Affairs and Northern Development in Whitehorse on March 3, 1986.

On April 4, 1986, the Chairman of the Yukon Territory Water Board announced the appointment of the Task Force chairman and members and released Terms of Reference for the Task Force's study.

Copies of the Minister's Communique, the Water Board's announcement and the Terms of Reference are included as Appendix A.

Biographical sketches of the Task Force members are included as Appendix B.

**B. INITIATION OF REVIEW**

Upon appointment of the Task Force members, work commenced on review and discussion of numerous reports, documents and relevant acts and regulations.

In addressing the Terms of Reference, particular attention was paid to the question of legal certainty for the placer mining industry. Contradictory elements of the Fisheries Act and the Northern Inland Waters Act (NIWA) were reviewed with legal counsel in order to gain a better appreciation of avenues available for remedy. Specific attention was also directed to the issue of water quality and the effect of suspended solids on the fisheries resource.

Upon completion of the review of available literature, the Task Force members individually identified and prioritized key issues and these issues, as synthesized, were adopted as the focus of further work.

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The four main issues identified and key points to be addressed by the Task Force were distributed to all affected government departments, agencies and interest groups along with a letter inviting written and oral presentations.

### C. INFORMATION GATHERING

As submissions addressing the identified issues were being received, interviews and discussions were held with numerous individuals representing federal and Yukon government departments, industry, associations and other interest groups.

The Task Force travelled to Mayo and Dawson City and held a one-day workshop in each location. The workshops were well attended by persons with mining interests and a better understanding of operating problems faced by the placer mining industry was obtained.

Once all submissions had been received and reviewed, the Task Force produced Draft Recommendations and again distributed these to all parties for comment and discussion.

### D. PUBLIC REVIEW

Public review of the Task Force's Draft Recommendations was invited at workshops held in Whitehorse on May 15, 1986; in Mayo on May 17, 1986 and in Dawson City on May 19, 1986. These workshops and other discussions with the Klondike Placer Miners Association resulted in a number of additions, deletions, modifications and clarifications to the Draft Recommendations.

During preparation of this report, the Task Force again met with its legal advisor in order to clarify a number of remaining points.

Persons and organizations who appeared before the Task Force are listed in Appendix C.

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Through the Review Process described in Chapter II, Section B, the following preliminary major issues were identified by the Task Force, and are reproduced below.

#1 LEGAL CERTAINTY

1. Legal Regime

Establishment of a corrected legal framework by removal/amendment of contradictory elements of Canada Waters Act, Fisheries Act, Northern Inland Waters Act, and Yukon Placer Mining Act.

2. Administrative Regime

Establishment of a single administrative agency to licence, inspect and enforce the corrected legal framework - Streamlining.

#2 WATER QUALITY STANDARDS

1. Purposes

To ensure appropriate quality for:

- downstream users, where identified
- significant, including critical, aquatic habitat, where identified
- non-significant aquatic habitat

2. Methods for Compliance

- Settling ponds
- Re-cycling
- Chemical treatment

#3 VALLEY CLASSIFICATION OPTIONS1. "Historic" Creek Classification Method

Provides a transitional period during which present and past operations may be planned and adjusted for the implementation of a "new" creek classification method, over a period of \_\_\_\_\_ years.

2. "Habitat" (new) Creek Classification Method

Based on an in-situ appraisal of:

- a) Stream characteristics
- b) Upland (including valley) characteristics

Both to include the relative values of:

fish  
 flora  
 geology/surficial soils  
 mineral resources  
 water  
 wildlife

3. Other#4 WATER: MULTI-USE/MULTI-PURPOSE1. Land Use Planning

- Surface:
  - agricultural
  - commercial
  - industrial
  - recreational
  - residential
- Sub-surface:
  - mining
  - oil and gas

2. Water Use

- Commercial
  - Domestic, including residential, agricultural ...
  - Industrial, including mining, hydroelectric ...
  - Recreational
-

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A. LEGAL CERTAINTY

1. Discussion

Early in its deliberations, the Task Force recognized the paramount importance of addressing the issue of legal certainty, both for the benefit and protection of the placer mining industry and for the orderly administration of the industry by regulatory agencies. It may not be coincidental that this issue was the first matter listed in the Terms of Reference given to the Task Force by the Yukon Territory Water Board, hereinafter referred to as YTWB.

Subsequent discussions with all parties have re-emphasized this importance. The objective of the Task Force's deliberations in this area has been primarily to remove the contradictions between elements of the Fisheries Act and the Northern Inland Waters Act (NIWA). In this exercise, additional contradictions have been noted between NIWA and the Canada Water Act, the Dominion Water Power Act, the Navigable Waters Protection Act and the International Rivers Improvements Act, and in regulations made pursuant to these Acts.

Also recognized by the Task Force are the current discussions between the governments of Canada and Yukon with respect to devolution of jurisdiction over renewable and non-renewable resources. The recommendations made herein have been made with a view to compatibility in a future territorial regulatory regime.

It was also a concern of the Task Force that its recommendations not impose restraints on the Northwest Territories Water Board and that where possible, recommendations not extend beyond the placer mining industry in Yukon.

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## 2. Recommendations

The Task Force therefore makes the following recommendations to remedy the problems of legal uncertainty.

- a) That NIWA be separated to create two separate Acts, the Northwest Territories Water Act and the Yukon Territory Water Act, hereinafter referred to as YTWA.
- b) That the NIWA Regulations be separated accordingly, hereinafter referred to as YTWA Regulations.
- c) That the last four lines of the definition of "waste" in Section 2.(1)(b) in YTWA be deleted.
- d) That the YTWA be amended to give it precedence over certain other Federal Acts by replacing Section 3.(3) with the following:

Notwithstanding any other Act, any provision of this Act or the regulations or any licence issued pursuant to this Act may authorize the alteration or diversion of the flow or storage of waters within a water management area or any other use of waters within any such area in contravention of any provision of the Canada Water Act and the International Rivers Improvements Act or any regulation made pursuant to these Acts and no person contravenes any such provision or regulation by acting in accordance with any provision of this Act or the regulations or any licence issued pursuant to this Act;

- e) That Section 26.(e) of the YTWA be amended to delete all words after the word "areas" and add the words "or any part thereof or with respect to a particular class of use within a water management area or part thereof".

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- f) That Section 10.(3)(a) of the YTWA be deleted removing the conflict with waste deposits and areas designated water management areas pursuant to the Canada Water Act. Section 10.(3)(b) is left intact with respect to the Fisheries Act. [See Chapter IV, Part D]
  - g) That the Minister of Transport issue an opinion under Section 5.(2) of the Navigable Waters Protection Act that the dumping of fill or excavation of materials from the bed of a navigable water in the Yukon Territory in connection with a placer mining operation does not interfere substantially with navigation.
  - h) That the YTWA Regulations be amended to define the use of water for placer mining operations, as follows:
    - i) Change Section 5.(c) to 5.(c)(i) and add the words "other than a use for placer mining purposes."
    - ii) Insert a new Section 5.(c) being "a use for placer mining purposes" being the use of water for placer mining as defined in the Yukon Placer Mining Act.
  - i) That regulations be created under the Fisheries Act as provided for in Sections 31.(2) and 33.(13) of that Act.

\* \* \* \* \*

## YUKON PLACER MINING FISHERIES REGULATIONS

[Draft Version]

### APPLICATION

1. These Regulations apply to all Canadian Fisheries Waters of the Yukon Territory.

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## B. ADMINISTRATIVE REGIME

### 1. Discussion

In reviewing existing administrative procedures and requirements of the Yukon Territory Water Board, the Task Force identified a need for a streamlined regime to handle applications for, and approvals and enforcement of water licences for placer mining.

Inherent in the legal certainty which the Task Force has made recommendations towards achieving is the administrative certainty to accompany it. The Task Force has heard much evidence from regulatory officials and placer miners describing problems which would not have occurred had the appropriate legislation and administrative mechanisms been in place.

The following recommendations of the Task Force outline in some detail the functions and responsibilities of personnel and in some cases are almost specific as to job descriptions. It must be stressed that these descriptions have been prepared without regard to present departmental structures or personnel. The availability of personnel to meet the requirements of these recommendations is a basic assumption.

### 2. Recommendations

The Task Force recommends a new administrative regime which is generally structured as shown in Figure 1 following. The lettered items below correspond to the annotated letters on the figure.

#### a) Placer Miner

A person or corporation who holds a valid grant for placer mining pursuant to the YPMA or who is an operator or lessee on a valid grant.

# ADMINISTRATIVE REGIME

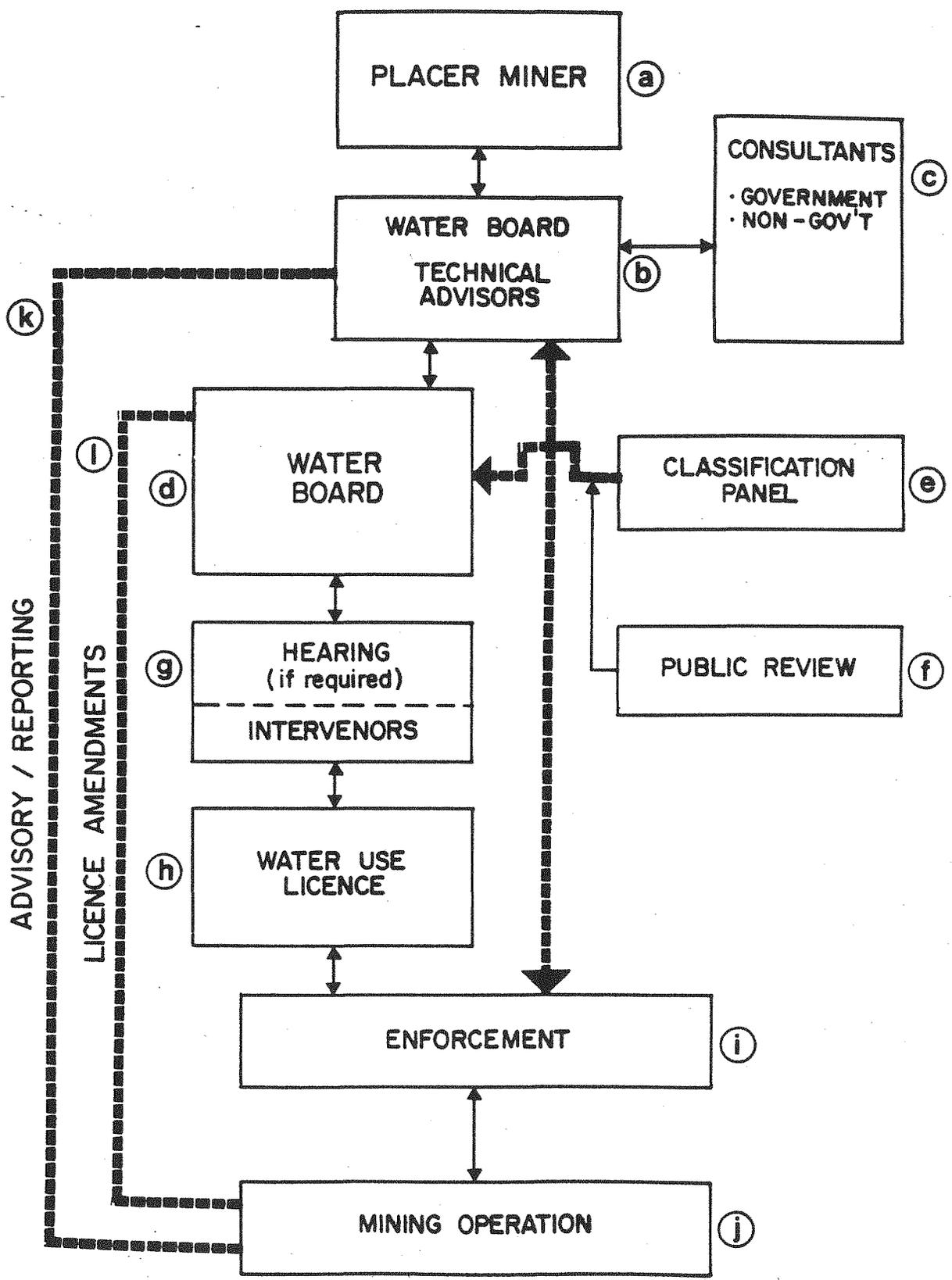


Figure 1

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b) Water Board Technical Advisors

The Task Force recommends that:

1. The Technical Advisors be employees of the Yukon Territory Water Board.
2. The Senior Technical Advisor be located in Whitehorse.
3. Additional Technical Advisors as required be located in Dawson and Mayo.
4. The Technical Advisors have training equivalent to that indicated for the Placer Mining Inspector described in Section (i) following.
5. The Technical Advisors
  - advise the YTWB on technical matters
  - assist placer miners with the preparation of Water Use Licence applications
  - assist and advise placer miners with respect to site specific operating problems
  - liaise with government personnel and engage as necessary non-government consultants with respect to resource conflicts
  - monitor research and development in the placer mining industry and provide information to placer miners
  - assist and advise the enforcement agency as required
  - maintain operational information with respect to each placer mining operation
  - liaise regularly with the placer mining community and make recommendations with respect to the allocation of government research and development funds.

c) Government and Non-Government Consultants

The Task Force recommends that:

1. Government and non-government consultants be available to the Technical Advisor to respond to site specific and industry wide concerns.

## d) Water Board

The Task Force recommends that:

1. The Minister of Indian Affairs and Northern Development clarify Section 7.(2)(a) of YTWA to specify that YTWB members and nominees of departments of the Government of Canada are not to include employees of the Departments of Environment, Fisheries and Oceans and Indian Affairs and Northern Development.
2. The YTWB have a separate operating budget and fiscal management through Regional Finance and Administration of DIAND reporting through the Regional Director General.
3. A two licence concept be created, (Class A and Class B) within the YTWA which would provide for a simplified licensing procedure for Class B licences by making the following changes to YTWA.
  - a) the definition of licence in Section 2.(1) of YTWA be amended to mean both a Class A Licence for the use of waters issued pursuant to Section 10.(1) and a Class B Licence for the use of waters issued pursuant to Section 10.(1.1);
  - b) all references to "licence" in Section 10.(1) would be amended to read "Class A Licence";
  - c) the regulation making powers provided for in Section 26 would be amended to allow the Governor in Council to specify what "uses" fall under Class A Licences and what "uses" fall under Class B Licences.

New regulations would then be enacted specifying what Class A Licence uses and what Class B Licence uses are.

One possible set of classifications may be:

<u>Class A Licence</u>	<u>Class B Licence</u>
Municipalities	Placer mining
Hardrock mines	Mini/Micro hydro
Major hydro	Agriculture
Other industry	

These amendments would result in three different categories of users:

- 1) users exempt by virtue of Section 4 of YTWA, being domestic water users and emergency water users;
- 2) users exempt by virtue of Section 11 of the YTWA Regulations;
- 3) users under Licences.

It should be noted that by virtue of one of the exemptions under Section 11 of the YTWA Regulations, operators using water at a rate not exceeding 50,000 gallons per day may use such water without a licence.

4. The requirement for gazetting for proposed Class B Licences as required in Section 17 YTWA be eliminated. Section 17 of the YTWA would be repealed and replaced with a new Section 17 as follows:

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- 17.(a) The Yukon Territory Water Board shall require an applicant for a Class A licence, for the amendment or renewal of a Class A licence or for authorization to assign a Class A licence to give notice of such application by publication thereof in the Canada Gazette and in such one or more newspapers, including at least one that is in circulation within the area affected, or in such other manner as the board considers appropriate; and the board shall itself give notice of a public hearing to be held by it by publication thereof in the Canada Gazette and in such other manner as it considers appropriate.
- 17.(b) The Yukon Territory Water Board may require an applicant for a Class B Licence, for the amendment or renewal of a Class B Licence or for authorization to assign a Class B Licence to give notice of such application by publication thereof in such one or more newspapers, including at least one that is in circulation within the area affected, or in such other manner as the board considers appropriate; and the board shall itself give notice of a public hearing to be held by it by publication thereof in one or more newspapers, including at least one that is in circulation within the area affected and in such other manner as it considers appropriate.

e) Classification Panel

The Task Force recommends the immediate formation of a Classification Panel to fully design and apply the Valley Classification System as outlined in detail in Part C of this Chapter.

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The Panel must operate within a strict time frame to be established on the acceptance of this report.

Further details of the recommended appointment and composition of the Panel are given in Chapter V.

f) Public Review

The classifications are to be subjected to public review at meetings to be held in Whitehorse, Mayo and Dawson City.

g) Hearing

The Task Force recommends that any person or agency wishing to be heard with respect to any application for a Water Use Licence be registered as an intervenor and appear before the Board at a public hearing on an equal basis with all other intervenors. No preference shall be afforded any agency, group or person.

h) Water Use Licence

The Task Force recommends that:

1. Class B Water Use Licences for placer mining be issued for a period of five years and that an operating summary report be filed annually with the Technical Advisor by December 31 in each year of the licence.
2. Class B Water Use Licences, after YTWB approval, shall be forwarded to the Minister for signature. The Minister shall sign the licence within twenty-one days of receipt. The YTWA should be amended to provide that if the licence is not signed within twenty-one days, it shall be deemed to be issued.
3. A flat fee of \$100.00 be charged for all Class B Licences for placer mining.

## Chapter IV - Discussions and Recommendations

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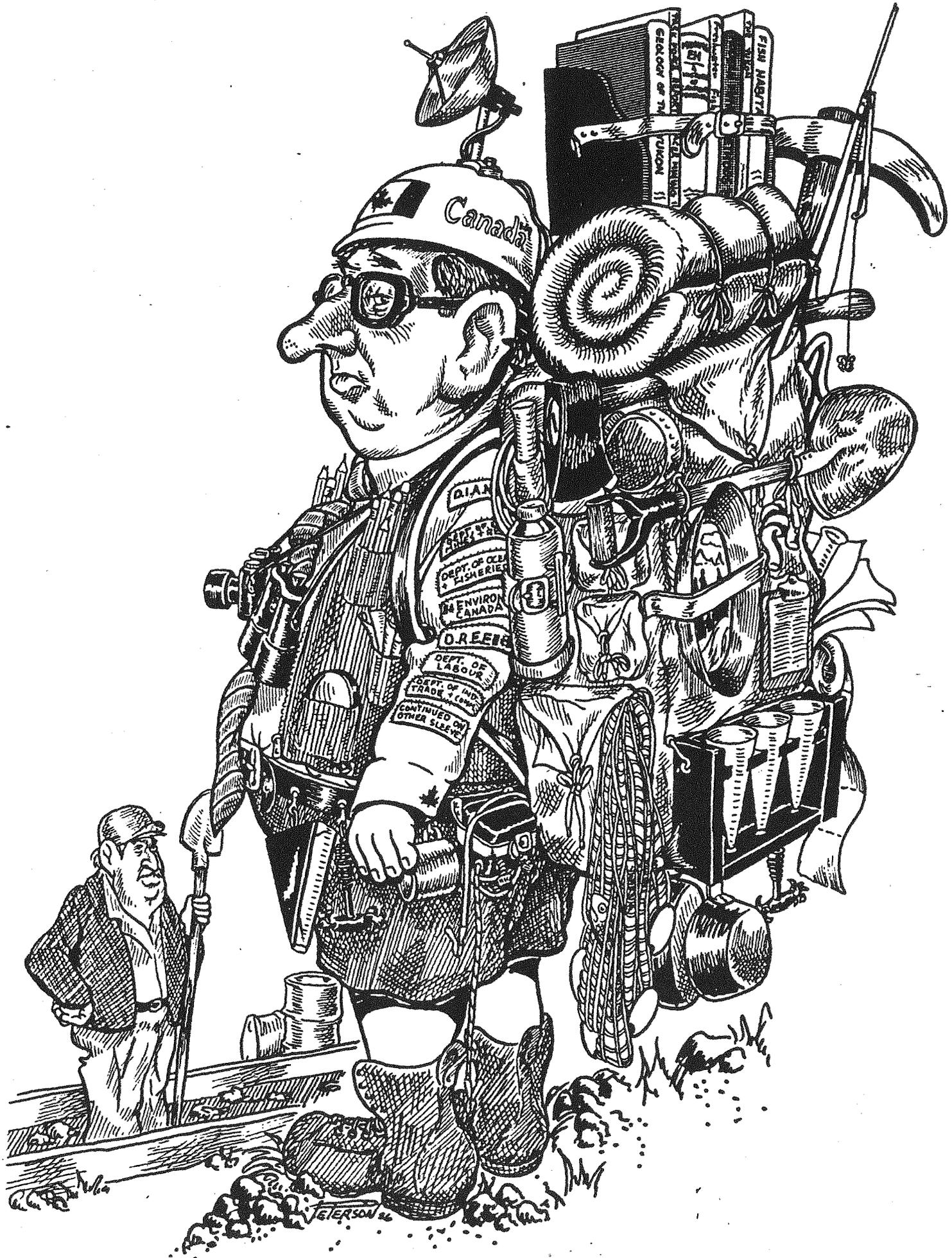
4. Class B Licences for placer mining contain water quality standards in accordance with the proposed Placer Mining Water Quality Standards Regulations. [See Part D of this Chapter].
5. Class B Licences for placer mining contain as appropriate, provisions for uplands and stream reclamation on a progressive basis in accordance with Part D of this Chapter.
6. The application form adopted by the YTWB for Class B Licences for placer mining should not require elaborate detail with respect to day-to-day operations in recognition of the changing needs and site conditions. A development plan should show the general layout of areas to be mined, stream location, proposed stream diversions, disposal areas, settling ponds and any erosion control measures. The annual operating summary report should acknowledge any major deviations from the development plan.



### Enforcement

The Task Force recommends that:

1. Enforcement of the conditions of Class B Licences for placer mining and applicable Government of Yukon legislation be carried out by the DIAND Mining Inspection Branch.
2. Placer Mining Inspectors be formally trained as Placer Mining Resource Technicians with knowledge of forestry, fisheries, water resources, mine safety, land use and rehabilitation. They must have a minimum of two operating seasons experience on two or more placer mining operations at government expense. The Placer Mining Inspectors will also be authorized by agreement with Government of Yukon to make inspections and enforce territorial legislation governing aspects such as safety and fuel handling.



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3. The YTWA and regulations thereto be amended to provide for enforcement procedures with respect to Class B Licences for placer mining as outlined below:

- i) In situations where non-compliance with licence conditions poses a serious and imminent danger. [eg. where an unstable settling pond or dyke or a toxic chemical discharge could endanger a downstream operator.]

The Inspector may issue a written Stop Work Order immediately in order to reduce the serious and imminent danger.

Upon issuance of a Stop Work Order, the Inspector must so notify the YTWB within twenty-four (24) hours.

The YTWB must then schedule a hearing into the matter, the hearing to be held no later than ten (10) calendar days from the date of notification to the YTWB.

The YTWB should have authority to conduct meetings by telephone conference call for purposes of this recommendation.

The decision of the YTWB may be appealed pursuant to Section 21 of the YTWA.

The YTWA should have the appropriate amendment made to Section 32.(1) to make it an offence to fail to comply with a Stop Work Order.

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ii) In situations where non-compliance with licence conditions does not constitute a serious and imminent danger to a downstream operator, the Inspector shall give a written Notice to Comply, with a ten (10) calendar day period granted to reach compliance.

Failure to observe a Notice to Comply after the ten day period may be grounds for initiation of proceedings to cancel the licence under YTWA.

j) Mining Operation

An operator who is operating within the conditions of his licence is entitled to placer mine.

k) Advisory/Reporting

The Task Force recommends that clear lines of communication be established between the Technical Advisors and placer miners to facilitate an efficient exchange of information relating to equipment, procedures and industry research and development.

l) Licence Amendments

The YTWA contains an amendment procedure whereby a placer miner experiencing technical problems in complying with the terms of a Water Use Licence may apply directly to the YTWB for a licence amendment, which is subject to the same process as any new application. The Task Force recommends that the YTWB, as far as possible, schedule a hearing into such amendment application within 35 days of its receipt.

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## C. VALLEY CLASSIFICATION SYSTEM

### 1. Discussion

To date the Yukon placer mining industry has been heavily influenced by the Fisheries Act with a stream classification system based solely on this Act. During the Task Force's review of existing material, in information gathering sessions, in review of requested submissions and in internal deliberations, it became apparent that other factors must also be considered in a classification system to be applied to placer mining operations. The proposed new Valley Classification System will include these other factors which in some instances may have an assigned value higher than the stream values, based on fisheries criteria alone.

These other values will include: stream hydrology, valley topography, wildlife considerations, mineral resource potential, flora, and historic aspects, the latter including land tenure and Native claims, previous mining history and tourism.

It is recognized that many wildlife species and their habitats, including the wilderness itself, have intrinsic values and play an important role in sustaining the healthy environment essential for human life. It is also recognized by the Task Force that the proposed establishment and implementation of a Valley Classification System broaches the mandate of the Northern Land Use Planning Agency. Presently the Yukon Placer Mining Act (and the Yukon Quartz Mining Act) are exempted from the Territorial Land Use Regulations by virtue of Section 3.(3) of the Territorial Lands Act. The Valley Classification System recognizes that natural resources are not valued solely for the short term economic consumptive use by human society and acknowledges the specific value of the gold resource to ensure that there is a continuing healthy placer mining industry.

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Due to the time constraint placed on the Task Force and the anticipated magnitude of work that will be required to establish a comprehensive Valley Classification System, the Task Force proposes the establishment of a Classification Panel which will develop a rational, complete and equitable evaluation of the resource values for Yukon's placer mining valleys.

## 2. Recommendations

As noted earlier, a Valley Classification System is proposed, to be designed and applied by a Classification Panel. To clarify that the YTWB has jurisdiction to deal with the appurtenant land as well as the water, the Task Force recommends that:

a) Section 10.(2) of the YTWA be amended as follows:

i) delete the word "and" between the words "licencee" and "the conditions" in the tenth line and replace it with a comma.

ii) change the period at the end of the subsection with a comma and add the following:

"conditions as to the manner of the use of land connected with the appurtenant undertaking and conditions as to the restoration of the water resource and of the said land upon the abandonment of the appurtenant undertaking".

b) The Valley Classification System be adopted concurrently with the legislative and administrative changes proposed herein.

c) The Classification Panel be comprised of individuals belonging to the business community, industry, and interest groups representative of the Yukon community.

## D. ENVIRONMENTAL CONTROLS

### 1. Discussion

The Task Force recognizes the vital present and continuing importance of the placer mining industry to the economy of Yukon and also recognizes the environmental concerns associated with fisheries and stream valleys subject to placer mining. It is the position of the Task Force that those effects of placer mining still significant years after mining ceases are those of most concern. Short term effects, defined as disruptions while operations are in progress, are acknowledged as inevitable.

Placer mining creates an increase in the quantity of solid material in the water flow from a mining operation and alters stream courses, gradients and substrates. Valley characteristics and habitat are altered in that vegetation and organic and inorganic materials forming the overburden are stripped. Permafrost, when present, thaws. Waste gravels of the mining operation are typically placed in large, sometimes unstable piles adjacent to streams.

The recommendations of the Task Force represent less concern with short term disruptions due to mining and an increase in reclamation or rehabilitation requirements such that restoration of other stream values is as rapid and complete as practical.

Settling ponds are presently regarded as the best technology available to reduce suspended sediment loads.

Removal of overburden by ground sluicing and hydraulicking as well as the flushing of settling ponds introduces great amounts of suspended sediment into the water.

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Areas of tailings are typically abandoned as large piles of gravel stripped of the finer fraction. While there is no debate that the valley is significantly altered, there is considerable debate as to whether such alteration represents genuine degradation and if it does, whether natural rehabilitation is an unacceptably slow process. If tailings piles are partly flattened and fines, either from original overburden stripping or sediment from gravel washing, are returned to the top surface, revegetation and restoration of several habitat values would be much accelerated.

Stream diversions, such that the net length of the stream is reduced, produce increased gradients and increased erosion. Distribution of pools and riffles are often modified.

Stream banks may be steepened by mining operations, leaving them vulnerable to slumping and other forms of accelerated erosion.

The Task Force acknowledges that values are difficult to quantify, including the mineral resource. It is not the purpose of the valuation process to unreasonably inflate an unassessed value such that its protection makes an otherwise potentially profitable, economically contributive operation impossible, but rather to provide a framework in which various other values receive consideration.

This recognition that a variety of values are present in a stream valley is reflected in the Valley Classification System. Certain biological values may be critical, either continuously or at certain times. There are some stream valleys on which valid mineral claims overlap settlement lands being considered under Native Land Claims.

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It is the opinion of the Task Force that the existing information pertaining to the adverse impact of placer mining on the fisheries resource is inconclusive. It is apparent that little comprehensive data is available to allocate the total sediment levels in Yukon rivers and streams to their component contributions from nature and from the placer mining industry.

In addressing this limited data base, identified also by the Report of the Yukon River Basin Study, the Task Force concurs with a recommendation made in a discussion paper by Quentin J. Stober, Ph.D., a fisheries consultant with the Fisheries Research Institute of the University of Washington, Seattle. Dr. Stober has recommended the development of partial sediment budgets for Yukon sub-basins over a study period for which the Task Force feels five years is adequate.

"The longterm loss or degradation of physical stream habitat is the most lasting effect placer mining exerts on fish populations. If the mining industry is to be constrained by environmental controls and the industry is to remain viable it maybe most appropriate to require stream rehabilitation and enhancement in lieu of complete protection while mining. To control the cost of effective habitat rehabilitation it will be necessary to plan stream reconstruction into each mining operation ....

.... Habitat criteria including water depth and velocity and stream substrate composition data have been developed for the life history stages of most species of the family salmonidae.

These data were recently reviewed by Crumley and Stober (1984) for Pacific Northwest instream flow studies. Similar specific data is needed for arctic grayling and the rearing stages of 1 and 2 year old chinook salmon for streams in the Yukon River basin. These data in conjunction with cover requirements could be used in a standard assessment of rehabilitation efforts.

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### Key Points

1. Verify the extent of chinook salmon rearing habitat in small Yukon River tributaries.
2. Develop a site ranking or stream classification system based on Chinook salmon distribution and water quality.
3. Develop partial sediment budgets for sub-basins to place the annual flux of sediment in perspective with that from placer mining
  - a. identify all sources and rates controlling sediment production in a basin
  - b. utilize the short-term tolerance of fish to suspended sediment
  - c. indicate operational flexibility for placer mining when analyzed in relation to habitat requirements of chinook salmon under natural runoff regimes.
4. Physical habitat rehabilitation requires
  - a. documentation of predevelopment physical habitat characteristics
  - b. a plan for stream diversion and reconstruction as a part of each mining operation
  - c. onsite identification of a key species on which to focus the plan."

## 2. Recommendations

The Task Force recommends that:

- a) A Fisheries Impact Board be established to design and implement a study to assess conclusively the relative impact of placer mining sediment loading on the fisheries resource in Yukon Territory. Its report shall be subject to public review prior to submission to the YTWB.
- b) During the five year study by the Fisheries Impact Board, Placer Mining Inspectors obtain data on an operation specific basis to be used in the evaluation of the performance of settling ponds, and for subsequent correlation of suspended and settleable solids levels measured.
- c) Discharges from placer mining operations licenced pursuant to YTWA shall conform to the proposed Placer Mining Water Quality Standards Regulations.

\* \* \* \* \*

### PLACER MINING WATER QUALITY STANDARDS REGULATIONS

[Draft Version]

#### INTERPRETATION

1. In these Regulations:

"aqueous volume" means the volume of the water including suspended solids, in the settling pond

"background levels" is the amount of suspended solids in water immediately upstream of the operation

"retention time by aqueous volume" means the minimum aqueous volume of the settling pond divided by the inflow rate

"salmonid" (family Salmonidae) includes only Pacific Salmon, Arctic Char and Lake Trout

"suspended solids" means fine particles of soil and rock suspended in water

#### RECOMMENDED STANDARDS

2. Subject to Section 4, every Class B Licence for placer mining purposes shall include a condition for a water quality standard not to exceed the following:
  - a) with respect to Schedule I streams, zero milligrams per litre (0 mg/l) suspended solids above background levels
  - b) with respect to Schedule II streams, one hundred milligrams per litre (100 mg/l) suspended solids above background levels
  - c) with respect to Schedule III and Schedule IV streams, a minimum one (1) hour retention time by aqueous volume in a settling pond of approved design.

#### MEASUREMENT

3. For the purposes of Sections 2.(a) and 2.(b), the points at which suspended solids shall be measured are immediately upstream of the intake structure and at the outflow of the settling pond. The amount of suspended solids shall be measured as specified at Part 209 D of Standard Methods for the Examination of Water and Wastewater, 15th Edition, 1980 (APHA-AWWA-WPCF).

EXCEPTIONS

4. The Yukon Territory Water Board may, in such circumstances as it deems appropriate, vary the water quality standards required under Section 3 with respect to Schedule III and Schedule IV streams.

STREAM CLASSIFICATION

SCHEDULE I

SALMONID SPAWNING STREAMS OTHER THAN SCHEDULE III STREAMS  
[Particulars of applicable streams to be supplied by  
the Classification Panel]

SCHEDULE II

SALMONID REARING STREAMS OTHER THAN SCHEDULE III STREAMS  
[Particulars of applicable streams to be supplied by  
the Classification Panel]

SCHEDULE III

HISTORIC MINING STREAMS

[Streams previously designated as historic placer mining streams  
and streams which are subsequently determined to have had  
previous placer mining or placer exploration activity  
prior to March 31, 1986]

SCHEDULE IV

NEW STREAMS WITH VALUES

OTHER THAN SCHEDULE I, II or III STREAM VALUES  
[As classified by the Classification Panel]

\* \* \* \* \*

[End of Draft]

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continued from page 29

- d) Prior to issuing any Class B Licence for placer mining purposes with respect to an unclassified stream, the Yukon Territory Water Board shall classify such stream as either a Schedule I, Schedule II, Schedule III or Schedule IV stream and for the purposes of such classification the Governor in Council should delegate to the Board its regulation making power.
- e) Section 26. of the YTWA be amended to create a new Subsection (p.1)  
"delegating any or all of its regulation making power under Section 26.(d) of the Act to the Yukon Territory Water Board".
- f) Settling ponds, wherever possible, should be situated out of the natural stream channel.
- g) As improved equipment such as mud pumps become available such should be used to move sediment from settling ponds out onto gravel tailings away from the stream channel.
- h) Stream banks should be stabilized to reduce the potential for erosion.
- i) Unless exceptional circumstances prohibit, stream length and gradient should be restored at the end of placer operations to a state similar in characteristics to original conditions. Consideration should be given to the provision of riffles and pools. Boulders may be left in the stream channel to provide resting places for fish.
- j) On a progressive basis, stockpiled fines should be returned to recontoured ground to best promote long term stability through natural revegetation to the satisfaction of the Placer Mining Inspector. Recontoured refers to partial levelling of tailings piles.

- 
- k) Ground sluicing, hydraulicking and flushing of settling ponds are to be considered only on a site specific basis. This consideration shall apply for specific time periods governed by the ability of the stream to transport sediment without long term degradation of the stream regime, and by the characteristics of the materials to be removed.
- l) A bond or other security for reclamation be posted, the amount to be determined on a site specific basis to a maximum of \$2,500 per hectare of land disturbed over the licence year. The site specific factors to be considered include:
- i) ease of reclamation
  - ii) environmental sensitivity
  - iii) operator's past performance
- m) The YTWA should be amended to include provision for the YTWB to require an applicant for a Class B Licence for placer mining purposes to post a bond or other security for reclamation.
- n) The YTWA should be amended to provide a mechanism for refunding or realizing on the bond or other security on completion or default by the licensee.
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## E. INCENTIVE PROGRAMS

### 1. Discussion

Recognizing that increased environmental compliance requirements will in most cases cause additional operating costs for the placer miner, the Task Force has considered various ways by which these additional costs can be reduced or recovered.

It is clear that some incentives must be provided to maintain the financial health of the industry at same time that higher environmental standards are being imposed.

A separate but related issue is the concern over the existing disruptive methods being used to explore on Leases to Prospect issued pursuant to Section 92 of the Yukon Placer Mining Act. Many examples are evident where Lease to Prospect lands have been explored by heavy equipment with little or no regard for the stream and upland disturbances.

### 2. Recommendations

The Task Force accordingly recommends that:

a) Protective Environmental Technology (PET) Programs should be introduced as incentives for exploration, production and reclamation.

i) PET Exploration Programs would include, but not necessarily be restricted to:

- drilling, augering, and test sampling without heavy equipment, and associated assay costs

- 
- geophysics
  - geochemistry
  - professional airphoto and LANDSAT imagery interpretation
  - habitat studies
  - mineral studies
  - feasibility studies
  - geological and paleoplacer channel mapping
  - prospecting.
- ii) PET Production Programs would include, but not necessarily be restricted to:
- settling pond construction
  - approved mining methods and maintenance programs designed to meet water quality and habitat standards
  - approved test or study programs
  - underground excavation methods
  - stripping without the use of water by mechanical or other means
- iii) PET Rehabilitation Programs would include, but not necessarily be restricted to:
- reforestation
  - levelling and stabilization of tailings piles
  - stabilization of stream banks
  - restoration of stockpiled fine materials to recontoured ground.
- b) PET Programs would be authorized by the Schedule of Representation Work used in conjunction with Section 41 of the Yukon Placer Mining Act but site specific programs would be reviewed for eligibility in advance by the Water Board Technical Advisor and the appropriate Mining Recorder.

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- c) PET Programs should be eligible for assessment credit against the Schedule at a rate of 200% of authorized incurred expense.
  - d) Section 66.(1)(a) of the Income Tax Act should be amended to expand the definition of Canadian Exploration Expense (CEE) to allow environmental mitigation expenses for placer mining to qualify for tax incentives. Moneys spent for environmental mitigation would then be deductible by the operator against income as CEE or could be flowed through to investors.

Consideration should also be given to increasing the present 133-1/3% CEE deduction to 166-2/3% or 200% for such PET programs.

The Task Force has received legal opinion that individuals, partnerships and private corporations qualify to deduct CEE.

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**A. DISCUSSION**

For reasons previously outlined, the Task Force urges a fast-track implementation of its recommendations for a new regulatory regime for placer mining.

The Task Force heard a unanimous desire to have the amended regime in operation at an early date, particularly in addressing the requirement to provide legal certainty for both the industry and the regulatory agencies.

**B. RECOMMENDATIONS**

The Task Force recommends that:

1. The new legal and administrative framework be established no later than January 31, 1987 in order to provide sufficient time for to deal with the 1987 summer operating season for placer mining.
2. Government decision to proceed with implementation of the Task Force recommendations be made no later than July 31, 1986.
3. A Steering Committee for implementation be established and funded no later than August 1, 1986 and that it be comprised as follows:
  - 1 representative of Department of Indian Affairs & Northern Development
  - 1 representative of Department of Fisheries & Oceans
  - 1 representative of Department of Justice
  - 1 representative of the Government of Yukon
  - 1 representative of the Klondike Placer Miners Association
  - 1 member of the Task Force on Placer Mining
  - 1 member-at-large

- 
4. A Classification Panel be established by the Minister of Indian Affairs and Northern Development no later than August 1, 1986; that appointees be recommended to the Minister by the YTWB; that the Panel be appropriately funded; that it be comprised of individuals representing a balance of interests in business, non-renewable resources, renewable resources, recreation and native affairs; and that these individuals not be employees of the Departments of Indian Affairs and Northern Development, Environment or Fisheries and Oceans.
  5. A preliminary draft of the valley classifications developed by the Classification Panel be presented for public reviews to be held in Whitehorse, Dawson City and Mayo with a timing which will make the final classifications available no later than January 31, 1987.
  6. A Fisheries Impact Board be established by the Minister of Indian Affairs and Northern Development, no later than April 1, 1987; that appointees be recommended to the Minister by the YTWB; that it be appropriately funded; and that it be comprised of non-government members as follows:
    - 1 economist
    - 1 fisheries expert
    - 1 mineral resource expert
  7. The Report of the Fisheries Impact Board be submitted to the YTWB no later than November 1, 1991 in order to allow any resulting recommendations to be made by January 31, 1992 to accommodate implementation for the 1992 summer placer mining season.
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**A P P E N D I X A**

**PRESS RELEASES AND TERMS OF REFERENCE  
FOR  
TASK FORCE**

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# Communiqué

## Water Board Chairman To Head Task Force On Placer Mining Policy

Whitehorse (March 3, 1986) -- The Honourable David Crombie, Minister of Indian Affairs and Northern Development today requested the Chairman of the Yukon Territory Water Board, pursuant to Section 14 of the Northern Inland Waters Act, to make recommendations to him that would enable the Minister to develop a placer mining policy that accommodates the various interests of all Yukoners and all Canadians.

"I recognize the vital importance of the Yukon placer mining industry to the Yukon economy. I believe the Water Board is in the best position to work out a realistic management regime that provides legal certainty for the placer mining industry and ensures the optimum protection of the environment," Mr. Crombie stated.

To carry out this responsibility the Minister has asked the Chairman of the Water Board, Diane Granger, to set up a task force on placer mining. The task force will be instructed to review all existing data and submit a report to the Water Board by June 1, 1986.

The Yukon Territory Water Board has the central role in the administration of the Northern Inland Waters Act with the objectives of providing for the conservation, development and utilization of the water resources of the Yukon Territory in a manner that provides optimum benefits for all Canadians and in particular for the residents of the Yukon Territory.

.../2

"It is not the intent of this initiative to rehash the old arguments, but rather to focus on the immediate steps that can be taken to clarify and improve the management and regulation of the placer industry," Mr. Crombie stressed.

The Chairman of the Water Board has been asked to provide recommendations to the Minister by June 30, 1986.

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For further information:

Cathy Harvey  
Director, Communication Services  
Northern Affairs Program  
Yukon Region

(403) 668-5151

# YUKON TERRITORY WATER BOARD

200 RANGE ROAD  
WHITEHORSE, YUKON  
Y1A 3V1

## NEWS RELEASE

### WATER BOARD CHAIRMAN APPOINTS TASK FORCE ON PLACER MINING

WHITEHORSE (April 4, 1986) -- Diane Granger, Chairman of the Yukon Territory Water Board, today announced the appointment of Tim Koepke, an engineer with the Whitehorse firm Underhill and Underhill, as Chairman of a task force on placer mining. The seven member group will make recommendations to the Board on a water management strategy for the placer mining industry in Yukon.

During his recent visit to Whitehorse, David Crombie, Minister of Indian Affairs and Northern Development, requested Mrs. Granger to establish a task force to work out ways of providing legal certainty for the placer mining industry while ensuring the optimum protection of the environment.

"I expect the recommendations of the task force will lead to regulatory changes which will eliminate the uncertainty that has plagued the industry for so many years," said Mrs. Granger.

The task force will be discussing the regulation of water use with industry, government and other interest groups throughout the territory. It will report to the Board by June 1, 1986.

The other members of the task force, drawn from a broad spectrum of industry, business and environmental interests, are:

Glen Grady  
Dale Eftoda  
Joe McGowan  
Mary Webster  
Dr. Doug Craig  
Simon Mason-Wood

The task force has established an office at #10-204 Main Street, Whitehorse and has hired Kitt Ray as Executive Assistant. Public enquiries of the task force can be directed to Ms. Ray at 668-3419.

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Contact: Diane Granger  
Chairman  
Yukon Territory Water Board  
(403) 668-4884

## TASK FORCE ON PLACER MINING

### TERMS OF REFERENCE

1. The Task Force shall consist of seven (7) members, including a Chairman, and shall report to the Chairman, Yukon Territory Water Board.
2. The Task Force shall, through discussion with all interested parties and study of all relevant documentation, formulate recommendations to the Yukon Territory Water Board on a management regime for the use of water in placer mining in Yukon and shall present those recommendations in a report no later than June 1, 1986.
3. Without limiting the generality of the foregoing, the Task Force shall examine the following matters:
  - a) the examination of both short term and long term options for the provision of legal certainty for the continued existence and operation of the placer mining industry in Yukon;
  - b) the options under which a transfer to the Yukon Territory Water Board of responsibility for the control of the discharge of deleterious substances and the alteration of fish habitat could be made within the Yukon Territory.
  - c) the options for creation of area and/or stream classification systems;
  - d) the conditions that should be generally included in licences for water use in placer mining in Yukon;

- e) the identification of situations (e.g. limited settling space, narrow valleys) where the general conditions can not be met and suggestions for site specific conditions.
- f) other matters as directed by the Chairman, Yukon Territory Water Board.

4. The Task Force shall conduct its discussions and meetings in such locations throughout the Yukon as it deems appropriate.

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A P P E N D I X B

BIOGRAPHICAL SKETCHES  
OF  
TASK FORCE MEMBERS

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TASK FORCE ON PLACER MINING

MEMBERSHIP:

KOEPKE, Tim E. Chairman	16 years Yukon residency B.A.Sc. (Civil Engineering) UBC P. Eng., C.L.S., B.C.L.S. Principal - Underhill Engineering Ltd. Member - Arts Canada North Steering Committee - Yukon Chamber of Mines - Yukon Conservation Society - Yukon Science Institute (Sec/Tres)	Whitehor
CRAIG, Doug	17 years Yukon residency Ph.D. Geology, University of Wisconsin P. Eng. Teacher, Physics & Geology F.H. Collins School Teacher, Geology, Yukon College Member - Science Council of Canada Director - Yukon Chamber of Mines Past Director - Yukon Conservation Society Regional Manager of Geology, D.I.A.N.D. 1969-1979	Whitehor
EFTODA, Dale	11 years Yukon residency B.Sc. Zoology Ducks Unlimited Yukon representative 6 years with Ducks Unlimited 4 years with Civil Engineering Firm 4 years with Department of Fisheries and Oceans in B.C.	Whitehor
GRADY, Glenn	38 years Yukon residency Contractor with the Council for Yukon Indians re Land Selection Forestry Technician Management Officer with Federal Depart- ment of Forestry for 10 years Foothills Pipelines (Yukon) Ltd. for 5 years	Whitehor

McGOWAN, Joe                    7½ years Yukon residency                    Whitehorse  
Civil Engineering Technician, BCIT  
Engineering Department, City of  
Whitehorse  
Member - Applied Science Technologists of BC  
          - American Water Works Association  
          - BC Water and Waste Association

MASON-WOOD, Simon            41 years Yukon residency                    Mayo  
Businessman - Motel Owner/Manager  
Acting Federal Mining Recorder in  
Mayo District 1967-77  
Assistant Mining Recorder in Watson  
Lake District 1971-72

WEBSTER, Mary                    6 years Yukon residency                    Whitehorse  
B.Sc. Geology, McMaster University  
Geologist with Noranda Exploration  
Member - Yukon Chamber of Mines

\* \* \* \* \*

LEITCH, Murray J.                5½ years Yukon residency                    Whitehorse  
(Legal Advisor to  
Task Force)  
Partner - Boylan, Preston, Willis & Leitch  
Legal Advisor - Yukon Territory Water Board

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A P P E N D I X C

LIST OF PERSONS AND ORGANIZATIONS  
WHO APPEARED BEFORE  
THE TASK FORCE

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GOVERNMENT OF CANADA

Department of Indian Affairs and Northern Development

A. Ganske - Regional Director, Renewable Resources  
C. Ogilvy - Regional Director, Mineral Resources  
J. Nickel - Acting Director, Water Resources  
B. Chambers - Director, Northern Land Use Planning  
G. Gilbert - Head, Mining Inspection Branch  
L. Olynyk - Claims Inspector/Placer Technician

Department of the Environment

J. Polak - Director, Environmental Protection Service

Department of Fisheries & Oceans

F. Boyd - Head, Habitat Management Division, Vancouver  
S. McFarlane - Senior Program Biologist, Vancouver  
A. Von Finster - Fisheries Officer, Whitehorse

Yukon Territory Water Board

Board Members

K. Weagle - Board's Technical Advisor

GOVERNMENT OF YUKON

Department of Economic Development: Mines & Small Business

R. Hill - Mineral Policy Analyst

Department of Renewable Resources

W. Klassen - Deputy Minister  
T. McTiernan - Director of Policy  
S. Fuller - Policy Analyst

Office of the Official Opposition

PROVINCE OF BRITISH COLUMBIA

D.M. Galbraith, P. Eng. - Reclamation Inspector, Inspection  
Engineering Branch, Ministry of Energy, Mines and Petroleum  
Resources

COUNCIL FOR YUKON INDIANS

A. James - Vice Chairman

YUKON CONSERVATION SOCIETY

V. Van Hees - President  
L. Henderson  
T. Munson  
B. Van Dijken

YUKON CHAMBER OF MINES

D. Prince - President  
A. Fry  
R. Granger  
J. Stevens  
J. Wheelton

YUKON PROSPECTORS' ASSOCIATION

A. Falle - President

KLONDIKE PLACER MINERS ASSOCIATION

N. Ross - President  
G. Hakonson  
R. Johnson  
J. Lerner  
F. Taylor - Vice President

Mrs. I. Christensen, Chairperson, 1983 Placer Mining Guidelines Review Committee

Howard Paish, Howard Paish and Associates Ltd.

PERSONS WHOM ATTENDED MEETINGS IN MAYO

H. Barchen	Miner
L. Bleiler	Miner
D. Flick	Miner
Mr. & Mrs. W.R. Gordon	Miners
H. Klassen	Miner
C. Klippert	Miner
D. Klippert	Miner
K. Klippert	Miner
H. McDonald	Miner
R. Ronaghan	Mining Recorder
F. Taylor	Miner
W. Tuck	Miner

PERSONS WHOM ATTENDED MEETINGS IN DAWSON

J. Archibald	Miner
A. Berger	
K. Dalton	
I. Fraser	Miner
J. Fraser	Miner
G. Gould	Miner
J. Gould	Miner
G. Hakonson	Miner
D. Jennings	Mining Recorder
J. Johnson	Miner
R. Johnson	Miner
T. Lee	
J. Lerner	Miner
J. Malfair	Miner
C. Mayes	Miner
S. Morrison	
M. Reeves	
H. Reinink	Miner
N. Ross	Miner
A. Sailer	Miner
N. Sailer	Miner
S. Schmidt	Miner
Mr. & Mrs. A. Seely	Gold Buyers
A. Seely Jnr.	Miner
B. Shore	Miner
F. Short	Miner
Mr. & Mrs. J. Simpson	Miners
J. Stuart	Miner
M. Vincent	Prospector
B. Warnsby	Miner
C. Weinert	Miner