"CONFORMITY AND QUALITY ANALYSIS"

BHP DIAMONDS INC.'s

ENVIRONMENTAL IMPACT STATEMENT

for its proposed

NWT DIAMONDS PROJECT

Submitted by:

The Department of Indian Affairs
and Northern Development

October 1995

DEC

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PART I: INTRODUCTION

EXECUTIVE SUMMARY

The Department of Indian Affairs and Northern Development (DIAND) has completed a conformity and quality analysis of the Environmental Impact Statement (EIS) for the NWT Diamonds Project, which has been proposed by BHP Diamonds Inc. and the Blackwater Group (Proponent). The EIS was submitted by the Proponent to the Panel on July 23, 1995.

DIAND concludes that the EIS substantially addresses the information requirements of the EIS Guidelines. There are, however, certain deficiencies in the EIS, some of which are considered significant. It is the department's view that there is sufficient time before the start of public hearings for the proponent to substantially address these deficiencies.

In particular, DIAND anticipates that the deficiencies which may be of the greatest interest to the Panel will be addressed when the Proponent provides an analysis of the information collected during the 1995 summer field season. These and other deficiencies may also be addressed through reworking of existing data.

The Department's concerns with regard to the EIS fall into six main areas of deficiency which are as follows:

1) Terrain and Permafrost

The Terrain and Permafrost sections lack the detail necessary to characterize the local terrain and permafrost conditions. Information is needed to clearly assess the potential effects of the project (facilities, disturbances) on the physical environment. Similarly, the effects of the physical environment on the project infrastructure are inadequately addressed (e.g., effects of permafrost on Misery Haul Road or dam structures).

2) Waste Management

The proponent does not provide an overall perspective on how potentially adverse effects will be managed in terms of waste management/minimization plans. Specific concerns include tailings and waste rock material, metal levels in lake sediment proposed for future reclamation, and acid generating rock identification and management.

3) Water Management

Additional information is required to clearly describe the rationale behind the Proponent's project design as it relates to water management. Potential problems relating to groundwater seepages are only briefly outlined while no discussion is given to the effects of snow on the hydrological regime within the claim block. In addition, a comprehensive review of water

management is complicated by inconsistencies between related sections and the apparent inequity in the water balance projections.

4) Traditional Knowledge

Despite good use of TK that was available, it is expected that the additional TK that should be available after the conclusion of the Proponent's contracts with Aboriginal groups would assist in the development of the EIS. Those Aboriginal groups involved with collection of TK would best be able to advise the panel on the availability and significance to the EIS of the TK still outstanding.

5) Monitoring

Discussion in the EIS focuses on progressive abandonment during the operation phase of the project. DIAND is encouraged to see the concept of progressive restoration as a cornerstone in the environmental management plans. However, the treatment of post-closure monitoring and possible time frames is lacking or insufficient. Monitoring during the construction phase also receives insufficient attention, most noticeably in several areas where impacts are possible and mitigation during construction could be required.

6) Cumulative Effects

The information provided does not identify what is being considered a cumulative effect. It also does not adequately outline the approaches and methods to be used in monitoring cumulative effects. As the Proponent proposes an incremental or staged development, information is needed on the cumulative effect of each stage in addition to the identification of the potential cumulative effects of mining future pipes. A first step to monitoring the cumulative effects of the project would be an evaluation of the effects of the bulk sampling program to date, something which has not been done adequately.

2.0 METHODOLOGY FOR THE CONFORMITY AND QUALITY ANALYSIS

The following summarizes the methodology for completing the analysis relative to the Final Guidelines as issued by the BHP Diamond Mine Environmental Assessment Panel.

As the initiating department, DIAND has a responsibility to ensure that all federal departments with specialist knowledge have reviewed BHP's EIS within respective departmental mandates. To address this responsibility, DIAND has established an interdepartmental working group to encourage an exchange of information between Federal Departments and to coordinate federal efforts throughout the review process. Departments participating on the interdepartmental working group include the Department of the Environment, the Department of Fisheries and Oceans (including Canadian Coast Guard), Natural Resources Canada, Health Canada, and the Department of Human Resources Development. In addition, the Government of the NWT has appointed a representative to facilitate information exchange between governments.

The methodology in which DIAND used to complete the analysis was as follows:

1. Sections were intially analyzed quantitatively and qualitatively based on the nature and adequacy of information provided. The adequacy of information provided by each reference, for every Guideline section, was assessed and discussed on an "as necessary" basis. Adequacy was assessed by determining if enough information and detail was provided regarding the purpose, methods and results of any research.

2. After the quantitative and qualitative analysis was completed a conformity determination was made. Conformity was determined based on whether the information requested by the Guidelines was available and of adequate quality. If both these conditions were met, the response by the Proponent to that specific Guideline was deemed to be **in conformity**. If one or both of these conditions were not met by the Proponent, the EIS was deemed to be **not in conformity** with the Guidelines. Finally, if the amount of information lacking was minor, the response was deemed to **conform in part** with the Guidelines.

The results of this analysis are summarized in tabular form (Section, 2.1 Summary of Conformity) with the detailed analysis in the sections following. The format used in the detailed analysis is as follows:

EIS Guideline Requirements
The section of the EIS Guideline (and paragraph number) as listed in the Table of Conformity was quoted.

EIS Reference & Title
The reference and title evaluated was quoted, this included any references found to exist in sections outside of those listed in the Table of Conformity.

Conformity

Quantitative Analysis

Qualitative Analysis

2.1 SUMMARY OF CONFORMITY

The following table summarizes DIAND's conformity analysis of BHP's EIS. The analysis corresponds directly to the *"Guidelines for the Preparation of the EIS"*, as set out by the Panel. DIAND has provided an analysis of all sections excluding Sections 1 and 2, as these were considered to outline the purpose of the Guidelines. Those sections of the Guidelines that are clearly outside the department's mandate (where no expertise was available) are indicated by **n/a**. Some of the Guideline paragraphs were determined to be instructional, or statements of intent, thereby not requiring analysis. Those paragraphs not requiring analysis are indicated by **.

Guideline Paragraph	EIS Guideline	Conformity with EIS	Page Number
	3.0 Objectives	----------	
301	Purpose of the Guidelines	**	19
	3.1 Sound Assessment	----------	
302	According to the TOR	**	19
303	Responsibility of the Proponent	**	19
304	Assistance of all parties	**	19
	3.2 Consultation	----------	
305	Proponent should consult	conforms	21
306	Demonstrate an understanding ..	conforms	22
307	Panel seeks wide consultation ...	**	
308	Explain results in clear, direct ...	conforms	23
	3.3 Sustainable Development	----------	
309	Promotion of sustainable dev	conforms	25
	3.4 Traditional Knowledge	----------	
310	Fully consider traditional	not in conformity	27

Guideline Paragraph	EIS Section	Conformity	Page Number
	3.5 Timeliness	----------	
311	Focus on relevant matters	**	29
	4.0 Overview of the EIS	----------	
401	Observe the intent.....	conforms	31
402	Assessed significance of effects..	conforms in part	32
	4.1 Study Strategy	----------	
403	Explain and justify methods	conforms	34
404	Treat traditional knowledge	conform in part	35
405	Identify significant gaps	conforms in part	36
	4.2 Presentation of the EIS	----------	
406	EIS presented in same format ...	conforms in part	38
407	Make reference to rather	conforms	39
408	Present EIS in clear language	conforms	40
409	Implement public information ...	conforms	41
410	**4.3 EIS Summary**	conforms	43
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	5.1 The Project	----------	
501	Introduces readers to project....	conforms	46
	5.2 The Setting	----------	
502	5.2.1 Regional Context	----------	48
502	Physical/Biological	conforms	48

Guideline Reference			Page Number
502	Socio-economic	not in conformity	49
	5.2.2 Land Claims	----------	
503	Describe Land Claims	conforms	51
504	Consultation	conforms	52
	5.2.3 Regulatory	----------	
505	Identify laws, regulations	conforms in part	53
506	International Conventions	conforms	54
507	**5.3 Proponent**	conforms in part	56
508	5.3(a) Compliance Record	conforms in part	57
508	5.3(b) Mine Safety	conforms in part	58
508	5.3(c) Commitments (record)	conforms in part	59
508	5.3(d) Aboriginal Relations	conforms	60
508	5.3(e) Arctic Experience	conforms	61
508	5.3(f) Incorporation of ...	conforms	62
509	Identification of obligations	conforms	63
	6.0 Project Description	----------	
	6.1 Overview of the Project	----------	
601	Description of the project	conforms in part	65
602	Rationale for components	conforms	67
603	**6.2 Management Plans**	----------	
603	6.2(a) Waste Management	not in conformity	69
603	6.2(b) Water Supply	not in conformity	71
603	6.2(c) Fish Habitat	not in conformity	72
603	6.2(d) Air Emissions	n/a	

Guidelines Paragraph	[illegible]	Conformity	Page Number
603	6.2(e) Traffic	conforms in part	74
603	6.2(f) Human/wildlife	conforms	75
603	6.2(g) Emergency Response	conforms	76
603	6.2(h) Decommissioning	not in conformity	77
	6.3 Commitments & Policies	----------	
604	Commitments and Policies....	conforms	80
605	Educational programs	conforms	81
	7.0 Boundaries for the	----------	
	7.1 Spatial Boundaries	----------	
701	Physical/biological	conforms in part	83
701	Socio-economic	conforms	85
	7.2 Time Boundaries	----------	
702	Physical/biological	conforms in part	87
702	Socio-economic	conforms in part	88
703	.... definitions	----------	
	8.0 Existing Environment	----------	
801	Proponent understanding	conforms in part	90
802	Existing environment,including effects related to exploration	conforms in part	92
803	The Proponent's description..	conforms in part	93
804	Traditional knowledge	conforms in part	95
	8.1 Physical Environment	----------	
805	Focus on effected components	conforms in part	97
806	8.1(a) Geology	not in conformity	98
806	8.1(b) Permafrost	not in conformity	99

Guideline Paragraph	[illegible]	[illegible]	[illegible]
806	8.1(c) Ground Instability	not in conformity	100
806	8.1(d) Hydrology	not in conformity	101
806	8.1(e) Water Quality	conforms in part	102
806	8.1(f) Sediment Quality	conforms in part	103
806	8.1(g) Air Quality	conforms	104
806	8.1(h) Climate	conforms in part	105
806	8.1(i) Other Components	n/a	
	8.2 Biological Environment	----------	
807	Focus on effected biological....	conforms	107
808	8.2(a) Fish, Aquatic Life	conforms in part	108
808	8.2(b) Birds, Wildlife	conforms in part	109
808	8.2(c) Vegetation	conforms in part	110
808	8.2(d) Other Components	n/a	
	8.3 Socio-economic Environ.	----------	
809	Existing socio-economic conditions ...	**	112
810	The functioning and health...	**	112
811	The socio-economic environment to be described....	**	112
812	8.3(a) Human Health	n/a	
812	8.3(b) Demographics	n/a (provided comment)	112
812	8.3(c) Social & Cultural	conforms	113
812	8.3(d) Archaelogical	n/a	
812	8.3(e) Land & Resource Use	conforms	114

Guideline Paragraph	DIAND Guideline	Conformity	Page Number
812	8.3(f) Economy	conforms in part	115
812	8.3(g) Employ., Education	n/a	118
812	8.3(h) Services, Infrastruct.	conforms in part	119
812	8.3(i) Government	conforms in part	120
812	8.3(j) Other Components	n/a	
	9.0 Impact Assessment	----------	
901	Evaluating effects of the project	conforms in part	123
902	Baseline for impact assessment	conforms in part	125
903	As identified in 8.0	conforms in part	126
904	The prediction of effects	conforms in part	127
905	Analysis of significance	conforms	128
906	Clarify the effects of the project	conforms	129
907	Monitoring changing tech.	conforms	130
	9.1 Effects on the Physical Environment.	----------	
908	9.1(a) Bedrock, geology, ...	conforms in part	132
908	9.1(b) Permafrost conditions, ...	conforms in part	133
908	9.1(c) Ground Instability	not in conformity	134
908	9.1(d) Hydrological Features	not in conformity	135
908	9.1(e) Water Quality	conforms in part	137
908	9.1(f) Sediment quality	conforms in part	138
908	9.1(g) Ambient air quality	n/a	
908	9.1(h) Climate	conforms	139

Guideline Ref.	Item	Conformity Indicator	Page Number
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909	9.2(b) Birds & Wildlife	not in conformity	143
909	9.2(c) Plants & Vegetation	not in conformity	145
	9.3 Socio-economic Effects	----------	
910	9.3(a) Human health	n/a	
910	9.3(b) Demographics	n/a	149
910	9.3(c) Social & cultural patterns	conforms	150
910	9.3(d) Cultural sites	n/a	
910	9.3(e) Land & Resource Use	n/a	
910	9.3(f) Economy	conforms	151
910	9.3(g) Employment, Education ...	n/a	152
910	9.3(h) Services, infrastructure	conforms	153
910	9.3(i) Government	conforms in part	154
	10.0 Mitigation & Residual	----------	
1001	Plans to mitigate effects ...	conforms	157
	10.1 Mitigation	----------	
1002	General and specific mitigation	conforms	159
1003	10.1(a) Sensitive areas	conforms in part	160
1003	10.1(b) Mitigative procedures	conforms in part	161
1003	10.1(c) Contingency programs	conforms	162
1003	10.1(d) Restorative procedures	conforms	163
1003	10.1(e) Compensation programs	comforms in part	164
1004	Compensation for losses	conforms	165

Guideline Paragraph			Page Number
1005	Other mitigation measures	conforms	166
	10.2 Residual Effects	----------	
1006	The Proponent should	conforms in part	168
	11.0 Monitoring Programs	----------	
1101	Describe monitoring programs.. (instructional)	**	
1101	Socio-economic	conforms in part	170
1101	Environmental	not in conformity	172
1102	Socio-economic	conforms in part	170
	Environmental	----------	
1102	11.0(a) Objectives and schedule ..	conforms in part	173
1102	11.0(b) Selection of subjects	conforms in part	174
1102	11.0(c) Frequency	conforms in part	175
1102	11.0(d) Reporting & response	conforms in part	176
1102	11.0(e) Cumulative effects	not in conformity	177
1102	11.0(f) Integration of monitoring	conforms in part	178
1102	11.0(g) Experience gained	conforms	179
1102	11.0(h) Roles of experts	conforms	180
1102	11.0(i) Effectiveness	conforms in part	181
1102	11.0(j) Role of communications	conforms	182
	12.0 Alternatives & Future	----------	
1201	Summarize alternatives	conforms in part	184
	12.1 Alternatives	----------	
1202	Project component options....	conforms in part	186
1203	Pace and scale options	conforms in part	187

Guideline Paragraph	[illegible]	[illegible]	Page Number
	12.2 Future Development	----------	
1204	Future development scenarios...	conforms in part	189
	13.0 Information Programs	----------	
1301	Public informed and consulted	conforms	191
1302	The proponent should provide ...	conforms in part	192
1303	Plans to maintain	conforms	193

PART II: EIS GUIDELINES

3.0 OBJECTIVES OF THE PANEL'S REVIEW

301 The purpose of the Guidelines is to elicit an EIS that will move the review process toward its objectives as set out in the Panel's Terms of Reference. The Panel interprets these objectives as follows:

3.1 SOUND, THOROUGH AND BALANCED ASSESSMENT

302 According to the Terms of Reference, if the Panel concludes that the Project effects are acceptable, it will develop recommendations on terms and conditions under which the Project could proceed. If the Panel concludes that the effects of the Project are unacceptable, it shall provide its rationale for this conclusion.

303 A sound EIS is essential if this central objective is to be achieved. It is the responsibility of the Proponent to prepare a complete EIS that includes sufficient data and analyses for a thorough assessment of the anticipated effects and their significance. The EIS should identify effects of the Project, assess the significance of these effects, and specify what measures the Proponent will put in place to mitigate negative effects and to enhance positive effects.

304 Furthermore, the Panel will look to the assistance of all parties to bring forward views, information and reasoning to ensure that the assessment is sound, thorough and balanced.

3.2 FULL AND OPEN CONSULTATION

305 Public consultation is an objective of the overall review process and a means to ensure that the Proponent addresses public concerns. In preparing the EIS, the Proponent should consult widely with local and regional residents, organizations, resource users and government agencies.

306 These Guidelines require the Proponent to demonstrate an understanding of aboriginal rights, interests, values and concerns and to recognize and to respect them in planning and carrying out its proposed activities. Aboriginal people who have traditionally used the area must be consulted. The EIS should explain the results of that consultation and describe the ways in which the Proponent intends to address their concerns.

307 The objective of full and open public consultation will also be central to the review during the public hearing phase. The Panel seeks the widest possible consultation and encourages all those interested to take part in the review of this Project.

308 In order to achieve this objective, the Proponent should explain results in a clear, direct manner to make the issues comprehensible to as wide an audience as possible.

EIS GUIDELINE REQUIREMENTS:

3.2 Full and Open Consultation

Guideline Paragraph - 305

EIS REFERENCE AND TITLE:

EIS Summary, Volumes I-IV
Vol. I, Sec. 5.0 Communications Program and Public Involvement

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

3.2 Full and Open Consultation

Guideline Paragraph - 306

EIS REFERENCE AND TITLE:

EIS Summary, Volumes I-IV
Vol. I, Sec. 5.0 Communications Program and Public Involvement

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

3.2 Full and Open Consultation

Guideline Paragraph - 308

EIS REFERENCE AND TITLE:

EIS Summary, Volumes I-IV
EIS Volumes and Appendices, All Sections referenced
Vol. I, Sec. 5.0 Communications Program and Public Involvement

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

3.3 RESPECT FOR THE PRINCIPLE OF SUSTAINABLE DEVELOPMENT

309 Promotion of sustainable development (development that meets the needs of the present, without compromising the ability of future generations to meet their own needs) is a fundamental purpose of environmental impact assessment. Preservation of ecosystem integrity, maintenance of biological diversity, respect for the right of future generations to the sustainable use of resources, and attainment of durable social and economic benefits are key considerations of sustainable development that should be integrated into the assessment of the Project. An ecosystem approach should be used by the Proponent in preparing the EIS to ensure that all potential effects of the Project are examined as part of an interrelated system rather than as isolated units.

EIS GUIDELINE REQUIREMENTS:

3.3 Respect for the Principle of Sustainable Development

Guideline Paragraph - 309

EIS REFERENCE AND TITLE:

EIS Summary, Volumes I-IV
EIS Volumes and Appendices, All sections referenced

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

3.4 FULL AND EQUAL CONSIDERATION OF TRADITIONAL KNOWLEDGE

310 Traditional knowledge, which is rooted in the traditional life of aboriginal people, has a vital contribution to make to a full assessment of the effects of the Project. Those who live on the land and harvest its resources have an intimate knowledge of the distribution of resources, the functioning of ecosystems, and the relationship between the environment and their culture. For many questions that are raised in the Guidelines, traditional knowledge will have as important a contribution to make as scientific and engineering knowledge. The Proponent should fully consider local traditional knowledge and expertise in preparing the EIS.

EIS GUIDELINE REQUIREMENTS:

3.4 Full and Equal Consideration of Traditional Knowledge.

Guideline Paragraph - 310

EIS REFERENCE AND TITLE:

EIS Summary, Volumes I-IV
EIS Volumes and Appendices, All Sections referenced

Vol. I, Sec. 1.2	Indigenous Knowledge
Vol. I, Sec 5.1.1.4	Traditional Knowledge Meetings, workshops, Studies
Vol. II, Sec. 1.2	Aboriginal Context
Vol. II, Sec. 1.1	Methods
Vol. II, Sec. 4.1.3	The Traditional Economy
Vol. II, Sec. 4.1.4	Emergence of the Mixed Economy
Vol. II, Sec. 4.1.5	The Current Economy
Vol. II, Sec. 4.1.6	Concerns
Vol. III, Sec.1.2	Role of Indigenous Peoples and Knowledge in Environmental Management
Vol. IV, Sec. 1.1	Methods
Vol. IV, Sec. 4.1	Local and Regional Perceptions of the Project
Vol. IV, Sec. 4.2	Aboriginal Employee Perceptions of the Project
Vol. IV, Sec. 4.8	Traditional Economies/Lifestyles

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **not in conformity.**

Quantitative Analysis:

Much of the traditional knowledge is in the process of being identified and documented, therefore, despite good use of the traditional knowledge that is currently available, many guideline requirements were not met in the EIS.

For example, the report prepared by the Dene Cultural Institute for the Proponent entitled "The Importance of Knowing" (see Appendix A1) recommends additional research for TK on the following:

caribou migration routes and information about when caribou did or did not use specific routes,
the effects of smoke and emissions on caribou and small fur bearers,
the effects of water pollution on fish and other animals,
the effects of water changes, such as water level and temperature, on fish, and

how the elders know that caribou;
- turn away from smoke
- turn away from human scent

Qualitative Analysis:

The quality of the information provided by the proponent is adequate, however additional information is required.

3.5 TIMELINESS

311 The Panel's Terms of Reference require that the assessment be completed in a timely manner. The Panel asks the Proponent and all other participants to keep submissions focused on matters relevant to the Panel's mandate as defined by the Terms of Reference.

4.0 OVERVIEW OF THE EIS

401 The Proponent is expected to observe the intent of the Guidelines and to identify and describe all significant environmental and socio-economic effects likely to arise from the Project, including situations not explicitly identified in these Guidelines. It is possible that these Guidelines include matters which, in the judgement of the Proponent, are not relevant or significant to the Project. If such matters are omitted from the EIS, they should be clearly indicated so that the public and other interested parties have an opportunity to comment on this judgement. Where the Panel disagrees with the Proponent's statements in this regard, it may require the Proponent to provide additional information.

402 It is up to the Proponent to demonstrate that it has identified the issues relevant to the assessment of the Project, that it has an understanding of and a respect for the physical, biological and socio-economic environments into which the Project will be introduced, and that it understands the ways in which the Project will affect these environments. The EIS should also show that the Proponent has assessed the significance of the effects caused by the Project, has identified measures to mitigate negative effects and has identified a program to monitor effects and to refine mitigation over the life of the Project. Any proposals to create or to enhance positive effects should also be identified.

EIS GUIDELINE REQUIREMENTS:

4.0 Overview of the EIS

Guideline Paragraph - 401

EIS REFERENCE AND TITLE:

EIS Summary, Volumes I-IV

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

4.0 Overview of the EIS.

Guideline Paragraph - 402

EIS REFERENCE AND TITLE:

EIS Summary, Volumes I-IV

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

The Proponent has provided a sufficient amount of information in regards to the biological environment and the physical environment.

Qualitative Analysis:

The information provided regarding mitigation of negative effects and program to monitor effects is inadequate to ensure that caribou migrations would not be significantly negatively affected by the Misery haul road. There is opportunity to provide more specifics. Indicating that "adaptive management" would be used is inadequate. Similarly, regarding vegetation reclamation, there is a need to ensure that succession of vegetation actually does occur after recolonization by pioneer species.

Terrain and permafrost sections have not received sufficient discussion in the EIS. The insufficient baseline information and analyses of the potential impact of the Project on the physical environment indicates a lack of understanding of the importance of permafrost and terrain in the northern environment. For example, the effects of thermally induced ground instability and thermokarst development are not addressed although they have occured in the main development area.

4.1 STUDY STRATEGY AND METHODOLOGY

403 The Proponent should explain and justify methods used to predict impacts of the Project on the valued components of the physical, biological and socio-economic environments and on the interactions among these components. In particular, the Proponent should describe how the valued components of the environments were identified and what strategy was used to examine the effects of the Project on these components. The value of a component not only relates to its role in the ecosystem, but also to the value placed on it by humans. The culture and lifestyles of the people using the area affected by the Project are themselves considered valued components.

404 In determining its analytical framework, choosing its methodology, and conducting its studies, the Proponent is expected to treat traditional knowledge as having validity comparable to scientific knowledge. It should describe how scientific knowledge and traditional knowledge were used in conducting its assessment. Any assumptions made should be clearly identified and justified. All data, models and studies must be documented so that the analyses are transparent and reproducible.

405 The EIS should identify all significant gaps in knowledge and understanding upon which key conclusions are based and the steps to be taken by the Proponent to address these gaps. Where technical, scientific or traditional knowledge debate continues concerning key conclusions of the EIS, the EIS should contain a balanced discussion of the issues and a statement of the Proponent's conclusions.

EIS GUIDELINE REQUIREMENTS:

4.1 Study Strategy and Methods.

Guideline Paragraph - 403

EIS REFERENCE AND TITLE:

Vol. II, Sec. 1.1 Methods
Vol. IV, Sec. 1.1 Methods

Conformity:

The response by the Proponent tp this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

4.1 Study Strategy and Methodology

Guideline Paragraph - 404

EIS REFERENCE AND TITLE:

Vol. I, Sec. 1.2	Indigenous Knowledge
Vol. I, Sec. 5.1.1.4	Traditional Knowledge Meetings, workshops, Studies
Vol. II, Sec. 1.2	Aboriginal Context
Vol. II, Sec. 1.1	Methods
Vol. II, Sec. 4.1.3	The Traditional Economy
Vol. II, Sec. 4.1.4	Emergence of the Mixed Economy
Vol. II, Sec. 4.1.5	The Current Economy
Vol. II, Sec. 4.1.6	Concerns
Vol. III, Sec.1.2	Role of Indigenous Peoples & Knowledge in Environmental Management
Vol. IV, Sec. 1.1	Methods
Vol. IV, Sec. 4.1	Local and Regional Perceptions of the Project
Vol. IV, Sec. 4.2	Aboriginal Employee Perceptions of the Project
Vol. IV, Sec. 4.8	Traditional Economies/Lifestyles

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

Although the intent to treat traditional knowledge as having validity comparable to scientific knowledge can be found in the EIS, relatively little traditional knowledge is available. Until that information is available and integrated into the EIS, judgement as to adequacy of use is not possible.

Qualitative Analysis:

The use of traditional knowledge that was available was adequate.

EIS GUIDELINE REQUIREMENTS:

4.1 Study Strategy and Methodolgy

Guideline Paragraph - 405

EIS REFERENCE AND TITLE:

Vol. I, Sec. 1.2	Indigenous Knowledge
Vol. I, Sec. 5.1.1.4	Traditional Knowledge Meetings, Workshops and Studies
Vol. II, Sec. 1.2	The Aboriginal Context
Vol. II, Sec. 4.1.3	The Traditional Economy
Vol. II, Sec. 4.1.4	Emergence of the Mixed Economy
Vol. II, Sec. 4.1.5	The Current Economy
Vol. II, Sec. 4.1.6	Concerns
Vol. III, Sec. 1.2	Role of Indigenous Peoples & Knowledge in Environmental Management
Vol. IV, Sec 4.1	Local and Regional Perceptions of the Project
Vol. IV, Sec 4.8	Traditional Economies/Lifestyles

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

Qualitative Analysis:

There are extensive gaps in scientific information regarding the baseline information for vegetation and wildlife habitat; the proponent has indicated that the 1995 field season's (summer) information is important for a more complete impact assessment. There is little traditional knowledge available and the Proponent has not indicated where Traditional knowledge is expected to assist with the EIS, particularly with impact assessment.

4.2 PRESENTATION OF THE EIS

406 For clarity and ease of reference, it is suggested that the EIS be presented in the same order as the Guidelines. However, in certain sections of the EIS, the Proponent may decide that the information is better presented following a different sequence. The EIS should include a guide that cross-references the Guidelines with the EIS so that points raised in the Guidelines are easily located in the EIS.

407 In the interest of brevity, the EIS should make reference to, rather than repeat, information that has already been presented in other sections of the document. An index of keywords showing their use in the text by page number would also be useful. The Proponent should identify in a list of references all sources of information used in the preparation of the EIS. As well, the names of the Proponent's key personnel and/or contractors responsible for preparing the EIS should be listed. Supporting documentation should be provided in separate volumes, and should be referred to by volume, section and page in the text of the main EIS.

408 The Proponent should present the EIS in the clearest language possible. However, where the complexity of the issues addressed requires the use of technical language, a glossary defining technical words and acronyms should be included. The Proponent should provide charts, diagrams and maps wherever useful to clarify the text. Where possible, maps should be of common scale to allow for comparison and overlay of mapped features.

409 The Proponent is responsible for implementing a public information program to explain the Project under review and its potential effects. During the EIS review period, the Proponent is encouraged to conduct a public information program to ensure that the effects of the Project are understood by those who may be affected.

EIS GUIDELINE REQUIREMENTS:

4. 2 Presentation of the EIS

Guideline Paragraph - 406

EIS REFERENCE AND TITLE:

Table of Conformity
List of Keywords
Reference List
Acknowledgments
Glossary

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

Qualitative Analysis:

The Table of Conformity provides a initial guide to identifying the appropriate sections as outlined in the guidelines. In several cases, information relevant to a specific Guideline was contained elsewhere in the EIS, but not listed in the Table of Conformity. References to these sections should also have been listed.

EIS GUIDELINE REQUIREMENTS:

4.2 Presentation of the EIS

Guideline Paragraph - 407

EIS REFERENCE AND TITLE:

Table of Conformity
List of Keywords
Reference List
Acknowledgments
Glossary

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

4.2 Presentation of the EIS

Guideline Paragraph - 408

EIS REFERENCE AND TITLE:

Table of Conformity
List of Keywords
Reference List
Acknowledgments
Glossary

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

4.2 Presentation of the EIS

Guideline Paragraph - 409

EIS REFERENCE & TITLE:

Vol. I, Sec. 5.0 Communications Program and Public Involvement

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

4.3 EIS SUMMARY

410 The Proponent should prepare an EIS summary that will be easily understood by the general public and that will provide the reader with a concise idea of the contents of the EIS. It should focus on items of public concern and should include all significant environmental and socio-economic effects of the Project. It should be prepared for wide distribution as a document separate from the EIS. A written summary should be available in English and Inuinnaqtun, and an audiotape version in North Slavey, Dogrib and Chipeweyan. The Proponent is encouraged to consider alternative means (for example, video) of presenting the EIS summary.

EIS GUIDELINE REQUIREMENTS:

4.3 EIS Summary

Guideline Paragraph - 410

EIS REFERENCE & TITLE:

EIS Summary

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

PART III: CONTENT OF THE EIS

5.0 INTRODUCTION

5.1 THE PROJECT

501 This section should introduce readers to the Project.

EIS GUIDELINE REQUIREMENTS:

Section 5.1 The Project

Guideline Paragraph - 501

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.1. The Project

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

5.2 THE SETTING

5.2.1 REGIONAL CONTEXT

502 The Proponent should provide a general introduction to the regional physical, biological and socio-economic environments within which the Project is to occur in order to place the Project within the regional context.

5.2.2 LAND CLAIMS

503 Regional aboriginal peoples and their organizations have concerns related to land claims in the Project area and some are currently engaged in negotiations. The Proponent should explain how these parties will be fully informed, consulted, and involved in decisions with respect to their concerns.

504 The Proponent should describe its consultation process with the appropriate aboriginal organizations and agencies, and identify any compensation packages and impact benefits agreements negotiated. The Proponent should indicate how it has been working and intends to work with these organizations.

5.2.3 REGULATORY ENVIRONMENT

505 The Proponent should demonstrate its understanding of the regulatory environment by identifying all federal and territorial environmental and socio-economic standards, laws, regulations, policies, and fiscal regimes that relate to the approval, construction, operation, monitoring and closure of the Project. This should include an explanation of how these requirements will be met and what specific government permits and approvals will be required for the Project.

506 International conventions and agreements have provisions that could be relevant to the Project. The Proponent should identify such agreements and describe any actions it may take in managing Project activities to help ensure that the intent of these agreements are met.

EIS GUIDELINE REQUIREMENTS:

Section 5.2.1 Regional Context (physical/biological)

Guideline Paragraph - 502

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.4.1 Regional Context

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

he information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

5.2.1 Regional Context (socio-economic environment)

Guideline Paragraph - 502

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.4.1 Regional Context
Also found relevant:
Vol. I, Sec. 1.2 The Aboriginal Context
Vol. I, Sec. 1.3.1 Context: the NWT Economy

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **not in conformity**.

Quantitative Analysis:

The Proponent has not provided sufficient information on the regional context:
Regional context is addressed solely by Figure 1.4.2, "Communities Near the NWT Diamonds Project", which also shows roads. There is no text characterizing the communities (size, economic role), indicating major industrial sites in the region other than Lupin Mine, or filling in the rest of the region's physical infrastructure (airports, hydro transmission lines, etc..).

Deficiency in regional presentation has been noted in conformity analysis of response to Guideline Paragraph 812 h) services and infrastructure. Correction of the deficiency here could also, by a cross-reference, resolve that deficiency.

Qualitative Analysis:

The high proportion of data discrepancies identified in Sec.1.3.1 suggests it should be reviewed.

The statement that NWT has the smallest economy is inconsistent with the Proponent's statistical sources (Vol. II, Sec.4.1.14), which place it roughly equivalent to PEI and double the size of Yukon. There are similar discrepancies between the Proponent's employment data sources (Vol. II, page 4.1) and identification of the NWT as having the highest unemployment rate in Canada. More generally, presentation of the NWT economy as the smallest and most fragile among the provinces and territories is not fully consistent with the baseline description in Vol. II, Sec. 4, nor with the assessment of regional capacity to absorb project-related growth in Vol. IV, Sec. 4.

The identification of NWT as having the highest unemployment in Canada has been repeated in Vol. IV, pages 4.158 and 4.199. Any revision in Vol. I should be reflected there as well.

Although no source is given for the 1994 Gross Domestic Product (GDP), it appears to be drawn from Statistics Canada, *Provincial Gross Domestic Product by Industry, 1984-94*, Catalogue #15-203, which converts figures to constant 1986 dollars for comparison over time. Expressing 1994 GDP in 1986 dollars does not provide an appropriate context for the 1994 dollar estimate of project contribution to GDP which follows in Sec. 1.3.3.

The Proponent's figure for mining's contribution to 1994 GDP appears to be the "Mining, Quarrying and Oil Wells" contribution, also from Statistics Canada Catalogue #15-203.

It is noted that some matters addressed in the socio-economic portion of Vol. IV appear in Vol.I under Section 1.4.2 Land Claims. The association of wage employment per se with intoxicants and violence on page 1.46 does not reflect the several public concerns dealt with in Vol.IV, Sec 4.8.1.1; 4.8.1.2; 4.10.4.1;4.10.4.8; 4.10.4.9; 4.10.4.10; 4.10.4.12. In the more detailed sections the Proponent distinguishes potential impacts as arising from higher disposable incomes, family stress from rotation schedules, or new paths for intoxicants to reach communities. The Proponent also notes the potential offsetting effects of stable employment leading to increased self-esteem, reduced family stress and greater social stability.

EIS GUIDELINE REQUIREMENTS:

5.2.2 Land Claims

Guideline Paragraph - 503

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.4.2 Land Claims
Vol. I, Sec. 5.4 Methods of Addressing Future Concerns

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

5.2.2 Land Claims

Guideline Paragraph - 504

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.4.2	Land Claims
Vol. I, Sec. 5	Synopsis, pages 1-12
Vol. I, Sec. 5.4	Methods of Addressing Future Concerns
Vol. III, Sec. 10	Monitoring Plan

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

5.2.3 Regulatory Environment

Guideline Paragraph - 505

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.4.3 The Regulatory Environment

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

The Proponent does not "demonstrate its understanding of the regulatory environment". The explanation of how it will meet the water licensing regime is deficient.

Qualitative Analysis:

The Proponent has listed the federal and territorial acts, regulations etc. and acknowledges that water licences will be required. However, the explanation of the process involved for obtaining a Class A Water Licence is incorrect and is outdated. As well, the Proponent does not state clearly as to what type of Licence it will be applying for and time schedule involved in obtaining the required Licence. The EARP process discussion lacks details to what occurs after the advisory report is submitted to the Ministers of DIAND and Environment Canada.

The Proponent should state the type of water licence it will require and the time frame required to obtain the licence. This aspect should be noted prior to the regulatory process (prior to public hearings).

EIS GUIDELINE REQUIREMENTS:

5.2.3 Regulatory Environment

Guideline Paragraph - 506

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.4.3 Regulatory Environment

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

5.3 THE PROPONENT

507 This section should introduce readers to the Proponent. Of particular interest is corporate accountability for management of environmental and socio-economic effects. Relevant details on ownership of rights and interests in the Project, operational arrangements and corporate and management structures should be provided.

508 The Proponent should describe its relevant experience over the last 10 years in mining operations in Canada and in other countries with similar regulatory and social policy regimes in regard to the following:

a) record of compliance with government policies and regulations pertaining to environmental protection and socio-economic issues, including details of any corrective measures or penalties imposed by government as a result of significant non-compliance;

b) mine safety, major accidents, spills and emergencies, including details of events and responses;

c) record in honouring commitments on environmental and socio-economic matters in the event of planned or premature mine closure or change of ownership;

d) relations with aboriginal peoples;

e) operations in arctic and subarctic regions; and,

f) record in incorporating environmental and socio-economic considerations into project construction, operation, closure and reclamation, including programs or techniques for avoiding or reducing negative effects and/or enhancing positive effects.

509 The Proponent should identify and describe any obligations or requirements it must meet to post a bond or other form of financial security to ensure payment of compensation in the event of accidents which directly or indirectly result in major damage by the Proponent's operation to the environment as well as to cover the cost of planned or premature closure.

EIS GUIDELINE REQUIREMENTS:

Section 5.3 The Proponent

Guideline Paragraph - 507

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.5	The Proponent
Vol. I, Sec. 1.5.1	BHP
Vol. I, Sec. 1.5.2	Blackwater Group
Vol. I, Sec. 1.5.3	Proponent Obligations
Vol. I, Sec. 1.5.4	Principal Contractors

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The Proponent does not provide "operational arrangements and corporate and management structures".

Qualitative Analysis:

The Proponent does introduce the readers to the Proponent, the size of the company, its offices around the world. It is appreciated that the company is a very large one, however there is no corporate or management structures (Presidents, Vice-Presidents, Directors etc.) included. These could have been included in the appendices.

The prospectus should be obtained prior to the regulatory process.

EIS GUIDELINE REQUIREMENTS:

5.3 (a) The Proponent - record of compliance

Guideline Paragraph - 508

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.5	The Proponent
Vol. I, Sec. 1.5.1	BHP
Vol. I, Sec. 1.5.2	Blackwater Group
Vol. I, Sec. 1.5.3	Proponent Obligations

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The Proponent does make reference to compliance in other jurisdictions, and outlines BHP's Environmental Policy. However more details could have been included with regards to the citations in which the Proponent was out of compliance.

Qualitative Analysis:

The Proponent refers to 20 minor incidents in coal mines in the US in the past three years and describes in depth the litigation concerns at the OK Tedi Mine In Papua New Guinea. However, the Proponent was to describe experience with compliance over the last ten (10) years. There is a time span between the third year and the tenth year where there appears to have been no compliance problems?

EIS GUIDELINE REQUIREMENTS:

5.3 (b) The Proponent - safety and response

Guideline Paragraph - 508

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.5	The Proponent
Vol. I, Sec. 1.5.1	BHP
Vol. I, Sec. 1.5.2	Blackwater Group
Vol. I, Sec. 1.5.3	Proponent Obligations

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The Proponent does not provide enough details of events and responses to spills and emergencies. Certain spills which directly relate to this project (at the Koala site) are not included.

Qualitative Analysis:

The Proponent has had spills at the BHP Diamonds Project - Koala site. Details of events and responses to deal with these spills should be discussed in this section. This would provide an example of responses to a spill by the company in a northern environment.

EIS GUIDELINE REQUIREMENTS:

5.3 (c) The Proponent - honouring of commitments

Guideline Paragraph - 508

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.5	The Proponent
Vol. I, Sec. 1.5.1	BHP
Vol. I, Sec. 1.5.2	Blackwater Group
Vol. I, Sec. 1.5.3	Proponent Obligations

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The Proponent does not provide enough details of events and responses to spills and emergencies. Certain spills which directly relate to this project (at the Koala site) are not included.

Qualitative Analysis:

The Proponent has had spills at the BHP Diamonds Project - Koala site. Details of events and responses to deal with these spills should be discussed in this section. This would provide an example of responses to a spill by the company in a northern environment.

EIS GUIDELINE REQUIREMENTS:

5.3 (d) The Proponent - aboriginal relations

Guideline Paragraph - 508

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.5	The Proponent
Vol. I, Sec. 1.5.1	BHP
Vol. I, Sec. 1.5.2	Blackwater Group
Vol. I, Sec. 1.5.3	Proponent Obligations

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

5.3 (e) The Proponent - operations in arctic and subarctic regions

Guideline Paragraph - 508

EIS REFERENCE & TITLE:

Vol. 1, Sec. 1.5	The Proponent
Vol. I, Sec. 1.5.1	BHP
Vol. I, Sec. 1.5.2	Blackwater Group
Vol. I, Sec. 1.5.3	Proponent Obligations

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

5.3 (f) The Proponent - incorporation of environmental and socio-economic considerations

Guideline Paragraph - 508

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.5	The Proponent
Vol. I, Sec. 1.5.1	BHP
Vol. I, Sec. 1.5.2	Blackwater Group
Vol. I, Sec. 1.5.3	Proponent Obligations

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

5.3 The Proponent

Guideline Paragraph - 509

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.5	The Proponent
Vol. I, Sec. 1.5.1	BHP
Vol. I, Sec. 1.5.2	Blackwater Group
Vol. I, Sec. 1.5.3	Proponent Obligations

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

6.0 PROJECT DESCRIPTION

6.1 OVERVIEW OF THE PROJECT

601 The Proponent should provide a description of the Project including a summary of those aspects of the Project that could reasonably be expected to affect the physical and biological environment, land use, natural resource use, and socio-economic conditions. The description of the Project should include road and air access, open pit and underground mining, water diversion and lake draining, site facilities and infrastructure, power generation, ore processing, and waste rock and tailings disposal. The Proponent should also describe how the physical environment affects Project design.

602 A statement of the rationale for selection of the Project components as well as the pace, scale and timing of development should be provided. The Proponent should discuss the state of the art of the various technologies being proposed and their reliability. This discussion should also show how design, engineering and proposed procedures are compatible with, or will minimize impacts to the environment.

EIS GUIDELINE REQUIREMENTS:

6.1 Overview of the Project

Guideline Paragraph - 601

EIS REFERENCE & TITLE:

Vol. I, Sec. 2.7.1	Facility Layout and Design
Vol. I, Sec. 2.7.2	Property Access
Vol. I, Sec. 2.9	Transportation Plan

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The EIS indicates that facilities will be laid out in a "compact arrangement" with various structures founded on bedrock, deep footings or concrete slab on grade. Since the site is located in an area of irregular bedrock topography and relatively "warm" permafrost with potential massive ice, and bounded by lakes on two sides, foundation design could be a critical factor in limiting environmental impacts. The layout does not appear to take into consideration the terrain and permafrost conditions on the site since no detailed map of terrain types and permafrost features is included. Additional detail on the type of structures and foundations is needed to assess the impact of facilities layout and design on the physical environment. Information on the influence of the physical environment on the design of the project is also limited.

The EIS describes existing exploration roads and the airstrip and proposed future access and service roads only in terms of their widths and lengths. In areas where "cut and fill" construction must be avoided because of permafrost conditions, the topography and terrain and permafrost conditions have a major influence on the location and design of overland access routes, but no detailed alignment sheets showing terrain conditions, topography and road elevations are included.

The EIS states in Section 2.9.1.1, that the results of studies of the potential impacts of increased traffic on the Echo Bay winter road indicate that the road can support the anticipated traffic, "with sufficient maintenance and planning".

Qualitative Analysis:

The description of facilities layout and design, particularly foundations, is inadequate for assessing their impact on the physical environment.

Additional detail on the terrain types, permafrost conditions and fill thicknesses along the access routes is needed to assess the impact of property access on the physical environment.
The results of consultant studies are needed to assess the potential impacts of the anticipated increased traffic on the Echo Bay winter road. A description of the traffic on the claim block should be part of the transportation plan.

EIS GUIDELINE REQUIREMENTS:

6.0 Project Description and Overview

Guideline Paragraph - 602

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.1	The Project
Vol. I, Sec. 2	Project Description

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

6.2 MANAGEMENT PLANS

603

The Proponent should describe plans for the management of environmental effects that have been incorporated into Project design. These plans should provide an overall perspective on how potentially adverse environmental effects will be managed and should include:

a) waste management/minimization plans for tailings, waste rock, domestic and industrial solid wastes, liquid waste, and hazardous waste including the use, handling, transportation, storage, production and disposal of toxic substances, chemicals and fuel;

b) a water supply and management plan;

c) a fish habitat management plan that ensures compliance with the "No Net Loss" principle of the Department of Fisheries and Oceans' "Policy for the Management of Fish Habitat";

d) a plan to control air emissions;

e) a traffic management plan for road and air traffic on the claims block and for road and air traffic access to the claims block;

f) plans to control or minimize human/wildlife interactions, including hunting and fishing, within the claims block and along access routes;

g) emergency response and contingency plans for the claims block and for access routes; and,

h) a closure plan explaining mine decommissioning, site reclamation and proposed post-closure monitoring.

EIS GUIDELINE REQUIREMENTS:

6.2 (a) Management Plan - waste management/minimization plans

Guideline Paragraph - 603

EIS REFERENCE & TITLE:

Vol. I, Sec. 2	Project Description
Vol. III, Sec. 3	Water Management Plan
Vol. III, Sec. 4	Materials Management Plan
Vol. III, Sec. 5	Waste Management Plan
Vol. III, Sec. 9	Reclamation/Decommissioning Plans

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **not in conformity**.

Quantitative Analysis:

The Proponent does not "provide an overall perspective on how "potentially adverse effects will be managed" in terms of "waste management / minimization plans for tailings and waste rock".

Qualitative Analysis:

The Proponent provides an overview as to how it plans to manage the tailings and waste rock ; however, the information is insufficient in detail or not fully analyzed to allow assessment. The discussion of the diversion of runoff that would enter Long Lake Cells A and D is lacking detail. Considerable detail is given for the diversion channel between Panda and Kodiak whereas few specific details are presented for other diversion channels. If not diverted correctly, these inflows have potential to greatly affect tailings management. Figures 5.2-2 suggests that flow will be channelled over the ground but there is no discussion of how this will be done. The life of the Long Lake tailings pond is reported to be 13 to 20 years in Section 3 and 18 to 20 years in Section 5. This difference has considerable potential effect on the tailing management plans.

The Proponent discusses using the sediment from the bottom of the lakes for future restoration However, further leach tests (test work) are warranted to achieve a better understanding of the amount of metals that may leach from these sediments and how the company plans on controlling the leachate. The Proponent discusses briefly how it would manage any acid generating rock, whether it be waste rock or ore. There is currently some rock that has been

marked acid generating however, further details are required with regard to how the Proponent would manage acid generation.

EIS GUIDELINE REQUIREMENTS:

6.2 (b) Management Plan - water supply and management

Guideline Paragraph - 603

EIS REFERENCE & TITLE:

Vol. I, Sec. 2	Project Description
Vol. III, Sec. 3	Water Management Plan
Vol. III, Sec. 4	Materials Management Plan
Vol. III, Sec. 5	Waste Management Plan
Vol. III, Sec. 9	Reclamation/Decommissioning Plans

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **not in conformity.**

Quantitative Analysis:

The Proponent does not adequately "describe plans for the environmental effects that have been incorporated into Project design - in terms of a "water supply and management plan".

Qualitative Analysis:

The proponent has not discussed onsite snow management. For example, will snowcover and drifted snow in the pits be left to melt or removed during winter. This information affects water balance calculations. It is not clear why a pit dewatering plan is necessary when Table 3.4-1 shows that water removed as moisture on ore or water rock exceeds precipitation, surface flow and groundwater seepage. The water balance for the project site has many inconsistencies such as the Long Lake water balance where inputs minus outputs do not equal out to zero.

The Proponent does not discuss in sufficient detail the potential problems which may be encountered from ground water (ice) from waste rock dumps or from the Tailings Pond (Long Lake). More details should be included, as well as a monitoring program.

EIS GUIDELINE REQUIREMENTS:

6.2 (c) Management Plans - Fish Habitat Management Plans

Guideline Paragraph - 603

EIS REFERENCE & TITLE:

Vol. III, Sec. 8 Aquatic Life Management Plan
Vol. II, Sec. 3.1 Aquatic Habitat also reviewed

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **not in conformity**.

Quantitative Analysis:

The EIS focuses on optimal lake trout spawning habitat (OLTH) in its discussion of lakes, mitigation and for habitat compensation, whether by habitat replacement or, as beneficiary to a compensation fund. The EIS should provide information on the amount and the quality of other lake habitats, particularly cover and feeding areas for juvenile lake trout and grayling. Data on this and for OLTH calculations and other related field observations should be provided in the appendices.

The EIS is deficient in its treatment of secondary, non-mainstem stream habitats. Secondary tributaries to lakes, even those dry or subsurface at certain times of the year, are almost certainly providing locally valuable habitat for various life history stages of grayling, and possibly other fish species and, inputting nutrients and invertebrate fish food organisms to the lake systems. It would be appropriate to detail the number of such streams, the types and approximate areas of habitat being lost, the effect of the loss and possible mitigation or compensation. These should be relatively simple assessments and calculations to undertake.

More details are needed on the direct linkages of water budgets and flood and draw-down scenarios to aquatic organisms. This information could be estimated if comprehensive and exact field data is unavailable.

Guideline 603c) specifies *"a fish habitat management plan that ensures compliance with the No Net Loss (NNL) principle"* of DFO's habitat policy. Many of the details of how NNL is to be realized are still subject to negotiations between the proponent and DFO and as such, final information may not be available until the Public Hearing Phase of this EARP review. The proponent should, however, provide its referenced May 1995 report titled *"Fisheries Mitigation Strategy for No Net Loss Policy"*. This report may provide the reader with greater

insight into the considerations relating to mitigation, habitat creation and the concept of financial compensation for lost habitat.

Qualitative Analysis:

Discussion of rationales and possible mitigative or compensatory options relating to stream and lake habitats for all fish species at all life history stages is weak because of data shortfalls. Data from the 1995 field season will better position the proponent to address these areas.

The management and protection of aquatic habitat is closely linked to the Water Management and the Waste Management Plans, both of which have been deemed not to conform to Guidelines 6.2 a) & b). Conformity of the EIS Guideline requirements for 6.2 c) is contingent on conformity of those other two management plans.

EIS GUIDELINE REQUIREMENTS:

6.2 (e) Management Plans - traffic management

Guideline Paragraph - 603

EIS REFERENCE & TITLE:

Vol. III, Sec. 6 Traffic Management Plan

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The Proponent has provided insufficient information with regard to wildlife management.

Qualitative Analysis:

Traffic management plans during the construction and operational phases are vague with respect to wildlife interaction, particularly given that the spring migration route of caribou coincides with the Misery Haul Road.

EIS GUIDELINE REQUIREMENTS:

6.2 (f) Management Plans - plans to control or minimize human/wildlife interactions

Guideline Paragraph - 603

EIS REFERENCE AND TITLE:

Vol. III, Sec. 7 Wildlife Management Plan

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

6.2 (g) Management Plan - emergency response and contingency plans

Guideline Paragraph - 603

EIS REFERENCE & TITLE:

Vol. I, Sec. 2	Project Description
Vol. III, Sec. 4	Materials Management Plan
Vol. III, Sec. 5	Waste Management Plan

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

6.2 (h) Management Plans - decommisioning, site reclamation and post-closure

Guideline Paragraph - 603

EIS REFERENCE & TITLE:

Vol. III, Sec. 9 Reclamation, Decommissioning & Closure Management Plan
Vol. III, Sec.10 Monitoring Plan

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **not in conformity**.

Guideline sub-paragraph 6.2 h) specifies *"a closure plan explaining mine decommissioning, site reclamation and proposed post-closure monitoring"*. Section 9 coverage of decommissioning and site reclamation is adequate. Sections 9 & 10 coverage of post-closure monitoring is lacking or inadequate.

Quantitative Analysis:

The Proponent describes in detail a number of management plans as required by the Guidelines, however, it fails to address post-closure monitoring in terms of actual water quality and quantity data collection, integrity of structures such as dams, verification of permafrost modelling and fish and wildlife habitat recovery.

The monitoring plan does not include any sampling of biota from the Panda-Kodiak diversion channel. While the Proponent correctly asserts that biological recovery in the channel will be hindered by being within a zone of direct water quality impact, at some juncture the biological production with this compensatory habitat should be documented to enable a determination of whether DFO's "No Net Loss" (NNL) principle and the objectives behind it (i.e. grow fish) are being, or will be, achieved. Similarly, an assessment of the productive capacity of the stream and lake habitats and not just biological sampling, should be included in the monitoring program. Such stream and lake monitoring may need to continue into the post-closure period. Specific details regarding such post-closure environmental monitoring strategies are not essential to the panel's deliberations.

Despite what may be the Proponent's best efforts during mine life, there are potential requirements for post-closure monitoring that should be identified and scoped for the purpose of the panel's review. For example: post-closure water flow patterns and the effect on fish habitats; riparian zone stabilization through natural or introduced revegetation; predicted versus realized productive capacity of diversion channel stream and other replacement or

natural habitats; water quality throughout claim block and more particularly associated with Cell E tailings area discharge as well as with waste dumps, the road network, settling ponds, dam and dyke structures.

Qualitative Analysis:

The inadequate coverage of post-closure monitoring appears to stem from the Proponent's interpreting sub-paragraph 6.2 h) and related paragraphs 1101 & 1102 to mean that post-closure reclamation activities should be monitored, not that post-closure monitoring of reclamation and other activities or undertakings completed throughout the life of the mine should be undertaken. This assessment of the Proponent's interpretation is based on the statement "*The plan also includes provisions for monitoring post-closure reclamation activities*" in Volume 3, Section 10, page 10.1 and the general lack of discussion of post-closure monitoring activities that follows.

Contrary to the above interpretation, Guideline sub-paragraph 6.2 h) (and 1101) appears intended to apply to monitoring of a wider range of target activities and temporal scope i.e., any aspects of the mine operation that had occurred up to and including closure, that could require on-going monitoring. The intent being that all mitigation and compensation activities as per the management plans (as specified in the immediately previous sub-paragraphs a)- g)) are fully and to the extent possible, successfully realized. This would include monitoring to ensure that activities or works undertaken prior to the commencement of closure, and in fact starting from the first day of the mine's life, are successfully decommissioned and reclaimed or successfully mitigated, compensated for or replaced (e.g. aquatic habitat and water quality).

There is nothing in the EIS that commits the Proponent to monitoring and correcting, potentially for a number of years post-closure, any detected problems (eg. water quality) or revisiting restorative, stabilizing, or compensatory undertakings that may have failed or not performed as predicted over the long term. The Proponents's approach is premised on an acceptable degree of success being realized for all such undertakings and/or that the validity of its predictions will be adequately tested and corrected for during the life of the mine. Even though the monitoring proposed during the life of the mine is generally judged to be good, these assumptions may not be realistic in the dynamic, harsh northern environment. It should be noted that DIAND is encouraged to see the concept of progressive restoration.

As discussed under Quantitative Analysis above, extensive details are not required in the EIS, rather the identification and scope of possible post-closure issues, and a commitment to monitor and remedy, as may be necessary, the long term and post-closure status of proposed environmental strategies. It may be most appropriate to have this concept incorporated into the terms of reference for the independent environmental surveillance group proposed by the Proponent.

6.3 COMMITMENTS AND POLICIES

604 The Proponent should describe its commitments, policies and arrangements directed at promoting positive socio-economic effects and avoiding or mitigating negative socio-economic effects. The Proponent should discuss any requirements for sub-contractors to comply with these policies. This description should include policies on:

a) commuting, work rotation, and measures to encourage northern residency of workers;

b) recruitment, training, hiring, unionization and employment counselling, including those policies specifically for aboriginal candidates and those promoting aboriginal participation;

c) orientation to the workplace, cross-cultural programs and personal counselling, in particular those directed to aboriginal workers;

d) occupational health and safety, and response plans for workplace accidents;

e) security management;

f) reducing the potential for social problems on the job-site or in the home communities resulting from the Project, including the policy on alcohol and drugs on the job-site;

g) accommodating aboriginal personnel wishing to pursue harvesting and traditional activities;

h) use of committees and liaison arrangements to respond to issues raised by employees;

i) contracting and procurement, including those which promote local sourcing, participation of local businesses and opportunities for aboriginal businesses;

j) education and training, entry requirements, career development counselling, and training for entry, on-the-job and post-Project employment; and,

k) encouraging youth to consider and pursue education, training and employment opportunities.

605 The description should also include proposed programs for the education of appropriate personnel to ensure they are aware of their role in the protection of the environment and in emergency response plans.

EIS GUIDELINE REQUIREMENTS:

6.3 Commitments and Policies

Guideline Paragraph - 604

EIS REFERENCE & TITLE:

Vol. I, Sec. 4 Corporate Policies, Procedures and Commitments

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitive Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The Proponent has adequately described its commitments and policies with respect to the eleven specific items requested in the guidelines. Much of this information was found in other sections of the EIS and there were good cross-references as to where to find the information.

EIS GUIDELINE REQUIREMENTS:

6.3 Commitments and Policies

Guideline Paragraph - 605

EIS REFERENCE & TITLE:

Vol. I, Sec. 4 Corporate Policies, Procedures and Commitments

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitive Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The Proponent has adequately described its commitments and policies with respect to the proposed programs for education of personnel about their role in the protection of the environment and emergency responses. Much of this information was found in other sections of the EIS and there were good cross-references as to where to find the information.

7.0 BOUNDARIES FOR THE ENVIRONMENTAL ASSESSMENT

7.1 SPATIAL BOUNDARIES

701 The Proponent should define the spatial boundaries of the maximum area in the NWT potentially affected by the Project (the impact area). These spatial boundaries for environmental assessment should be based on an analysis of impact systems such as pollutant transport and accumulation mechanisms. Spatial boundaries of the impact area will vary seasonally and for different impact systems. For example, spatial boundaries for hydrographic studies related to tailings pond design will differ from studies on caribou migration. The boundaries for socio-economic assessment should be based on an analysis of socio-economic effects directly associated with the Project and general effects in the NWT. The EIS should contain a justification and rationale for the boundaries chosen.

EIS GUIDELINE REQUIREMENTS:

7.1 Spatial Boundaries (physical and biological)

Guideline Paragraph - 701

EIS REFERENCE & TITLE:

Vol. II, Sec. 2	Physical Setting
Vol. II, Sec. 3	Biological Setting
Vol. IV, Sec. 1.1	Methods
Vol. IV, Sec. 5.1	Cumulative Effects - Boundary Definitions

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

The Proponent does not "define the spatial boundaries of the maximum area in the NWT potentially affected by the Project (the impact area).... based on analysis of impact systems such as pollutant transport and accumulation mechanisms". The EIS refer to the potential direct and cumulative effects on the Coppermine watershed.

Qualitative Analysis:

The Proponent defines the impact area for hydrology as the Coppermine Basin. While little effect is expected on the hydrologic regime of the Coppermine River, it is expected that vast changes will occur in the Koala basin; few of which are recognized. It is more reasonable to restrict the spatial scale for hydrology impacts to the Koala and Long Lake Basin.

The Proponent, in Volumes II and IV, provides considerable descriptive material on the physical setting for the project and from time to time infers that all aspects of the physical environment are contained within the claim block. Volume IV, Section 5.1 defines the boundaries from cumulative effects but they are too broad for assessment purposes. The precise spatial boundaries of areas predicted to be affected by the project need to be defined, instead of suggesting the whole Coppermine Basin as the cumulative effects boundary for water quality. The inference that the effects will be contained within the claim block may not be accurate. For example, during mine development and the draining of the lakes for the tailings containment area, the increased post-freshet flow has potential to alter downstream aquatic ecosystems that rely on a recession. The extent of post-freshet flooding needs to be defined in terns of a spatial impact outside the claim block.

Although the migration range for the Bathurst Caribou has been identified for the purposes of cumulative effects, the impact section dealing with the non-cumulative effects on wildlife was somewhat restricted to the directly affected area, and to a lesser degree the wildlife study area.

Further, regarding cumulative effects; the Proponent indicates the potential for further development in the claim block outside the five pits dealt within the EIS (Figure 5.4-1;volume IV), yet there is no baseline information for wildlife or vegetation for these areas. Since these areas have been identified by the proponent as having the potential to be developed, they should be within the spatial boundaries of the EIS for cumulative effects.

As mentioned above, there is considerable descriptive information on the physical setting, but in some areas, key references are not cited. For example, the work by Gibson, Edwards and Reid completed on evaporation at northern minesites is not included. In addition to this omission, a number of other references are cited in the text such as Bengstssen et al. (1990), Chow et al. (1982), Marsh (1990a and 1990b), Metcalfe and Ishida (1994), Metcalfe et al. (1994), Prowse (1990), Reid (1994) and Woo (1993) are not included in the reference section. This list is not all inclusive. The entire reference section should be checked against the text.

EIS GUIDELINE REQUIREMENTS:

7.1 Spatial Boundaries (socio-economic)

Guideline Paragraph(s) - 701

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.1	Methods
Vol. I, Sec. 2	Project Description
Vol. II, Sec. 1.1	Approach to Impact Assessment
Vol. II, Sec. 4	Socio-economic Setting
Vol. IV, Sec.4	Socio-economic Impacts and Mitigation
Vol. IV Sec. 5.1	Cumulative Effects - boundaries

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

Boundaries for the maximum area in the NWT potentially affected by the project are defined to be: First Nation Communities Rae-Edzo, Wha Ti, Snare Lake, Rae Lakes, N'dilo, Dettah, Lutsel K'e, Coppermine, Yellowknife and Hay River, the remainder of the NWT, the NWT in total. In addition, Canada in total has been defined as a location of study.

Qualitative Analysis:

The information provided by the Proponent is adequate.

7.2 TIME BOUNDARIES

702 The time boundaries to be considered for the assessment of the potential effects of the Project should be based on the following periods:

a) the construction period;
b) the operation period;
c) the closure period; and
d) the post-closure period.

703 The closure period covers decommissioning, abandonment and reclamation of the Project site. The post-closure period covers the period after the mine has been decommissioned and the site reclaimed and returned to a near natural state. Time boundaries of the post-closure period may encompass many years, depending on the site and on methods of closure.

EIS GUIDELINE REQUIREMENTS:

7.2 Time Boundaries (physical/biological)

Guideline Paragraph - 702

EIS REFERENCE & TITLE:

Vol. I, Sec.	Methods
Vol. II, Sec. 3	Biological Setting
Vol. IV, Sec. 5.1	Cumulative Effects

Conformity:

The response by the Proponent for this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

There is little information regarding the post-closure period for wildlife or fish habitat, and little information of the specific effects on caribou and top predators during the actual construction of the Misery Haul Road.

Qualitative Analysis:

The assumption in the EIS is that compensation and restoration of aquatic habitat and related aquatic (eg. hydrology, channel stability) and terrestrial (eg. slope stabilization) mitigative measures will be successful. Given the possibility that this assumption may not always hold true, particularly if closure were to occur much earlier than forecast, the lack of recognition that there could exist a need for long-term, post-closure monitoring is a deficiency.

The project does not present potential impacts on aquatic habitat that are likely to require monitoring in perpetuity, however, references to possible time frames should be made or, perhaps, a commitment to examine time frames and bench marks for success in areas such as mitigation of sediment yield through vegetative colonization.

EIS GUIDELINE REQUIREMENTS:

7.2 Time Boundaries (socio-economic)

Guideline Paragraph - 702

EIS REFERENCE & TITLE:

Vol. II, Sec. 1.1	Approach to Impact Assessment
Vol. II, Sec. 4	Socio-economic Setting
Vol. IV, Sec.4	Socio-economic Impacts and Mitigation
Vol. IV Sec. 5.1	Cumulative Effects - Boundaries

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The construction phase and the operations phase time boundaries are defined, and plans to manage the closure period are described.

Qualitative Analysis:

A discussion of the post-closure time period (section 7.2.d of the Guidelines) is needed.

8.0 DESCRIPTION OF THE EXISTING ENVIRONMENT

801 This section of the EIS should demonstrate the Proponent's understanding of and respect for the functioning and health of the physical, biological and socio-economic environments as they exist now and, to the extent possible and relevant, as they existed prior to the Proponent's exploration activities. Emphasis should be placed on those components that are likely to be affected by the Project and on those identified as issues of public concern during the scoping sessions.

802 The Panel's terms of reference call for an environmental assessment of the construction, operation, abandonment and reclamation of the proposed Project. For this assessment, therefore, the baseline is the environment as it currently exists. Nevertheless, the description of the existing environment should consider the effects of the Proponent's exploration activities to date as this information will aid in understanding and predicting the effects of the Project.

803 The Proponent's description of the existing environment should be in sufficient detail to permit the identification, assessment and determination of significance of potentially adverse effects which may be caused by the Project. The Proponent should ensure that all components identified in 9.0 - Impact Assessment are addressed in the description of the existing environment.

804 Traditional knowledge may be particularly valuable in providing information on the past environment and on the existing environment. The Proponent is expected to include traditional knowledge and expertise in its analyses throughout this section, and identify such knowledge where used.

EIS GUIDELINE REQUIREMENTS:

8.0 Description of the Existing Environment (physical and socio-economic)

Guideline Paragraph - 801

EIS REFERENCE & TITLE:

Vol. II, Sec. 2	Physical Setting
Vol. II, Sec. 4	Socio-economic Setting

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

The Guideline requests that the Proponent demonstrate a understanding of the existing environment. This was accomplished only in part for the water quality and quantity component due to the lack of and inadequate quality of information. Similarly, there is a lack of understanding of the terrain and permafrost conditions at the proposed development site.

Although point-by-point examination of different aspects of the social and economic setting under paragraphs 809, 810, 811, 812 identify several specific deficiencies, the essence of paragraph 801, that the Proponent demonstrate understanding of the setting, has been broadly satisfied in those instances. Problems relate instead to quantification or to presenting information in a way that will contribute to public understanding.

Qualitative Analysis:

Proponent states that it has insufficient data to determine the monthly average runoff for the site and some flow rates have a degree of uncertainty. This component is likely to be affected by the Project with the numerous diversions and dewatering of lakes planned.

There appears to be lack of water quality information from Areas A and B which will have the potential to effect downstream areas.

The Proponent demonstrates good understanding of the social and economic circumstances of the NWT and the study region. Emphasis is on communities most likely to be affected by the project, and there is attention paid to areas of public concern.

There is temporal analysis, addressing traditional use and the dynamics which have produced current social and economic circumstances. Ethnic and spatial disaggregations are provided. Information was collected from individual agencies when published statistics did not provide sufficient disaggregation.

In general, appropriate indicators have been selected, and data limitations have been respected in analyses. The only reservation might be with respect to dependence on secondary data sources where primary sources were available. For example, references and Appendix II-C2 suggest that relevant Statistics Canada publications or contact people were not consulted concerning Statistics Canada data series that were used.

EIS GUIDELINE REQUIREMENTS:

8.0 Description of the Existing Environment

Guideline Paragraph - 802

EIS REFERENCE & TITLE:

Vol. II, Sec. 2	Physical Setting
Vol. II, Appendix II-A6	Water Quality Data

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The Guideline requests that the Proponent consider the effects of the exploration activities when describing the baseline. This was done only in part with respect to water quality, terrain and permafrost.

Information on permafrost aggradation to date into current earth fills would help assess the feasiblity of using permafrost core tailings retention structures.

Qualitative Analysis:

There is lack of information provided on the metals in Lac de Gras water which affects the ability to determine the impacts of the exploration activities to date. Although the Proponent does state that aluminum and suspended solids were elevated in certain lakes in the Koala basin due to exploration drilling, the levels in each lake as the water moves down stream and eventually into Lac de Gras is not discussed. Data appears to be included (in appendices) but has not been interpreted to discuss the downstream effects (which appear to be minimal nonetheless).

While the EIS notes that massive ice was present in the Airport Esker and exposed during exploration activities, the Proponent does not consider the impact of the presence of massive ice. Massive ice has the potential to impact on the quantities of borrow recoverable and on the the project through the effects of melting of ground ice and thermokarst which has occured on site during the exploration phase.

EIS GUIDELINE REQUIREMENTS:

8.0 Description of the Existing Environment

Guideline Paragraph - 803

EIS REFERENCE & TITLE:

Vol. II, Sec. 2	Physical Setting
Vol. II, Appendix II-A6	Water Quality

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

The Proponent's "description of the existing environment" does not provide sufficient detail with regard to hydrometric, climate data and water quality.

The EIS also lacks sufficient detail on:

a) geomorphology and soils, including eskers and other sources of aggregates;
b) permafrost conditions, including areas of discontinuous permafrost, high ice content soils, thaw sensitive slopes, and stream-banks; and
c) areas of ground instability such as slumping or landslides.

Qualitative Analysis:

The Proponent has provided sufficient hydrometric and climate data to provide an idea of the hydrologic regime and climate, but the proponent does not analyse or present the data adequately. Basically, the data is included but could have been interpreted differently in order to provide a better explanation. It is recommended that the Proponent provide a more adequate interpretation of this data prior to public hearings.

No water quality data was collected for those streams and lakes in Area A and B. Since the Proponent proposes that runoff from these areas will be diverted to flow into Cell E, with hopes of discharging them without treatment, it is necessary to have information on water quality of these water bodies.

The levels of water quality are interpreted for overall basins instead of individual sites resulting in up to 38 sites being averaged into one value. In the case of aluminum in the Koala basin, values range from 0.7 mg/L to 0.02 mg/l but are reported as 0.059 mg/l.

The Proponent does not include a sufficiently detailed description or mapping of eskers and other potential sources of aggregates to determine the effects of the project on local aggregate supplies.

The EIS indicates that permafrost taliks exist beneath lakes and that high-ice content soils and potentially sensitive slopes exist, but does not provide adequate detail of description or mapping of these features to determine the effects on the project.

The EIS notes that permafrost-related slope failures are present but does not provide adequate detail of description or mapping of these features to determine the effects on the project.

EIS GUIDELINE REQUIREMENTS:

8.0 Description of the Existing Environment

Guideline Paragraph - 804

EIS REFERENCE & TITLE:

Vol. II, Sec. 2	Physical Setting
Vol. II, Sec. 3	Biological Setting

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **conform in part**.

Quantitative Analysis:

With regards to wildlife and vegetation, most of the traditional knowledge that could contribute to the EIS has not yet been collected, which makes it impossible for this Guideline to conform at this point in time. There is little or no use of traditional knowledge regarding vegetation.

Qualitative Analysis:

The Proponent has made relatively good use of the wildlife traditional knowledge where it is available.

8.1 PHYSICAL ENVIRONMENT

805 The Proponent should focus on components of the physical environment that are likely to be affected by the Project. The boundaries used to describe the study area for the physical environment should correspond to the boundaries defined in 7.0 - Boundaries for the Environmental Assessment.

806 The Proponent should consider the following components and processes affecting them in its description of the existing physical environment:

a) geology;
b) permafrost;
c) ground instability;
d) hydrology;
e) water quality;
f) sediment quality;
g) air quality;
h) climate; and,
i) other components relevant to the assessment of Project effects.

EIS GUIDELINE REQUIREMENTS:

8.1 Physical Environment

Guideline Paragraph - 805

EIS REFERENCE & TITLE:

Vol. II, Sec. 2 Physical Setting

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The Guideline states that the Proponent should focus on the components of the physical environment likely to be affected by the Project. The Proponent only briefly touches on groundwater, which is potentially an important environmental component. The terrain and permafrost sections also receives insufficient discussion.

Qualitative Analysis:

The Proponent provided minimal information on the current quality of the groundwater. Groundwater is an important component of the water system and needs to be discussed in more detail.

The "Geology" section of the EIS concentrates on regional surficial geology and lacks sufficient detail on terrain conditions in the main development area. Similarly, the "Permafrost" section does not present much of the information that should have been obtained during exploration, nor does it address local permafrost features indicative of sensitivity to a change in thermal conditions, instead focussing on limited one-dimensional modelling.

EIS GUIDELINE REQUIREMENTS:

8.1 (a) Physical Environment - geology

Guideline Paragraph - 806

EIS REFERENCE & TITLE:

Vol. II, Sec. 2 .1 Terrain and Permafrost

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **not in conformity**.

Quantitative Analysis:

The terrain typing for the mining site is inadequate and makes any assessment of environmental impacts difficult. There is no terrain typing in the facilities location, in particular a large scale map outlining the potential affected areas. The terrain typing for the Misery Haul Road is inadequate as the terrain conditions are merely summarized and unsubstantiated by ground truthing. Statements made such as "Crosses terrain believed to contain excess ground ice" (section 2.1.2.4, page 2.16) indicate that no ground truthing of information has been done. The Misery Haul Road should have detailed terrain types identified and field truthed to provide baseline information for engineering design of road and accurate route selection with a view to mitigate where sections of sensitive terrain exists.

A map outlining all the potential quarry sites on eskers should be included along with access roads from these sites. It is difficult to assess the accuracy of the volumes quoted without maps (including contours).

Qualitative Analysis:

The regional terrain information provided are adequate and meet requirement of the guidelines. The information presented on a regional scale needs confirmation, clarification and characterization on a local scale.

EIS GUIDELINE REQUIREMENTS:

8.1(b) Physical Environment - Permafrost

Guideline Paragraph - 806

EIS REFERENCE & TITLE:

Vol. II, Sec. 2.1 Terrain and Permafrost

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **not in conformity.**

Quantitative Analysis:

Section 2.1.2.5 Local Permafrost states that, "Bodies of massive ice occur within most eskers", and this statement is augmented with a photo, plate 2.1.4. The massive ice needs to be clearly delineated and described to accurately assess impacts. Potential esker material quarrying requires the delineation of massive ice to mitigate melting, washout, and potential ground instability caused by massive ice exposure and/or a cover of less than a metre and a half. Volume estimates of material available need massive ice delineations for accuracy.

The permafrost section requires more accurate information on the local permafrost conditions especially in terms of terrain types (i.e. organic terrain). The current information cites predicted information based on historical information with little detail on the data collected to date. The need for local permafrost conditions identification is important in predicting the introduction of permafrost in the tailings dam.

Baseline information on permafrost is needed to formulate accurate predictions of the project impacts. The project impacts on the physical environment cannot be critically assessed using the information provided.

Qualitative Analysis:

The permafrost information provides a generic description of expected conditions. No comparative analysis or information is provided on permafrost conditions at other mine sites in the region, such as Lupin.

EIS GUIDELINE REQUIREMENTS:

8.1(c) Physical Environment - Ground instability

Guideline Paragraph - 806

EIS REFERENCE & TITLE:

Vol. II, Sec. 2.2 Ground Instability

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **not in conformity**.

Quantitative Analysis:

The analysis does not cover the local ground instability issues. Natural landslides, potential instability of eskers having massive ice cores, and ice-rich organic terrain all need to be addressed. Basic knowledge of the local terrain is needed to clearly identify the potential impact on the terrain which would lead to ground instability.

Qualitative Analysis:

The information supplied deals adequately with the earthquake ground instability only.

EIS GUIDELINE REQUIREMENTS:

8.1 (d) Physical Environment - hydrology

Guideline Paragraph - 806

EIS REFERENCE & TITLE:

Vol. II, Sec. 2.3 Hydrology

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **not in conformity**.

Quantitative Analysis:

The Proponent has not mentioned the effects of snow cover, snowcover management or snow processes on the local hydrological regime.

Qualitative Analysis:

The Proponent provided minimal information on the quality of the groundwater as it exists now.

The Proponent will be operating in an area where snow is present for 8 months a year. Given the problems presented by snow drifting and snowmelt that will affect the Project, there should be a discussion of the snow processes within the claim block and the affect on the hydrological regime.

EIS GUIDELINE REQUIREMENTS:

8.1 (e) Physical Environment - water quality

Guideline Paragraph - 806

EIS REFERENCE & TITLE:

Vol. II, Sec. 2.4 Water Quality
Vol. II, Appendix II - A6 Water Quality Data

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The Guideline requests that the Proponent focus on the water quality of the area and the processes affecting it. This was covered in part, however, further details and interpretations should be provided.

Qualitative Analysis:

The Proponent did not collect water quality information from Areas A, B, or Nema Lake, all of which are important parts of the water quality component of the project.

The presentation and interpretation of the data is inadequate and does not support the statements made. Averaging the values from all 38 sites in the Koala basin is inappropriate and does not provide enough information to properly describe the environment. In addition comparison of one site in the South basin to an average of 38 sites in the Koala basin, is not adequate to support the conclusion that the two basins are similar.

Many references in this section are not included in the bibliography so their relevance cannot be substantiated. There is no information provided on the location of any previous studies or geography of the sites sampled.

Limited information is provided on the sites of the 1993 sampling program or on the methodologies employed in the entire baseline sampling collections. The Proponent has not fully described the Quality Assurance/Quality Control procedures and terminology for the water quality sampling program. This information is required to interpret the results.

EIS GUIDELINE REQUIREMENTS:

8.1 (f) Physical Environment - sediment quality

Guideline Paragraph - 806

EIS REFERENCE & TITLE:

Vol. II, Sec. 2.5	Sediment Quality
Vol. II, Appendix II-A4	Sediment Results

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

The Guideline requested that the Proponent describe sediment quality of the area; this was only partially done.

Qualitative Analysis:

The Proponent has not provided enough information to substantiate some of the statements made regarding the changes in sediment throughout the season and the temporal variability of the grab samples.

Limited explanations are provided to explain the various findings in each of the lakes sampled and the implications of these findings. There is missing data in tables without explanation, and statements made as if it were there.

EIS GUIDELINE REQUIREMENTS:

8.1(g) Physical Environment - air quality

Guideline Paragraph - 806

EIS REFERENCE & TITLE:

Vol. II, Sec. 2.7 Air Quality

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

8.1 (h) Physical Environment - Climate

Guideline Paragraph - 806

EIS REFERENCE & TITLE:

Vol. 1I, Sec. 2.6 Climatology

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

The Guideline required that the Proponent's "description of the environment .... be in sufficient detail to permit the identification, assessment and determination of significance of potentially adverse effects which may be caused by the project". This was only partly done.

Qualitative Analysis:

The methods by which the Proponent determined average annual precipitation are suspect. Combining the Lupin and Contwoyto data sets is questionable. There is likely significant degree of climatic variability between the two stations, which are 80 km apart. The Proponent should have applied the corrections as described in Metcalfe et al. (1994). It should never be assumed that sublimation is negligible. In tundra environments, sublimation can remove up to 50% of snowcover.

The information provided is adequate to identify availability of resources (water), water balance, environmental impacts and mitigative measures. The information requested has been available since 1981, from Environment Canada and from Lupin Mine. Further, the Proponent has provided site-specific data from 1992-94. The state of research has been summarized, gaps in knowledge have been identified and links between climate change and traditional knowledge have been made.

Basically, there is a considerable amount of data that has been provided for this area, however it could be interpreted in a manner which would provide a better explanation of the climate of the area.

8.2 BIOLOGICAL ENVIRONMENT

807 The Proponent should focus on components of the biological environment that are likely to be affected by the Project. The boundaries used to describe the study area for the biological environment should correspond to the boundaries defined in 7.0 - Boundaries for the Environmental Assessment.

808 The Proponent should consider the following components, the interactions between these components and the interactions with the physical environment in its description of the existing biological environment:

a) fish, other aquatic life and habitat;
b) birds, wildlife and habitat;
c) vegetation including wetlands; and
d) other components relevant to the assessment of Project effects.

EIS GUIDELINE REQUIREMENTS:

8.2 Biological Environment

Guideline Paragraph - 807

EIS REFERENCE & TITLE:

Vol. II, Sec. 3.2 Vegetation
Vol. II, Sec. 3.1 Aquatic Life
Vol. II, Sec. 3.3 Wildlife

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has yet to provide important wildlife and fish data from the 1995 field season.

Qualitative Analysis:

The information provided by the Proponent so far is of good quality.

EIS GUIDELINE REQUIREMENTS:

8.2 (a) Biological Environment - Fish, other aquatic life and habitat

Guideline Paragraph - 808

EIS REFERENCE & TITLE:

Vol. II, Sec. 3.1 Fish & other Aquatic Life Habitat

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The treatment of lake and stream habitats of juvenile lake trout and all life history stages of grayling is weak. Only what is considered the most important habitat, i.e. lake trout spawning, receives good coverage. No quantitative information is provided on streams that were dry during the summer, however, it is important to quantify whether these may be individually and collectively, important grayling spawning habitat in the spring and rearing habitat prior to lake residency.

Qualitative Analysis:

An excellent job has been done on the food chain and primary and secondary producers and on fish and other aquatic species' interaction with each other and the physical environment.

The discussion of fish populations and aquatic ecology is comprehensive, however, McPhail & Lindsay (1973) and Scott & Crossman (1970), two somewhat dated general text book references, are heavily relied on for information about life history timing, habitat and food preferences. A few other more recent references more specifically dealing with the species and latitudes in question are mentioned however, more should have been sought.

Information from TEK is limited to areas that are fished. Other important information that may be available, such as timing of spawning, is not referenced. This will be usefule information for regulatory authorities to have when examining final project design specifications and timing windows for construction.

EIS GUIDELINE REQUIREMENTS:

8.2 (b) Biological Environment - birds, wildlife and habitat

Guideline Paragraph - 808

EIS REFERENCE AND TITLE:

Vol. II, Sec. 3.3 Wildlife

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

Qualitative Analysis:

There was a lack of comparable data for specific wildlife parameters. For example it would be useful to know as part of the baseline information the density of dens and wildlife species in the directly affected area as compared to densities outside the directly affected area to help quantify or to at least qualify the relative importance of the impact area.

There was also a distinct lack of quantified data on wildlife and habitat, including interaction between wildlife species and their habitat. The proponent has indicated several times that the 1995 summer field season data is important for a complete analysis. It was not available for the EIS.

EIS GUIDELINE REQUIREMENTS:

8.2(c) Biological Environment - vegetation including wetlands

Guideline Paragraph - 808

EIS REFERENCE & TITLE:

Vol. II, Sec. 3.2 Vegetation

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**. (interactions between biological components and the physical environment)

Quantitative Analysis:

Qualitative Analysis:

Although an early vegetation classification has been presented, there is little quantified data such as relative abundance of plant species, particularly those of importance to wildlife in the habitat expected to be negatively affected. In particular a comparison of the vegetation on the migration route with non-migration route vegetation and terrain should be conducted. Ground truthing corroboration for the vegetation classification is needed.

8.3 SOCIO-ECONOMIC ENVIRONMENT

809 The profile of the existing socio-economic environment should describe conditions at the community, regional and territorial levels as relevant, in such a way that the potential effects on the functioning and health of the socio-economic environment and the significance of these effects can be assessed. The profile should employ, as appropriate, socio-economic indicators to help define the features of the system. The analysis should justify the selection of these indicators according to their relevance for the analysis.

810 The functioning and health of the socio-economic environment is meant in these Guidelines to encompass a broad range of matters that touch the people and communities in the impact area. The closely related concern for the interactions between the socio-economic environment and the physical and biological environments should be considered. The term "interaction between the socio-economic environment and the physical and biological environments" is intended to capture not only uses of the land and natural resources by people, but also the role of the land in social and cultural systems.

811 The socio-economic environment to be described is undergoing substantial change regardless of the Project. The analysis should consider the likely trends in the area in the absence of the Project given known information about other planned major projects or social or institutional changes in the impact area within the time frame of the Project.

812 The Proponent should consider the following components in its description of the existing socio-economic environment:

a) human health;
b) demographics;
c) social and cultural patterns;
d) archaeological, paleontological, cultural, heritage and burial sites;
e) land and resource use;
f) local, regional and territorial economy;
g) employment, education and training;
h) services and infrastructure;
i) government; and
j) other components relevant to the assessment of Project effects.

EIS GUIDELINE REQUIREMENTS:

8.3 (b) Socioeconomic Environment - demographics

Guideline Paragraphs - 809, 810, 811, 812

EIS REFERENCE & TITLE:

Vol. II Sec. 4.1.7	People/Demographic Profile
Vol. II Sec. 4.2.2	People/Demographic Profile
Vol. II Sec. 4.3.1	People/Demographic Profile
Vol. II Sec. 4.4.1	People/Demographic Profile
Vol. II Sec. 4.5.1	People/Demographic Profile

Conformity:

N/A DIAND did not formally review these subsections. A qualitative note was made during background reading.

Quantitative Analysis:

N/A

Qualitative Analysis:

While not significant enough to affect conformity, the following was noted:

Table 4.4-1: *Yellowknife Population Growth*, the column "Percentage Change in Period" is inaccurately titled. The figures are Average Annual Percentage Change in Period. For example, the percentage change in period 1966-71, from 3,741 to 6,122 is 63.6%. The figure shown, 10.4%, is a calculation of the average yearly growth rate which, compounding, would yield the observed 5-year result.

EIS GUIDELINE REQUIREMENTS:

8.3(c) Socio-Economic Environment - Social and cultural patterns

Paragraphs - 809, 810, 811,812

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.2	Traditional Knowledge - The Importance of Knowing	
Vol. II, Sec. 4.1.3	The Traditional Economy	
Vol. II, Sec. 4.1.4	Emergence of the Mixed Economy	
Vol. II, Sec. 4.1.5	The Current Economy	
Vol. II, Sec. 4.1.6	Concerns	
Vol. II, Sec. 4.1.8	Economic Activity/Sectors	
Vol. II, Sec. 4.2	First Nations Communities	
Vol. II, Sec. 4.2.6	Capacity for Growth	
Vol. II, Sec. 4.3	Coppermine	
Vol. II, Sec. 4.3.5	Outlook	
Vol. II, Sec. 4.4	Yellowknife	
Vol. II, Sec. 4.4.5	Capacity for Growth	
Vol. II, Sec. 4.5	Hay River	
Vol. II, Sec. 4.5.5	Capacity for Growth	
Vol. II, Sec. 4.5.6	Community Attitudes	Not "Outlook" as listed.
Also found relevant:		
Vol. II, Sec. 4.3.6.1	Community Survey	
Vol. II, Sec. 4.4.6.1	Community Attitudes	

Conformity:

The response by the Proponent to these specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

Good characterization of the traditional economy including concise historical summarization and succinct identification of subsistence versus wage economy issues. Thorough descriptions of communities. Could be improved by an explanation why community issues are not discussed for individual First Nation communities, parallel to the "Outlook" and "Community Attitudes" sections on Coppermine, Hay River and Yellowknife (limitations described in Vol. IV, page 4.54, may apply).

EIS GUIDELINE REQUIREMENTS:

8.3(e) Socio-economic Environment - land and resource use

Guideline Paragraph - 812

EIS REFERENCE & TITLE:

Vol. II, Sec. 4.1.3	The Traditional Economy
Vol. II, Sec. 4.1.4	Emergence of a Mixed Economy
Vol. II, Sec. 4.1.5	The Current Economy
Vol. II, Sec. 4.1.6	Concerns
Vol. II, Sec. 4.1.8	Economic activity/sectors
Vol. II, Sec. 4.2.3	Economic activity/sectors
Vol. II, Sec. 4.3.2	Economic activity/sectors
Vol. II, Sec. 4.4.2	Economic activity/sectors
Vol. II, Sec. 4.5.2	Economic activity/sectors

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

8.3 (f) Socio-economic Environment - local, regional and territorial economy

Paragraphs - 809, 810, 811, 812

EIS REFERENCE & TITLE:

Vol. II, Sec. 4.1.3	The Traditional Economy
Vol. II, Sec. 4.1.4	Emergence of the Mixed Economy
Vol. II, Sec. 4.1.5	The Current Economy
Vol. II, Sec. 4.1.6	Concerns
Vol. II, Sec. 4.1.8	Economic Activity/Sectors
Vol. II, Sec. 4.1.9	Income and Investment
Vol. II, Sec. 4.1.14	NWT Revenue and Expenditures
Vol. II, Sec. 4.2.3	Economic Activity/Sectors
Vol. II, Sec. 4.2.4	Income
Vol. II, Sec. 4.3.2	Economic Activity/Sectors
Vol. II, Sec. 4.3.3	Income
Vol. II, Sec. 4.4.2	Economic Activity/Sectors
Vol. II, Sec. 4.4.4.12	Financial Resources
Vol. II, Sec. 4.5.2	Economic Activity/Sectors
Vol. II, Sec. 4.5.3	Income
Also found relevant:	
Vol. I, Sec. 1.2	Traditional Knowledge - The Importance of Knowing
Vol. II, Sec. 4.1.7.2	Employment and Incomes
Vol. II, Sec. 4.1.13	Commercial/Industrial Infrastructure
Vol. II, Sec. 4.2.2	People/Demographic Profile
Vol. II, Sec. 4.2.5.10	Commercial/Industrial Infrastructure
Vol. II, Sec. 4.2.6.2	Education/Work Force
Vol. II, Sec. 4.3.1	People/Demographic Profile
Vol. II, Sec. 4.3.5.1	Work Force
Vol. II, Sec. 4.3.6	Outlook
Vol. II, Sec. 4.4.1	People/Demographic Profile
Vol. II, Sec. 4.4.3	Income and Investment
Vol. II, Sec. 4.4.4.11	Commercial/Industrial
Vol. II, Sec. 4.4.5.1	Work Force
Vol. II, Sec. 4.4.6.2	Potential to Benefit from the NWT Diamonds Project
Vol. II, Sec. 4.5.1	People/Demographic Profile
Vol. II, Sec. 4.5.4.11	Commercial/Industrial
Vol. II, Sec. 4.5.4.12	Financial Resources
Vol. II, Sec. 4.5.5	Capacity for Growth
Vol. II, Sec. 4.5.6	Community Attitudes
Vol. II, Sec. 4.6	Competing/Complementary Projects in the NWT

Vol. II, Sec. 4.7 No Development Scenario

Conformity:

The response by the Proponent to these specific guidelines is deemed to **conform in part**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is deficient in the following areas:

NOTE:

GDP (4.1.8.5, 4.1.14, see also Vol. IV, Sec. 4.14.1) Since contribution to GDP is one of the key indicators used by the Proponent to measure project impacts, it is important that the GDP concept and baseline be set out clearly for non-technical readers. Discussing the indicator as a subsection of territorial government revenues and expenditures does not contribute to the understanding of either GDP or government finances. GDP measures the size of the economy, and would most usefully be part of the discussion of economic activity. Explanation of its value-added nature is necessary to understanding the relative importance of different industries to GDP.

Consistent with guideline paragraph 810 and the concern identified in public consultations that work rotations not constrain harvesting, it would be appropriate to discuss the limitations of applying an indicator designed for a monetary economy to a dual economy, and the importance of being aware whether increases in the indicator mark net growth, or rises in monetized output offset by losses in subsistence production. An NWT source on the subject is Joseph Potvin, Ed Weick and Kari Levitt (1989), *Estimation and Valuation of Non-monetary Production and its Integration with the Northwest Territories Economic Accounts*, a report prepared for the Policy and Planning Directorate of Economic Development and Tourism, Government of the Northwest Territories.

Income (Sec. 4.1.7.2) As discussed above under GDP, it would be appropriate to introduce these indicators with an acknowledgement that while direct subsistence income is of interest, these indicators address only monetary income.

Income Support Programs (Table 4.1-18) **Add**: Northern Air Stage Subsidy, DIAND. 1992-93 total for NWT was $3.8 million.

Cost of Living (Sec. 4.1.9.3, 4.2.4.1, 4.3.3.2, 4.4.3.3, 4.5.3.3) The Proponent noted one of the indicators used appeared inconsistent with empiracle observations (Sec. 4.5.3.3). The

unnamed indicator appears to be the Cost of Living Differential component of the federal Isolated Post Allowance (IPA). While this is generally accepted to the most inclusive index available for individual northern communities, it is not a comprehensive indicator of the cost of living, and inconsistencies do emerge if inappropriate attempts are made to use it as an equivalent of the Consumer Price Index (CPI). Items covered (food purchased from stores, household supplies and services, private and public transportation, personal care supplies and services, tobacco and alcohol) account for only about 35% of the family budget represented by the CPI. Many of the items which the Proponent suggested as inconsistent with IPA -- housing prices, municipal taxes, power costs -- are beyond its scope.

The IPA indicator should not be presented as representative of comprehensive cost of living in any of the cited Sections.

References do not suggest Statistics Canada sources were consulted when a data discrepancy was observed. Reliance solely on secondary sources, without consulting originator publications or contact people to ascertain data derivation and limitations, cannot be considered best practice.

First Nations Communities, Renewable Resources (4.2.3.6) The reader is told that the 55 residents involved in 'agriculture, fishing, or logging' are not fishing or harvesting firewood. The reader could be left with the understanding that most are engaged in agriculture, which is probably not the intent.

No Development Scenerio (4.7) The Proponent should note that the division of the NWT will result in some incremental economic activity associated with the establishment of the Government of Nunavut. Opportunities for employment and business can be expected from new infrastructure development and ongoing employment in the Government of Nunavut post 1999.

EIS GUIDELINE REQUIREMENTS:

8.3 (g) Socioeconomic Environment - employment, education and training

Paragraphs - 809, 810, 811, 812

EIS REFERENCE & TITLE:

Vol. I, Sec. 2.10	Human Resources
Vol. II, Sec. 4.1.7	People/Demographic Profile
Vol. II, Sec. 4.1.8	Economic Activity/Sectors
Vol. II, Sec. 4.1.9.1	Wages/Employment
Vol. II, Sec. 4.1.11	Social Infrastructure
Vol. II, Sec. 4.2.2	People/Demographic Profile
Vol. II, Sec. 4.2.6.2	Education/Work Force
Vol. II, Sec. 4.3.1	People/Demographic Profile
Vol. II, Sec. 4.3.4.1	Work Force
Vol. II, Sec. 4.4.1	People/Demographic Profile
Vol. II, Sec. 4.4.3.1	Wages/Employment
Vol. II, Sec. 4.4.4.7	Education Facilities
Vol. II, Sec. 4.5.1	People/Demographic Profile
Vol. II, Sec. 4.5.3.1	Wages/Employment
Vol. II, Sec. 4.5.4.7	Education Facilities
Vol. II, Sec. 4.5.5.1	Work Force

Conformity:

N/A Human Resources Development is leading federal review. No concerns were identified from a DIAND perspective.

Quantitative Analysis:

N/A

Qualitative Analysis:

N/A

EIS GUIDELINE REQUIREMENTS:

8.3 (h) Socio-Economic Environment - services and infrastructure

Paragraphs - 809, 810, 811, 812

EIS REFERENCE & TITLE:

Vol. I, Sec. 2.7	Infrastructure	
Vol. I, Sec. 2.9	Transportation Plan	
Vol. II, Sec. 4.1.10	Infrastructure	Not **Sec. 4.1.6** as stated
Vol. II, Sec. 4.1.11	Social Infrastructure	Not **Sec. 4.1.7** as stated
Vol. II, Sec. 4.2.5	Infrastructure - Municipal Government	
Vol. II, Sec. 4.3.3.3	Infrastructure	
Vol. II, Sec. 4..4.4	Infrastructure	
Vol. II, Sec. 4.5.4	Infrastructure	

Conformity:

The response by the Proponent to these specific guidelines is deemed to **conform in part**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is deficient in the following area:

Presentation of regional physical infrastructure is fragmented and unpredictable -- the hydro power system, for example, is discussed under municipal government infrastructure. It is difficult for a reader to assemble a picture of the transportation system as background to the discussions of worker rotation and public consultation. Figure 2.7.2 does not show airports as stated in the text (Vol. I, page 2.181).

Limitations of the regional-level presentation have been noted under conformity analysis of Guidelines Paragraph 502, and measures to address one of the deficiencies may serve for both.

EIS GUIDELINE REQUIREMENTS:

8.3 (i) Socio-Economic Environment - government

Paragraphs 809, 810, 811, 812

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.4.2	Land Claims
Vol. I, Sec. 1.4.3	Regulatory Environment
Vol. I, Sec. 5.3	Government Entities
Vol. II, Sec. 4	Socioeconomic Setting
Vol. II, Sec. 4.1.1	Political Setting
Vol. II, Sec. 4.2.3.1	Government
Vol. II, Sec. 4.2.5	Infrastructure - Municipal Government
Vol. II, Sec. 4.3.2	Economic Activity/Sectors
Vol. II, Sec. 4.3.2.1	Government
Vol. II, Sec. 4.3.3.3	Infrastructure
Vol. II, Sec. 4.4.4.2	Municipal Government
Also found relevant:	
Vol. II, Sec. 4.1.14	NWT Revenues and Expenditures

Conformity:

The response by the Proponent to these specific guidelines is deemed to **conform in part**.

Quantitative Analysis:

The information provided by the Proponent is insufficient in the following area:

Baseline federal revenues and expenditures are not provided. Impacts on federal revenues and expenses are mentioned in Vol. I. Sec. 1.3.3 and 1.3.4 and dealt with at some length in Vol. IV, so this is a subject which a reader might look for in the baseline setting. At minimum, a cross reference should be provided to the baseline discussions in Vol. IV sec. 4.13.3 and 4.13.7.

Qualitative Analysis:

The information provided by the Proponent is deficient in the following area:

The extensive Subsection 4.1.14.1 on Gross Domestic Product is not logically connected to discussion of territorial government revenues and expenditures. This has been noted in the statement on Guideline Paragraph 812 f), and action to deal with that deficiency may resolve this as well.

9.0 IMPACT ASSESSMENT

901 This represents a critical section of the EIS and the Proponent should be prepared to respond in detail in evaluating the effects of the Project. The EIS should provide a comprehensive analysis of the short and long-term effects of the Project on the physical, biological and socio-economic environments and on the interactions among these environments. The discussion of physical, biological and socio-economic effects should be organized to reflect the existing environment described in 8.1, 8.2 and 8.3, and should have regard for the study strategy set out in 4.1 - Study Strategy and Methodology.

902 The impact assessment should be based on the assumption that management plans, commitments and policies (described in 6.2 - Management Plans and 6.3 - Commitments and Policies) have been put into place. The probable effectiveness of each plan, commitment and policy should be assessed.

903 As identified in 8.0 - Description of the Existing Environment, the baseline for the impact assessment is the environment as it currently exists. However, the Proponent should also discuss the effects of its exploration activities conducted to date on its Lac de Gras claims block. Further, the EIS should assess the long-term cumulative effects of the Project when combined with potential future development identified by the Proponent within the claims block. The boundaries of the cumulative effects assessment should cover the maximum area potentially affected by the development and may therefore extend beyond the claims block.

904 The prediction of effects should be based on both scientific and traditional knowledge. The Proponent is encouraged to consult with traditional resource harvesters, community elders, the scientific community and government agencies in identifying Project-environment interactions, and to make reference as appropriate to the northern experience with other non-renewable resource projects. The assessment should also comment on the degree of uncertainty in predicting the effect identified.

905 The EIS should contain an analysis of the significance of the effects it predicts. It should contain sufficient information to enable the Panel and participants to understand and review the Proponent's judgement of the significance of effects. The Proponent should define the terms used to describe the level of significance. The significance of predicted effects should be assessed according to the following:

a) magnitude;

b) geographic extent;

c) timing, duration and frequency;

d) degree to which effects are reversible;

e) ecological context;

f) probability of occurrence; and

g) the capacity of resources to meet the needs of the present and those of the future.

906 The analysis should also clarify the effects of the Project on matters of public concern as identified in the Proponent's consultation process and as raised in the public scoping sessions.

907 The EIS will be considering a Project with a potential operational life of 25 years or more before closure. During that time, new technologies will be developed and science, society and the environment will change. Current and developing technologies and methods in areas such as closure, tailings management, reclamation of arctic landscapes, environmental monitoring, and community development should be considered in the EIS. Programs or procedures the Proponent plans to use to monitor these developments, and mechanisms to allow for implementation of technological innovations over the life of the Project should also be identified.

EIS GUIDELINE REQUIREMENTS:

9.0 Impact Assessment

Guideline Paragraph - 901

EIS REFERENCE & TITLE:

Vol. IV	Environmental Impacts and Mitigation
Vol. IV, Sec. 5	Cumulative Effects
Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. I, Sec. 3	Biological Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

The Guidelines require a detailed response and comprehensive analysis of short and long term effects. The section dealing with physical impacts and mitigation provides only a cursory treatment of the subject and the matrix provided in table 2.1 shows only the more significant effects. Some additional detail is included in Appendix A1, but this also contains an incomplete listing of the effects of the project.

Detailed data with respect to grayling and juvenile fish habitats is somewhat lacking.

Qualitative Analysis:

The lack of detail on physical impacts reflects the incomplete description of the physical setting of the site and of the project facilities and infrastructure.

Little specific information is provided on the anticipated concentrations or types of sediment that may be realized in fish bearing waters. An organism's sensitivity to sediments is dictated by concentration and type of sediment, previous exposure and the age, species, size and health of the organism in question. Better information is available in the scientific literature on the impacts of sediment and turbidity than is referenced by the Proponent.

Data shortfalls with respect to grayling and juvenile fish habitats do not permit a comprehensive analysis of the short and long term effects in those areas.

The premise that impacts are negligible to minor relies substantially on the argument that 0.06% of the Coppermine watershed is directly effected, the habitats are unproductive and the

effected fishery is not of significant value. It appears that these circumstances are indirectly used to justify the sometimes only cursory discussion of juvenile fish habitats and the lack of detailed, quantified field data. Even if fisheries values are low, this may be inappropriate logic given the application of the NNL (No Net Loss) principle and that we are not presented with any information on possible unique features of the fish population that might transcend the normal concept of landed fish value. Data from the 1995 field season will assist in addressing these shortfalls.

EIS GUIDELINE REQUIREMENTS:

9.0 Impact Assessment

Guideline Paragraph - 902

EIS REFERENCE & TITLE:

Vol. IV	Environmental Impacts and Mitigation
Vol. IV, Sec. 5	Cumulative Effects
Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. II, Sec. 4	Socio-economic Setting
Vol. IV, Sec. 3	Biological Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The EIS cannot speak to the probable effectiveness of all of those measures designed to ensure NNL(no net loss) of fish habitat since many aspects are still under negotiation with the Department of Fisheries and Oceans. Data shortfalls regarding juvenile fish habitat may prevent an adequate accounting of impacted or lost habitats, potentially limiting the ability to determine if NNL is achieved. Data from the 1995 field season will assist in addressing these shortfalls.

EIS GUIDELINE REQUIREMENTS:

9.0 Impact Assessment

Guideline Paragraph - 903

EIS REFERENCE & TITLE:

Vol. II, Sec. 2.4	Water Quality
Vol. II - Appendix II-A6	Water Quality Data
Vol. IV	Environmental Impacts and Mitigation
Vol. IV, Sec. 5	Cumulative Effects
Vol. IV, Sec. 2	Physical Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

The Guideline requested the Proponent to "discuss effects of exploration conducted to date, with boundary extending beyond the claims block". This has been done in part but the Proponent could have interpreted the results in a manner that outlines the effects throughout the claims block.

The EIS refers to instances where exploration activities have lead to permafrost melting and thaw subsidence and massive ice exposed at a borrow material excavation, but the potential effects and other disturbances have not been described. For example, additional borrow materials may be required to prevent permafrost thawing and subsidence, while massive ice in borrow pits may severely limit the quantities of material available.

Qualitative Analysis:

The Proponent does state that there have been effects from drilling in certain lakes, such as higher suspended solid and aluminum levels. However, there is data throughout the Koala Basin and into Lac de Gras that could have been better interpreted to show that the effects did not carry on through the system. It is recommended that the Proponent provide this information prior to the public hearings.

EIS GUIDELINE REQUIREMENTS:

9.0 Impact Assessment

Guideline Paragraph - 904

EIS REFERENCE & TITLE:

Vol. IV	Environmental Impacts and Mitigation
Vol. IV, Sec. 5	Cumulative Effects
Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. II, Sec. 4	Socio-economic Setting
Vol. IV, Sec. 3	Biological Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

For the wildlife and vegetation/habitat issues there was very little use of traditional knowledge, particularly with regards to impacts, since most has not yet been collected.

Qualitative Analysis:

The information provided by the Proponent is inadequate. The 1995 field season and additional TK, as it becomes available, will assist inaddressing any shortfalls.

EIS GUIDELINE REQUIREMENTS:

9.0 Impact Assessment

Guideline Paragraph - 905

EIS REFERENCE & TITLE:

Vol. IV	Environmental Impacts and Mitigation
Vol. IV, Sec. 5	Cumulative Effects
Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. II, Sec. 4	Socio-economic Setting
Vol. IV, Sec. 3	Biological Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

9.0 Impact Assessment

Guideline Paragraph - 906

EIS REFERENCE & TITLE:

Vol. IV	Environmental Impacts and Mitigation
Vol. IV, Sec. 5	Cumulative Effects
Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. II, Sec. 4	Socio-economic Setting
Vol. IV, Sec. 3	Biological Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

9.0 Impact Assessment

Guideline Paragraph - 907

EIS REFERENCE & TITLE:

Vol. IV	Environmental Impacts and Mitigation
Vol. IV, Sec. 5	Cumulative Effects
Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. II, Sec. 4	Socio-economic Setting
Vol. IV, Sec. 3	Biological Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

9.1 EFFECTS ON THE PHYSICAL ENVIRONMENT

908 The Proponent should assess the effects of the Project on the physical environment. This assessment should consider the following:

a) the bedrock geology, surficial geology, geomorphology and soils, including eskers and other sources of aggregates;

b) permafrost conditions, including areas of discontinuous permafrost, high ice content soils, thaw sensitive slopes, and stream-banks;

c) areas of ground instability such as slumping or landslides;

d) hydrological features such as lakes and streams, watershed boundaries, surface water flow, groundwater movement and aquifer recharge zones, flood zones and ice formation and melt patterns;

e) water quality from both surface and groundwater sources;

f) sediment quality and quantity;

g) ambient air quality and noise levels;

h) climate; and,

i) any other issues identified through public consultation.

EIS GUIDELINE REQUIREMENTS:

9.1 (a) Effects on the Physical Environment - bedrock geology, surficial geology, and geology

Guideline Paragraph - 908

EIS REFERENCE & TITLE:

Vol. IV, Sec. 2.1 Terrain Impacts

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The impacts focus mainly on the mineral claims block with a few impacts having regional scope. The impacts of the increased traffic on the winter road are not identified or discussed. Increased traffic will potentially impact on the portages and the lake margins. Lake margins are sensitive areas particularly in recent years as water levels have decreased significantly.

The EIS notes in Section 2.1 that construction and mining activities will have "primary" impacts but provides only a cursory discussion of their effects on the physical environment. It states that the extent of these will be "controlled by the engineering plan" but provides no detailed description of site facilities and access. The EIS acknowledges that these activities will also create "secondary" impacts (that "may include increased erosion, slope stability, and subsidence), whose severity is related to "surficial soils, permafrost conditions, and topography." There is no detailed mapping of any of these terrain components, but the EIS states that the impacts will be "minimal" because of other mines have been constructed on permafrost. In section 2.1.1, a general description of the impacts on eskers is provided, but this cannot be assessed since no detailed information on borrow material requirements and source is available.

Qualitative Analysis:

The EIS provides only general statements about potential impacts on the physical environment and these are not supported with detailed information on terrain and permafrost. The incomplete description of the physical setting of the site and of the project facilities and infrastructure is inadequate for assessing the effects of the project on the physical environment.

EIS GUIDELINE REQUIREMENTS:

9.1 (b) Effects on the Physical Environment - permafrost

Guideline Paragraph - 908

EIS REFERENCE & TITLE:

Vol. IV, Sec. 2.1.2 Permafrost

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The permafrost section does not discuss any impacts of the exploration activity on permafrost. Little information is given regarding predicted permafrost engineering designs and subsequent modifications based on exploration experience. The section only identifies the impacts as negligible without adequately discussing the current experience.

Section 2.1.2 provides general statements on permafrost impacts, but provides no detailed information. Other parts of the EIS note the presence of features indicative of thaw sensitive terrain and show that massive ground ice has been exposed in borrow pits, but this section does not assess the effects of the project on permafrost taliks, high ice content soils or thaw sensitive slopes, as required by the guidelines.

Qualitative Analysis:

The section discusses permafrost mitigation in general terms noting engineering designs commonly used to minimize impacts.

EIS GUIDELINE REQUIREMENTS:

9.1 (c) Effects on the Physical Environment - Ground Instability

Guideline Paragraph - 908

EIS REFERENCE & TITLE:

Vol. IV, Sec. 2.2 Ground Instability

Conformity:

The response by the Proponent to this specific Guideline is deemed **not in conformity**.

Quantitative Analysis:

Removal of granular material and grading of eskers for roads (i.e. airport esker) will create instability through melt-out. Natural landslides have been noted in the area and any alterations of the eskers which may lead to their instability should be identified and mitigation discussed. There is no discussion of the instability of eskers given that they may contain massive ice (EIS section 2.1.2.5)

Qualitative Analysis:

A brief discussion only covers the slope instability of the waste rock dumps and open pit mining.

EIS GUIDELINE REQUIREMENTS:

9.1 (d) Effects on the Physical Environment - hydrological features

Guideline Paragraph - 908

EIS REFERENCE & TITLE:

Vol. IV, Sec. 2.3 Hydrological Impacts

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **not in conformity**.

Quantitative Analysis:

The Guidelines requested that the Proponent assess the effects of the project on a number of hydrological features. The assessment did not consider surface water flow.

Qualitative Analysis:

The Proponent has established a guideline that lake dewatering or releases from Long Lake will not exceed normal plus ½ the mean annual flood. Table 2.3 - 4 suggests induced stream flows will at times be five times the mean annual flood. The Proponent does not account for the dynamic character of the hydrologic regime. Secondly, the Proponent assumes the amount of water released from Long Lake basin will remain at 8 million m^3 (present flow) after closure. This assumption is incorrect. The hydrologic regime of the Long Lake basin will change as Long Lake will be replaced with a stream channel. This will likely increase annual flow from the Long Lake basin. Thirdly, the Proponent suggests the changes in lake storage resulting from the project will have negligible effect on surface hydrology. This is inaccurate. The hydrologic regime of the Koala basin will be severely disrupted. However, even with these changes to surface flow in the Koala basin, it is unlikely the hydrologic regime of Lac de Gras or the Coppermine River will be significantly changed. The Proponent should distinguish between the regional and local hydrological effects. Overall, the Proponent should have identified not only the changes to surface flows but also interpreted the results to provide an explanation that there should not be any expected significant changes to the downstream environment.

The Proponent also states that surface diversions will take place to re-route the flow of those lakes that would normally drain into Cells A, B, and D of the Long Lake tailings containment area. While these diversions are referred to as minor with no potential to effect the watershed, there is no information to substantiate this statement.

It is noted that the Long Lake containment area is comprised of four lakes, not just one lake. These additional lakes are not discussed in the EIS.

EIS GUIDELINE REQUIREMENTS:

9.1 (e) Effects on the Physical Environment - water quality; surface and groundwater

Guideline Paragraph - 908

EIS REFERENCE & TITLE:

Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. IV, Sec. 2.3.2	Groundwater Flows
Vol. IV, Sec. 2.4	Water Quality

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The Guideline requested that the Proponent adequately assess the effects of the Project on the water quality of the area. This has been done in part.

Qualitative Analysis:

The Proponent does not provide enough information regarding potential changes in water quality in Lac de Gras. Water quality values for the Lac de Gras site have been averaged, so individual levels of metals in Lac de Gras have not been presented. The impacts of the development on Lac de Gras can therefore not be properly assessed.

EIS GUIDELINE REQUIREMENTS:

9.1 (f) Effects on the Physical Environment - sediment quality and quantity

Guideline Paragraph - 908

EIS REFERENCE & TITLE:

Vol. IV, Sec. 2.4.1 Sedimentation and suspended solids.

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

The Proponent does not provide a complete assessment of the effects of the project on the sediment quality or quantity.

Qualitative Analysis:

The Proponent does not provide data or interpret the impacts on sediment quality that may occur from increased aluminum and nickel settling in lake sediments due to the exploration activity.

EIS GUIDELINE REQUIREMENTS:

9.1 (h) Effects on the Physical Environment - climate

Guideline Paragraph - 908

EIS REFERENCE & TITLE:

Vol. IV, Sec. 2.6 Climatology Impacts

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided is adequate to identify climatological impacts and the appropriate mitigative measures. Key climatic impacts have been identified as: heat island effects, wind regime modification, acid deposition. Mitigation will essentially be the use of low sulphur diesel fuel.

9.2 EFFECTS ON THE BIOLOGICAL ENVIRONMENT

909 The effects of the Project on the biological environment should be evaluated. This evaluation should embody the concepts of ecosystem integrity and biological diversity in relation to the following:

a) for fish species and other aquatic life of ecological, economic or other human importance:

1) the regional occurrence of the species,

2) relative seasonal abundance and distribution of the species, and an estimate of the productive capacity of the water bodies,

3) health of the species and contaminant loading,

4) the migratory patterns and routes and the corresponding sensitive periods where these routes cross habitat affected by the Project,

5) habitat areas, including spawning, nursery, feeding and over-wintering areas, and the identification of any sensitive periods for each of these habitat areas,

6) management or other protected areas,

7) habitats of any rare species or species with federal, territorial, regional or local designated status (vulnerable, threatened, endangered or extirpated),

8) any other issues identified through public consultations; and

b) for birds and wildlife of ecological, economic or other human importance, and in particular caribou, grizzly bear and fur-bearing animals:

1) the regional occurrence of the species,

2) relative seasonal abundance and distribution of the species,

3) health of the species and contaminant loading,

4) the seasonal range or habitat use, movements, and population status,

5) the migratory patterns and routes and the corresponding sensitive periods where these routes cross habitat affected by the Project,

6) significant habitats such as eskers, calving and rearing areas, breeding and denning/nesting sites, migratory bird staging areas and migration stops, and special locations such as mineral licks, water crossings and insect relief habitats,

7) wildlife management areas and established or proposed sanctuaries or other wildlife areas,

8) habitats of any rare species or species with federal, territorial, regional or local designated status (vulnerable, threatened, endangered or extirpated), and

9) any other wildlife issues identified through public consultations;

c) for plant and vegetation communities of ecological, economic or other human importance, including wetlands such as bogs, fens, marshes, swamps and shallow waters:

1) the regional occurrence of the species,

2) relative seasonal abundance and distribution of the species,

3) health of the species and contaminant loading,

4) rare or unique species or species assemblages, including plant species with federal, territorial, regional or local designated status (vulnerable, threatened, endangered or extirpated), and

5) any other issues identified through public consultations.

EIS GUIDELINE REQUIREMENTS:

9.2 (a) Effects on the Biological Environment - fish & other aquatic life, # 1-8

Guideline Paragraph - 909

EIS REFERENCE & TITLE:

Vol. IV, Sec. 3	Biological Impacts and Mitigation
Vol. IV, Sec. 3.1	Aquatic Life Habitats

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

Sections 2) & 5) - The productive capacity of rearing habitats, an important consideration in meeting NNL, is not addressed fully for grayling and juvenile lake trout.

Qualitative Analysis:

Refer to 6.2(c) Management Plans - Fish Habitat Management Plans (Guideline Paragraph 603).

EIS GUIDELINE REQUIREMENTS:

9.2 (b) Effects on the Biological Environment - birds and wildlife

Guideline Paragraph - 909

EIS REFERENCE AND TITLE:

Vol. IV, Sec. 3 Biological Impacts and Mitigation
Vol. IV, Sec. 3.3 Wildlife, Birds and Habitat Impacts

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **not in conformity**.

Quantitative Analysis:

There is insufficient information regarding the 1) regional occurence of the species and 2) relative seasonal abundance and distribution of the species, although the data that was available attempted to quantify the abundance in the area of direct impact.

There was a lack of comparable data for specific wildlife parameters. For example, it is important to know, as part of the baseline information, the density of dens and wildlife species in the directly affected area as compared to densities within the claim block outside the directly affected area. This information is needed to help quantify or to at least qualify the relative importance of the area that will be directly affected by the project.

Qualitative Analysis:

The nature of the information for many species of wildlife was not well quantified, in part because the 1995 field season data was not available for this EIS.

Specific areas that should be addressed are as follows:
- there should be more information (data) for the relationship of grizzly bears to habitat use and food sources;
- the number of wolverine is high and should be more carefully assessed as to habitat needs and the reasons for its success as well as the potential impacts of development;
- the number of breeding pairs of birds in some areas is moderate to high (70+/ha) and should be compared to densities outside the impact area in order to determine the importance of the area for breeding birds;
- although there is an assumption made in the EIS that wetlands are important habitat, there is little information about wetlands, including relative use of wetlands to other habitat;
- the EIS indicates that aircraft create a problem for birds and yet also indicates that "it is unlikely that fixed-wing aircraft will present a major influence on breeding birds or waterfowl

within the wildlife study area"; there was also little info regarding the impact of the larger 727 and 737 aircraft.

EIS GUIDELINE REQUIREMENTS:

9.2 (c) 1-5 Effects on the Biological Environment - plant and vegetation communities

Guideline Paragraph - 909

EIS REFERENCE & TITLE:

Vol. IV, Sec. 3.2 Vegetation Impacts

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **not in conformity**. (note: 9.2 (c) refers to communities yet items 1.4 under (c) specifically refers to individual species)

Quantitative Analysis:

Some of the baseline information was inadequate (see conformity analysis for Guideline 808c), which precludes an adequate impact assessment.

Regarding subsection 1): impacts on the regional occurrence of plant species or community types was not presented. The information presented only compared affects on the relative abundance of the community types that were disturbed.

Regarding subsection 3): impacts on health of the species and contaminant loading was not presented (see qualitative analysis).

There was very little information presented regarding wetlands.

Qualitative Analysis:

Volume IV, Section 3.2.2.3 deals briefly with the effects of acid rain on vegetation, however the analysis is inadequate. Studies have indicated that periodic acid events are detrimental, including spring snow melts when the snow is acidic.

There is an assumption made in the EIS that revegetation could increase biological diversity, however the use of exotics for revegetation is not accepted as an increase in diversity but could be seen as a threat to diversity.

Road alignments have not demonstrated full integration of mitigation.

Disturbed areas should include "delineation drill areas" for kimberlites that may not go to development.

9.3 EFFECTS ON THE SOCIO-ECONOMIC ENVIRONMENT

910 The assessment of positive and negative effects upon the socio-economic environment at the community, regional and territorial levels as relevant should consider the following as well as any other issues identified though public consultations:

a) human health

1) the health effects of the Project on workers, their families and other residents of the NWT;

b) demographics

1) the effects of the Project on demographics, such as Project induced changes in population numbers, migration and distribution, and the effects of these changes, including the interaction between local residents and non-residents;

c) social and cultural patterns

1) the effects of the Project on the cultural life of the communities,

2) the effects of the Project on the traditional way of life and on the use of land for traditional purposes,

3) the effects of the Project on the social life of communities, on family and community stablity, on social stability, on alcohol and drug problems and on crime and violence, including the effects of a major employment base away from the communities;

d) cultural sites

1) the effects of the Project on archaeological, paleontological, burial, cultural and heritage sites;

e) land and resource use

1) the effects, and local perceptions of the effects, of the Project on changes in the use of land and renewable resources, including traditional land use; hunting, trapping or guiding areas; commercial, aboriginal and sport fishing areas; conservation areas; territorial and federal parks; International Biological Program Sites or other ecological reserves or preserves; recreation and tourism areas and recognized scenic areas; navigable waters; and industrial and commercial areas;

f) local, regional and territorial economy

the effect of the Project over its life on the local, regional, territorial and national economies, having regard to direct, indirect and induced effects on income and employment, in particular:

1) the effects on wage and salary employment by skills category over the life of the Project, including estimates of northern, local and aboriginal participation,

2) the effects of the Project on opportunities for local, regional and territorial businesses to supply goods and services both directly to the Project and to meet the demand created by the expenditure of new income by employees and suppliers,

3) effects of the Project on opportunities to diversify the northern economic base to produce and to supply new goods and services,

4) the effects of the Project on the traditional economy,

5) the effects of the Project on the relationship between the wage economy and the harvesting economy,

6) the effects of the Project on activities such as tourism, outfitting, harvesting and recreation,

7) the effects of the Project on prices and cost of living;

g) employment, education and training

1) the effect of the Project on opportunities for participation by regional and territorial workers in wage and salary employment, considering such factors as the extent to which the skills of the available workers match job requirements, the level of interest in mining work, and commuting arrangements to allow these workers to reach the site,

2) the effect of competition for labour between the Project and existing businesses, institutions and traditional activities,

3) the adequacy of training opportunities available to northerners to take advantage of jobs created by the Project, including training by the Proponent;

h) services and infrastructure

1) the effects of the Project on the use of existing social, institutional, and community services, transportation facilities and services, and infrastructure,

2) any permanent changes to infrastructure and services caused by the Project;

i) government

1) the effect of the Project on revenues accruing to federal, territorial, and local government, and net incremental costs imposed on these governments by the Project, including savings realized and incremental costs of infrastructure and services, and,

2) the effects of the Project on community and local government organization.

EIS GUIDELINE REQUIREMENTS:

9.3 (b) Effects on the Socio-economic Environment - demographics

Guideline Paragraph - 910

EIS REFERENCE & TITLE:

Vol. IV, Sec. 4.4	Population Growth/Decline
also found relevant:	
Vol. IV, Sec. 4.3.13	Mine Closure

Conformity:

N\A DIAND did not formally review this section. Quantitative and qualitative observations were made in the course of backgrouind reading.

Quantitative Analysis:

The Proponent has provided sufficient information, when Sec. 4.3.13 is also considered.

Qualitative Analysis:

Reasonable approach to the identification of growth causes, consequences, and absorption capacity.

EIS GUIDELINE REQUIREMENTS:

9.3 (c) Effects on the Socio-economic Environment - social and cultural patterns

Guideline Paragraph - 910

EIS REFERENCE & TITLE:

Vol. I, Sec. 3.1	Fly-In/Fly-Out Work Force Versus Permanent Mining Town
Vol. I, Sec. 5.4	Methods of Addressing Future Concerns
Vol. II, Sec. 4.7	No Development Scenario
Vol. IV, Sec. 4.1	Local and Regional Perceptions of the Project
Vol. IV, Sec. 4.2	Aboriginal Employees Perceptions of the Project
Vol. IV, Sec. 4.3	Employment and Income Impacts
Vol. IV, Sec. 4.8	Traditional Economies/Lifestyles
Vol. IV, Sec. 4.10	Community Well Being
Vol. IV, Sec. 4.11	Cross-cultural Impacts
Vol. IV, Sec. 4.12	Job and Education Aspirations

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

9.3 (f) Effects on the Socio-economic Environment - local, regional and territorial economy

Guideline Paragraph - 910

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.3	Project Impact Analysis
Vol. II, Sec. 4.6	Competing/Complemenatry Projects in the NWT
Vol. II, Sec. 4.7	No Development Scenario
Vol. IV, Sec. 4.1	Local and Regional Perceptions of the Economy
Vol. IV, Sec. 4.2	Aboriginal Employees Perceptions of the Project
Vol. IV, Sec. 4.3	Employment and Income Impacts
Vol. IV, Sec. 4.6	Local Economies
Vol. IV, Sec. 4.8	Traditional Economies/Lifestyles
Vol. IV, Sec. 4.13	Government Income and Expenses
Vol. IV, Sec. 4.14	Economic Impacts

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

9.3 (g) Effects on the Socio-economic Environment - employment, education and training

Guideline Paragraph 910

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.4.2	Land Claims
Vol. I, Sec. 1.4.3	Regulatory Environment
Vol. I, Sec. 2.10	Human Resources
Vol. I, Sec. 2.11.9.2	Training
Vol. I, Sec. 4.0	Corporate Policies, Procedures and Commitments
Vol. I, Sec. 5.1.1.5	Community Involvement
Vol. I, Sec. 5.4	Methods of Addressing Future Concerns
Vol. IV, Sec. 4.1	Local and Regional Perceptions of the Project
Vol. IV, Sec. 4.2	Aboriginal Employees Perceptions of the Project
Vol. IV, Sec. 4.3	Employment and Income Impacts
Vol. IV, Sec. 4.8	Traditional Economies/Lifestyles
Vol. IV, Sec. 4.12	Job and Education Aspirations

Conformity:

N/A - Human Resources Development Canada has the federal lead. No concerns were identified from a DIAND perspective.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

Recognition of social responsibility and northern sensitivities evidenced through human resource principles and policies, occupational health, safety and environmental policies. Community involvement demonstrated through community development programming, communication and liaison practices, and community-based direction through committees established under the proposed IBA. Impact forecasts appear reasonable and realistic based upon quantified estimates that link demand and supply.

EIS GUIDELINE REQUIREMENTS:

9.3 (h) Socio-economic Effects - services and infrastructure

Guideline Paragraph - 910

EIS REFERENCE & TITLE:

Vol. IV, Sec. 4.6	Pass-through Traffic - Yellowknife
Vol. IV, Sec. 4.7	Use of NWT Infrastructure and Services
Vol. IV, Sec. 4.13	Government Income/Expenses
Also found relevant:	
Vol. IV, Sec. 4.4.4.1	Yellowknife - Public Infrastructure and Services
Vol. IV, Sec. 4.4.4.2	Hay River - Public Infrastructure and Services

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

9.3 (i) Effects on the Socio-economic Environment - government

Guideline Paragraph - 910

EIS REFERENCE & TITLE:

Vol. II, Sec. 4.7	No Development Scenario
Vol. IV, Sec. 4.13	Government Expenses/Income
Vol. IV, Sec. 4.14	Economic Impacts
Vol. IV, Sec. 4.14.4	Government Revenues and Costs
Vol. IV, Sec. 4.14.5	Downstream Impacts
Also found relevant:	
Vol. II, Sec. 4.2.6	Capacity for Growth
Vol. II, Sec. 4.3.5	Capacity for Growth
Vol. II, Sec. 4.4.5	Capacity for Growth
Vol. II, Sec. 4.5.5	Capacity for Growth
Vol. IV, Sec. 4.10.5.1	Changes in Leadership Structure

Conformity:

The response by the Proponent to this specific guideline is deemed to **conform in part**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is deficient in the following areas:

1. There are a number of errors in Vol. IV, Sec. 4.14.4, **Government Revenue and Costs**, which the Proponent should correct:

NWT Mining Tax

- payment referred to as "NWT Mining Tax" - correct name is "Mining Royalties",
- the comment "(paid to the federal government and then transfered to the NWT)" is wrong. Mining royalties paid to the federal government go directly into central revenue. Grants and transfers between the federal and territorial government are a separate issue altogether,
- the figure of 12% for royalties is correct.

Federal Income Tax

- in the EIS discussion the reference to "surface mining tax" must be removed as there is no such thing. Also the term "federal corporate income tax" should be used instead of just federal income tax.
- the federal corporate income tax is not just based on resource profits but is based on all profits. The EIS should be changed to reflect this.

The territorial income tax should be changed to the "territorial corporate income tax". The figure of 14% is correct.

2. Scope of Federal Revenues and Expenditures Considered

The Proponent approached territorial finances from a budget perspective, as revenues and expenditures on NWT matters, whether or not the expenditure occurred in the NWT. The nearest federal equivalent would be found in the *Annual Northern Expenditure Plan* for all departments, published annually by DIAND. The more detailed version of this publication includes expenditures by federal organizations that take place in the North (Yukon and NWT), as well as expenditures in southern Canada that can be allocated to the North. In this way the publication provides a unique breakdown of northern expenditures that would have been useful for this analysis.

The Proponent has chosen instead to discuss both federal revenues and expenditures from a national accounts perspective of spending in the NWT, excluding costs incurred outside the NWT to fulfill NWT-related mandates. Reasons for the decision to approach finances of the two governments differently are not clearly set out, and the fact that federal and territorial impacts are presented against different baseline measures is not restated in every relevant section.

Identification of the figure in 4.13.8 as the federal NWT operating deficit is questionable, since it disregards federal NWT operating costs incurred outside the NWT.

10.0 MITIGATION MEASURES AND RESIDUAL EFFECTS

1001 This section of the EIS should identify and summarize the Proponent's plans to mitigate the negative effects of the Project, enhance positive effects, and should identify any residual effects. The Proponent should comment on the rationale and effectiveness of the proposed mitigation and enhancement measures.

EIS GUIDELINE REQUIREMENTS:

10.0 Mitigation Measures and Residual Effects

Guideline Paragraph - 1001

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.3	Project Economic Analysis
Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. IV, Sec. 3	Biological Impacts and Mitigation
Vol. IV, Sec. 4	Socio-economic Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

10.1 MITIGATION

1002 The Proponent should describe general and specific measures intended to mitigate the potentially adverse effects of the Project. For the purposes of this review, mitigation is defined as "the elimination, reduction or control of the adverse effects of the Project, and includes restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means." Mitigation measures described elsewhere in the EIS including 6.2 - Management Plans and 6.3 - Commitments and Policies should be listed and referenced; mitigation procedures introduced here for the first time should be discussed in greater detail.

1003 The description of mitigation measures should include:

a) procedures that would be used to avoid environmentally sensitive areas or periods of the year;

b) mitigative procedures which would be implemented during construction, operation, closure and post-closure of the Project;

c) contingency programs and procedures designed to respond to accidents and emergencies;

d) restorative procedures to be implemented on disturbed sites; and

e) compensation programs for damage caused by the Proponent's activities to the environment, to property, or to the land and resource use of others.

1004 With regard to compensation for losses incurred by users of the land and its resources (e.g., tourism operators, trappers, subsistence hunters), the Proponent should describe any existing or proposed programs including administrative procedures and criteria for eligibility. A comparison with other compensation programs for mining and other resource development activities should be provided.

1005 Other mitigation measures, if any, that were considered should be identified, and the rationale for rejecting these measures should be explained. Trade-offs between cost savings and effectiveness of the mitigation measures should be justified.

EIS GUIDELINE REQUIREMENTS:

10.1 Mitigation

Guideline Paragraph - 1002

EIS REFERENCE & TITLE:

Vol. I, Sec 1.3	Project Economic Analysis
Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. IV, Sec. 3	Biological Impacts and Mitigation
Vol. IV, Sec. 4	Socio-economic Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

10.1 (a) Mitigation - procedures that would be used to avoid environmentally sensitive areas

Guideline Paragraph - 1003

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.3	Project Economic Analysis
Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. IV, Sec. 4	Socio-economic Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The information regarding mitigative measures during the construction of facilities, in particular the Misery Haul Road is very general.

Qualitative Analysis:

There is no mitigation measures described for the construction of the Misery Haul Road during the environmentally sensitive spring caribou migration. There was little specific information regarding dens or details on how "these dens will be protected from disturbance" (EIS Vol. IV, Sec. 3.3.1.3).

EIS GUIDELINE REQUIREMENTS:

10.1 (b) Mitigation - mitigative procedures to be implemented

Guideline Paragraph - 1003

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.3	Project Economic Analysis
Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. IV, Sec. 4	Socio-economic Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The information regarding mitigative measures during the construction of facilities, in particular the Misery Haul Road is very general.

Qualitative Analysis:

There is no mitigation measures described for the construction of the Misery Haul Road during the environmentally sensitive spring caribou migration. There was little specific information regarding dens or details on how "these dens will be protected from disturbance" (EIS Vol. IV, Sec. 3.3.1.3).

EIS GUIDELINE REQUIREMENTS:

10.1 (c) Mitigation - contingency programs and procedures

Guideline Paragraph - 1003

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.3	Project Economic Analysis
Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. IV, Sec. 4	Socio-economic Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

10.1 (d) Mitigation - restorative procedures to be implemented on disturbed sites

Guideline Paragraph - 1003

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.3	Project Economic Analysis
Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. IV, Sec. 4	Socio-economic Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

10.1 (e) Mitigation - compensation programs

Guideline Paragraph - 1003

EIS REFERENCE & TITLE:

Vol. I, Sec. 1.3	Project Economic Analysis
Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. IV, Sec. 4	Socioeconomic Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

The Proponent was to discuss compensation programs for damage caused by Proponent activities to the environment, to property, or to the land and resources use by others. This has been done only to a limited extent.

Qualitative Analysis:

An example of detail that is lacking is the exact amount of compensation for fisheries loss in the lakes that will be written off. This has not been finalized yet but is under negotiation.

EIS GUIDELINE REQUIREMENTS:

10.1 Mitigation

Guideline Paragraph - 1004

EIS REFERENCE & TITLE:

Vol. I, Sec 1.3	Project Economic Analysis
Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. IV, Sec. 3	Biological Impacts and Mitigation
Vol. IV, Sec. 4	Socio-economic Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

10.1 Mitigation

Guideline Paragraph - 1005

EIS REFERENCE & TITLE:

Vol. I, Sec 1.3	Project Economic Analysis
Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. IV, Sec. 3	Biological Impacts and Mitigation
Vol. IV, Sec. 4	Socio-economic Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

10.2 RESIDUAL EFFECTS

1006 The Proponent should describe and assess residual effects (i.e., those effects that may remain after the proposed mitigation measures are implemented) using the criteria for significance set out in 9.0 - Impact Assessment.

EIS GUIDELINE REQUIREMENTS:

10.2 Residual Effects

Guideline Paragraph - 1006

EIS REFERENCE & TITLE:

Vol. IV, Sec. 2	Physical Impacts and Mitigation
Vol. IV, Sec. 3	Biological Impacts and Mitigation

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

With respect to vegetation and wildlife, since there were inadequacies in the impact assessment, management plans and in mitigation, it is not possible to conform with respect to residual effects. In fact, the EIS often indicates that adaptive management would be employed which tends to indicate residual effects are possible that are not yet identified.

As a result of its inadequate description and assessment of terrain and permafrost, and the apparent lack of understanding of the significance of these components of the physical environment, there is insufficient description of the residual effects of the project on permafrost and terrain conditions.

Qualitative Analysis:

Although the significant criteria for residual effects was addressed in an ecosystem context, the Proponent has not followed the criteria for significance set out in 9.0 (of the Guidelines). Overall, the Impact Significance ratings for residual effects (Table 1.1-2) are low due to the assumption that a residual effect would have to affect most of the Southern Arctic Ecozone. Figure 1.1-1 shows the extent of this ecozone, areas of which could not be affected by this project. A more reasonable criteria for a residual effect of "major impact significance" would be if most of the Takijuq Lake Upland Ecoregion (see Figure 1.1-1) had been affected.

11.0 MONITORING PROGRAMS

1101 This section of the EIS should describe the environmental and socio-economic monitoring programs to be incorporated into construction, operation, closure and post-closure activities in order to verify the predicted performance of the Project. The Proponent should describe how the results of monitoring programs will be used to refine or modify management plans and commitments and policies. This section should also discuss the ways in which holders of traditional knowledge and area residents will be involved in any monitoring programs.

1102 The proposed approach for monitoring should be described. This description should include:

a) the objectives of the monitoring program and a schedule for collection of the monitoring data required to meet these objectives;

b) the selection of the subjects and parameters to be monitored, and the criteria used in their selection;

c) the frequency and geographic extent of monitoring, and justification for the extent;

d) reporting and response mechanisms, including procedures to be followed in the event monitored results deviate significantly from predicted results;

e) the approaches and methods for monitoring the cumulative effects of the Project and future development of the Proponent's Lac de Gras claims block;

f) integration of monitoring results with other aspects of the Project including adjustments to operating procedures and refinement of mitigation measures;

g) experience gained from previous and present monitoring programs;

h) the roles of independent experts, government agencies, communities, holders of traditional knowledge and renewable resource users in monitoring programs, and any joint monitoring programs established with communities;

i) procedures to assess the effectiveness of monitoring programs, mitigation measures, and recovery programs for areas disturbed by the Project; and,

j) the role of communications plans described in 13.0 - Information Programs and Public Involvement in monitoring and procedures to communicate the results of monitoring to interested parties.

EIS GUIDELINE REQUIREMENTS:

11.0 Monitoring Programs (socio-economic monitoring)

Guideline Paragraph(s) - 1101, 1102

EIS REFERENCE & TITLE:

Vol. III, Sec. 10.4	Socio-economic Impacts Monitoring
Vol. IV, Sec. 5	Cumulative Impacts
Vol. IV, Sec. 5.8	Monitoring Measures

Conformity:

The response by the Proponent to this specific Guideline is deemed **to conform in part**.

Quantitative Analysis:

The Proponent has identified the primary areas for monitoring as direct employment and direct expenditures in the NWT.

Information needed:

Another category "remainder of the NWT" should be added to the list of geographic areas to be monitored, in addition to the communities that are listed.

The Proponent should outline a plan for monitoring compliance by contractors to its NWT hiring directives.

The Proponent should identify how the monitoring may change for the periods of activity specified in the Guidelines: construction, operations, closure and post-closure.

The Proponent should discuss its plan for monitoring the general impact on the NWT by the project. In Vol. IV section 5.8, Table 5.8-1, several cumulative effects (eg. disturbance or relocation of outfitting operations) are reported to be described in detail in the socio-economic monitoring plan in Vol. III section 10.4; section 10.4 describes a monitoring plan for only the direct socio-economic impacts.

Qualitative Analysis:

The Proponent should define its meaning of regular contact (meetings/visits, written correspondence, other types of consultation) and identify the frequency that it currently envisions (monthly, quarterly, annually, other) for this contact.

Entry levels and promotions of NWT residents, divided into aboriginal and non-aboriginal categories and studied by geographic area, should also be tracked and compared with the entry levels and promotions of non-NWT residents.

The proposed annual statistical report should also contain the results of attitudinal monitoring.

EIS GUIDELINE REQUIREMENTS:

11.0 Monitoring Programs (environmental)

Guideline Paragraph - 1101

EIS REFERENCE & TITLE:

Vol. III	Environmental Management
Vol. III. Sec. 10	Monitoring Plan

Conformity:

The response by the Proponent for this specific Guideline is deemed to be **not in conformity**.

Quantitative Analysis

EIS Section 10 is well written and comprehensive with the exception of its minimal treatment of how "monitoring programs (will be) incorporated into.... post-closure activities" as specified in paragraph 1101. Deficiencies in this regard are judged to be significant and are previously discussed in detail under Guideline sub-paragraph 603 (h).

Qualitative Analysis

See qualitative analysis for EIS Guideline paragraph 603 (h).

There is little information presented that describes a monitoring program during the construction, closure and post-closure periods for vegetation and wildlife.

EIS GUIDELINE REQUIREMENTS:

11.0 (a) Monitoring Programs - objectives and schedule of monitoring program

Guideline Paragraph - 1102

EIS REFERENCE & TITLE:

Vol. III, Sec. 10 Environmental Monitoring

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The Proponent has not provided a schedule for the collection of monitoring data during the construction, closure and post-closure periods with respect to wildlife and vegetation.

Qualitative Analysis:

More information regarding scheduling should be provided.

EIS GUIDELINE REQUIREMENTS:

11.0 (b) Monitoring Programs - selection and criteria of parameters and subjects

Guideline Paragraph - 1102

EIS REFERENCE & TITLE:

Vol. III, Sec. 10 Environmental Monitoring

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

The Proponent was to identify selection of subjects and parameters to be monitored and criteria used in their selection. This was done in part, however there may be some additional parameters which should be looked at.

Qualitative Analysis:

The Proponent could have provided further details on the criteria used in the selection of the parameters they have identified and rationale as to why other parameters were not included. Some relevant parameters were not included.

EIS GUIDELINE REQUIREMENTS:

11.0 (c) Monitoring Programs - frequency and geographic extent of monitoring

Guideline Paragraph - 1102

EIS REFERENCE & TITLE:

Vol. III, Sec. 10 Environmental Monitoring

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The Proponent has partially described the approach taken for the water quality monitoring programs, including the frequency and geographic extent and justification.

No frequency of vegetation and wildlife montioring was provided for the construction, closure and post-closure periods.

Qualitative Analysis:

Even though the frequency, the type of parameters to be monitored, and the locations will be determined through the regulatory process, the Proponent should have included (proposed) fuller coverage of Lac de Gras - more stations are required for an adequate monitoring program.

EIS GUIDELINE REQUIREMENTS:

11.0 (d) Monitoring Program - reporting and response mechanisms

Guideline Paragraph - 1102

EIS REFERENCE & TITLE:

Vol. III, Sec. 10 Environmental Monitoring

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The Proponent has partially addressed reporting and response mechanisms, including procedures to be followed in the event monitored results deviate significantly from predicted results.

Qualitative Analysis:

The information provided by the Proponent is insufficient with regards to the presentation of detailed monitoring procedures. The EIS only refers to adaptive management for wildlife, very little information is presented for vegetation.

EIS GUIDELINE REQUIREMENTS:

11.0 (e) Monitoring Programs - approaches and methods for monitoring cumulative effects

Guideline Paragraph - 1102

EIS REFERENCE & TITLE:

Vol. III, Sec.10 Environmental Monitoring

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **not in conformity.**

Quantitative Analysis:

The Proponent has not adequately presented the approaches and methods for monitoring cumulative effects of the project and future development of the Lac de Gras claims block.

Qualitative Analysis:

The information provided by the Proponent is inadequate. The Proponent should clearly identify what is being considered a "cumulative effect". The incremental or staged development of the Lac de Gras claims block has been proposed with little consideration given to the cumulative effects of this staged development and only those pipes currently proposed are dealt with. The Proponent needs to address what cummulative effects could be expected if additional diamond bearing pipes outside of the immediate Koala camp are developed at some time in the future.

EIS GUIDELINE REQUIREMENTS:

11.0 (f) Monitoring Programs - integration of monitoring results

Guideline Paragraph - 1102

EIS REFERENCE & TITLE:

Vol. III, Sec.10 Environmental Monitoring

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The Proponent does not describe how the results of the monitoring programs will be used to refine or modify management plans.

Qualitative Analysis:

The hydrometric stations in Koala can be used to refine or update the 180 mm value determined for runoff. The Proponent has spent thousands of dollars installing hydrometric stations yet doesn't mention using them to improve water management plans. Also, a monitoring station is planned from Nema Lake (figure 2.3-6). It presently does not exist. It should be in place now. It will provide data essential for planning mitigative measures for changes in stream flow. A regular schedule for snow surveys should be instituted.

The EIS only vaguely indicates how management plans and operations would be adjusted as a result of monitoring for vegetation and wildlife.

EIS GUIDELINE REQUIREMENTS:

11.0 (g) Monitoring Programs - experience from past and present monitoring programs

Guideline Paragraph - 1102

EIS REFERENCE & TITLE:

Vol. III, Sec. 10 Environmental Monitoring

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

11.0 (h) Monitoring Programs - roles of other experts

Guideline Paragraph - 1102

EIS REFERENCE & TITLE:

Vol. III, Sec. 10 Environmental Monitoring

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

11.0 (i) Monitoring Programs - procedures to assess effectiveness

Guideline Paragraph - 1102

EIS REFERENCE & TITLE:

Vol. III, Sec. 10 Environmental Monitoring

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

The Proponent has provided insufficient information regarding procedures for assessing the effectiveness of the monitoring programs over time.

Qualitative Analysis:

The information provided by the Proponent is inadequate. In order to gain from past experience with previous or established monitoring programs, the Proponent should have proposed a method to evaluate the monitoring.

EIS GUIDELINE REQUIREMENTS:

11.0 (j) Monitoring Programs - role of communication plans

Guideline Paragraph - 1102

EIS REFERENCE & TITLE:

Vol. III, Sec. 10 Environmental Monitoring

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

12.0 ALTERNATIVES AND FUTURE DEVELOPMENT

1201 This section should summarize the alternative means of developing the Project and the future development scenarios proposed for the Proponent's Lac de Gras claims block. This summary should describe the alternatives to Project components or activities and future development scenarios discussed in greater detail in 6.0 - Project Description and 9.0 - Impact Assessment.

EIS GUIDELINE REQUIREMENTS:

12.0 Alternatives and Future Development

Guideline Paragraph - 1201

EIS REFERENCE & TITLE:

Vol. I, Sec. 3.2	Open Pit and underground
Vol. I, Sec. 3.3	Backfilling of Open Pits
Vol. I, Sec. 3.4	Plant Site Location
Vol. I, Sec. 3.7	Alternative Tailings Disposal
Vol. I, Sec. 3.8	Power Generation Options
Vol. I, Sec. 3.10	Future Development

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part** specifically with regards to plant site location.

Quantitative Analysis:

There is no reference to a report or information gathering outlining options or evaluation processes to support the siting of the plant. No alternatives are identified or a statement saying this is the only suitable site available based on listed criteria.

Qualitative Analysis:

The criteria are identified for siting the plant along with the preferred priority for the placement of the remaining facilities, with the arrangement of the plant site also outlined.

12.1 ALTERNATIVES

1202 The focus of this section should be on alternatives to Project components or activities that have an effect on the physical, biological or socio-economic environment. The EIS should contain sufficient information for the reader to understand the reasons for selecting the preferred alternative and for rejecting others.

1203 The range of options considered for the pace and scale of the operation should be discussed, and the option selected justified. The Proponent should include an evaluation of the threshold for economic viability of the Project, the different scenarios contemplated for the lifespan of the mine, and a consideration of the timing of phases and components of the Project.

EIS GUIDELINE REQUIREMENTS:

12.1 Alternatives

Guideline Paragraph - 1202

EIS REFERENCE & TITLE:

Vol. I, Sec. 3.2	Open Pit and Underground Mining
Vol. I, Sec. 3.3	Backfilling of Open Pits
Vol. I, Sec. 3.4	Plant Site Location
Vol. I, Sec. 3.7	Alternative Tailings Disposal
Vol. I, Sec. 3.8	Power Generation Options
Vol. I, Sec. 3.10	Future Development

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

There is very little information regarding the physical or biological effects in the section, Alternative Tailings Disposal (Vol. I, Sec 3.7), particularly in regards to the underground versus open pit mining methods. Information should include the environmental impacts of the surface area disturbed and facilities needed to service the mine depending on the method employed.

Qualitative Analysis:

Information is provided in regards to the economic rationale for open pit versus underground. The only information on environmental issues is that they will have to dewater the lakes in both cases. Permafrost and low winter temperatures are identified as a geographic constraint.

EIS GUIDELINE REQUIREMENTS:

12.1 Alternatives

Guideline Paragraph - 1203

EIS REFERENCE & TITLE:

Vol. I, Sec. 3.2	Open Pit and Underground Mining
Vol. I, Sec. 3.3	Backfilling of Open Pits
Vol. I, Sec. 3.4	Plant Site Location
Vol. I, Sec. 3.7	Alternative Tailings Disposal
Vol. I, Sec. 3.8	Power Generation Options
Vol. I, Sec. 3.10	Future Development

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **conforms in part.**

Quantitative Analysis:

The Guidelines request that there be a discussion of the range of options for the pace and scale of the operations. The proponent outlines the criteria which was used to determine the optimum scale of the operation but does not discuss specific sizes either larger or smaller as requested by the Panel.

Qualitative Analysis:

There is a good outline of the technical, marketing and economic criteria used to select the size of operation needed to meet all the criteria. The Proponent details the considerations it made before making its final decisions from the alternatives available. It would not be difficult for the proponent to provide the results of the sensitivity analysis which lead to the decision with respect to the size of the operation.

12.2 FUTURE DEVELOPMENT

1204 An assessment of cumulative effects requires an understanding of the future development scenarios on the Proponent's Lac de Gras claims block. The Proponent should therefore discuss the potential for further development on its Lac de Gras claims block. The discussion should include such possibilities as the exploration and development of new kimberlite pipes, increasing the capacity of the on-site ore processing plant, alternative locations for a diamond concentrate processing plant and establishment of new communities.

EIS GUIDELINE REQUIREMENTS:

12.1 Alternatives (future development)

Guideline Paragraph - 1204

EIS REFERENCE & TITLE:

Vol. I, Sec. 3.2	Open Pit and Underground Mining
Vol. I, Sec. 3.3	Backfilling of Open Pits
Vol. I, Sec. 3.4	Plant Site Location
Vol. I, Sec. 3.7	Alternative Tailings Disposal
Vol. I, Sec. 3.8	Power Generation Options
Vol. I, Sec. 3.10	Future Development

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part**.

Quantitative Analysis:

The Proponent does not evaluate locations for a diamond concentrate processing plant or the establishment of new communities as outlined in the Guidelines.

Qualitative Analysis:

The information provided by the Proponent is adequate.

13.0 INFORMATION PROGRAMS AND PUBLIC INVOLVEMENT

1301 In this section of the EIS, the Proponent should explain how the public:

a) has been informed about Project development;

b) has been consulted during the preparation of the EIS; and,

c) if the Project is approved and goes ahead, how the public may contribute to Project implementation including the design of monitoring programs and management plans.

1302 The Proponent should provide a detailed consultation plan that identifies issues to be discussed with each community, including potential land-use conflicts and the process and techniques by which the Proponent will engage in dialogue with the communities to identify and to address community concerns. Documentation of all public consultations should be provided.

1303 Plans to maintain communications and working relationships with the affected communities, aboriginal organizations and government agencies throughout the life of the Project should be described in general terms. The intent of this communications plan would be to involve these groups in monitoring, identifying and working toward reduction of adverse physical, biological or socio-economic effects, and enhancement of positive effects.

EIS GUIDELINE REQUIREMENTS:

13.0 Information Programs and Public Involvement

Guideline Paragraph - 1301

EIS REFERENCE & TITLE:

Vol. I, Sec. 5.0 Communications Program and Public Involvement

Conformity:

The response by the Proponent to this specific Guideline is deemed to be **in conformity.**

Quantitative Analysis:

The Proponent has provided sufficient information.

Qualitative Analysis:

The information provided by the Proponent is adequate.

EIS GUIDELINE REQUIREMENTS:

13.0 Information Programs and Public Involvement

Guideline Paragraph - 1302

EIS REFERENCE & TITLE:

Vol. I, Sec. 5.0 Communications Program and Public Involvement

Conformity:

The response by the Proponent to this specific Guideline is deemed to **conform in part.**

Quantitative Analysis:

The Proponent has not provided enough information on the specific request to explain "the process and techniques" to address community concerns.

Qualitative Analysis:

The information provided does not outline a specific process or the techniques used within the public consultation plan for dealing with community concerns. The Proponent simply suggests that they will respond.

EIS GUIDELINE REQUIREMENTS:

13.0 Information Programs and Public Involvement

Guideline Paragraph - 1303

EIS REFERENCE & TITLE:

Vol. I, Sec. 5.0 Communications Program and Public Involvement

Conformity:

The response by the Proponent is deemed to be **in conformity**.

Quantitative Analysis:

The Proponent has provide sufficient information.

Qualitative Analysis:

The information provided by the proponent is adequate, although no specific "communications plan" is articulated.