

# **Terms of Reference and Work Plan**

*for the*

## **Environmental Assessment**

*of the*

### ***De Beers Canada Mining Inc. Snap Lake Diamond Project***

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Issued By:

**Mackenzie Valley Environmental Impact Review Board**

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# 1 INTRODUCTION

On February 2, 2001, De Beers Canada Mining Inc. (De Beers) submitted applications for a Class 'A' Land Use Permit and a Class 'A' Water Licence for the proposed Snap Lake Diamond Project to the Mackenzie Valley Land and Water Board (MVLWB) for the following developments:

- ▶ Development of a 3,000 tonnes per day underground diamond mine with an operating life of 22 years;
- ▶ Construction of support facilities, including a camp complex for up to 350 people, process plant, paste plant, cement plant, processed kimberlite containment area, explosives factory, storage buildings, waste disposal systems, stockpile, power plant;
- ▶ Expansion of existing facilities, including tank farm, airstrip, explosive storage;
- ▶ Establishment of annual winter access and esker access roads along existing routes;
- ▶ Quarry of esker material as required for construction and operational purposes.

On May 23, 2001, the MVLWB referred the development applications to the Mackenzie Valley Environmental Impact Review Board (Review Board or Board) for an environmental assessment (EA), in accordance with ss.125(1) of the Mackenzie Valley Resource Management Act (MVRMA), citing the following reasons for the referral:

- ▶ Significant concern expressed by government experts reviewing the application about the potential environmental impacts of the proposed development.
- ▶ Significant concern expressed by the Lutsel K'e First Nation about possible development impacts on the watershed used traditionally used by the Dene.
- ▶ Concerns expressed by the Canadian Arctic Resources Committee (CARC) regarding De Beers's current Class 'B' Water Licence regulatory conformance record.
- ▶ Need for technical information to supplement the De Beers Snap Lake Project Scoping Document.

The Review Board is required by s.126 of the MVRMA to conduct an EA of the developments in accordance with Part 5 of the MVRMA.

On June 25, 2001 the Review Board issued, draft Terms of Reference and a draft Work Plan for the De Beers environmental assessment for consultation. The final Work Plan and Terms of Reference incorporate the results of the consultation. This document contains:

- ▶ A description of the development;
- ▶ A description of the roles and responsibilities of those parties involved in the EA;
- ▶ An outline of the general approach to completing the EA, including milestones and a schedule;
- ▶ The scope of the development;
- ▶ The scope of the assessment;
- ▶ Directions to the developer; and
- ▶ Directions to other parties involved in the EA.

Attached in Appendix 1 are legal premises and definitions relevant to completing an environmental assessment.

# 2 Environmental Assessment Terms of Reference for the De Beers Canada Mining Inc. Snap Lake Diamond Project

## 2.1 Purpose of the Proposed Terms of Reference

The Environmental Assessment Report (EAR) will address the following Terms of Reference. The EAR will assist the Review Board in understanding the environmental consequences of the proposed development.

The ToR describes the Review Board's expectations of De Beers for the use and integration of public consultation and traditional knowledge in the EAR and throughout the EA process. The Review Board has determined what it considers to be the development, and to what extent the interactions between components of the proposed development and the environment will be looked at in the EA. The Review Board also requests that De Beers demonstrate its capacity, ability and commitment to undertake the proposed development in an environmentally, safe and sustainable manner.

All public documentation related to this proposed development is available on a public registry file that is maintained by the Review Board. The EAR and all other submissions to the public registry will be used by the Review Board in its decision, reasons for the decision and report of environmental assessment.

This EA will be conducted according to Part V of the Mackenzie Valley Resource Management Act (Act). De Beers shall refrain from making any conclusions regarding the significance of impacts on the environment. The Review Board shall make the final determination of significance.

## 2.2 Public Consultation and Traditional Knowledge

### 2.2.1 Public Consultation

The purpose of public consultation is to provide those who could be affected by the proposed development the opportunity to participate in the environmental assessment. As a minimum, the residents, First Nations and Metis, in Lutsel K'e, Dettah, N'dilo, Fort Resolution, Wekweti, Rae-Edzo and Yellowknife, shall be included. This does not prevent De Beers or the Review Board from including industrial, recreational, environmental, and other individuals, groups and organizations who have an interest in the proposed development.

De Beers shall provide regular public notification that it is preparing an EAR and advise the public of opportunities to provide input so that they may be involved in the environmental assessment process.

De Beers shall describe its public consultation policies, objectives, programs and activities undertaken and committed to regarding:

- I. methods used to identify, inform and solicit input from potentially interested parties;
- II. those who provided comments and input;
- III. outcomes of consultation including any additional information provided by those consulted;
- IV. concerns identified;
- V. differences in views between those consulted;
- VI. agreements or commitment to agreements with interested participants and/or communities;

- 42 VII. issues tracking; and  
43 VIII. verifiable, documentation of how consultation affected impact prediction and mitigation,  
44 and affected the design of the proposed development.

### 45 **2.2.2 Traditional Knowledge**

46 De Beers shall make all reasonable effort to collect and facilitate the collection of traditional knowledge  
47 relative to the proposed development, for integration into the environmental assessment report in collaboration  
48 with Aboriginal communities and organizations. De Beers shall describe where and how traditional knowledge  
49 was used and the effect that it had on predicting impacts and determining mitigation. Where traditional  
50 knowledge is not available, or not provided to De Beers in a timely manner despite appropriate diligence, De  
51 Beers shall describe efforts taken to obtain it. Traditional Knowledge is given full and equal consideration to  
52 that of western science.

53  
54 DeBeers shall present both the scientific and traditional perspectives on predicted impacts wherever both types  
55 of information are available, and should refrain from weighing the relative merits of predictions.

## 56 **2.3 SCOPE OF THE DEVELOPMENT**

57  
58 The Review Board is required to provide a scope of development determination according to ss.117(1) of the  
59 MVRMA. This section describes what the Review Board considers the scope of the development.

### 60 **2.3.1 Principle Development**

61 The Principle development is the underground mining of kimberlite ore.

### 62 **2.3.2 Accessory Development**

63 The accessory undertakings and developments associated with the principle development include:

#### 64 **2.3.2.1 Mined Rock**

- 65 I. storage and handling of waste rock;  
66 II. storage and handling of processed kimberlite;  
67 III. processing of the kimberlite ore for the removal of diamonds;  
68 IV. removal of the diamonds from the minesite; and  
69 V. removal of waste rock, kimberlite and mine water from the underground workings.

#### 70 **2.3.2.2 Water Management**

- 71 I. storage, handling of mine water;  
72 II. surface water management;  
73 III. removal of water from Snap Lake for use at the mine site; and  
74 IV. reintroduction of managed water into Snap Lake.

#### 75 **2.3.2.3 Transport and Surface Structures**

- 76 I. use of the current Lupin winter road;  
77 II. the winter road spur off the Lupin winter road to the mine site;  
78 III. proposed all-weather road to the esker to the south of the development;  
79 IV. airstrip and support infrastructure for air travel;  
80 V. Solid waste management and containment areas;  
81 I. Surface structures (process plant, power plant, magazines, camp(s), roads, airstrip, etc.); and

82 VI. Petroleum and chemical storage areas.

83 2.3.2.4 *Existing Snap Lake Diamonds Project Advanced Exploration*

84 Changes to existing advanced exploration facilities, infrastructure and undertakings needed to  
85 accommodate the proposed development. Only include changes not permitted in previous licences or  
86 permits<sup>1</sup>. Where De Beers demonstrates that existing Land User Permit(s), Water Licence(s), or other  
87 authorizations adequately address environmental impacts of the proposed changes in existing  
88 infrastructure or undertakings, De Beers is not be required to specifically address those impacts in the  
89 scope of development but in the cumulative effects section (4.9 Cumulative Impacts) of the environmental  
90 assessment.

91  
92 For emphasis, developments included in the environmental assessment include, but are not necessarily  
93 limited to the following:

94  
95 Decommissioning and, or, modification of the Snap Lake advanced exploration camp including but not limited  
96 to the following.

- 97 1. Temporary explosive storage building(s) and access roads
- 98 2. Portable crusher and a rock/esker material stockpile
- 99 3. Airstrip
- 100 4. Temporary underground contractor facilities
- 101 5. Bulk sample process plant
- 102 6. Underground bulk sample
- 103 7. Mine portal
- 104 8. Processed kimberlite containment area
- 105 9. Dams to contain the kimberlite containment area
- 106 10. Potable water intake and pump house
- 107 11. Fuel tanks
- 108 12. Pilot plant facilities
- 109 13. Cold storage
- 110 14. Camp and office complex

111  
112 Development of the Snap Lake Diamond Project.

- 113 1. Explosive storage with associated roads
- 114 2. Landfill for non-hazardous solid waste
- 115 3. Portable crusher and a rock/esker material stockpile
- 116 4. Mine water clarification pond
- 117 5. Mine water clarification pond discharge point into Snap Lake
- 118 6. Dams to contain mine water clarification pond
- 119 7. Sewage treatment plant
- 120 8. Power plant
- 121 9. Permanent camp complex
- 122 10. Service complex
- 123 11. Unheated storage building
- 124 12. Process and paste plant
- 125 13. Crushed kimberlite ore storage

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<sup>1</sup> Please submit information verifying that existing authorizations permit the proposed changes to the authorized advanced exploration camp.

- 126 14. Cement storage
- 127 15. Aggregate crushing and batch plant
- 128 16. Underground crusher
- 129 17. Conveyor used to transport diluted kimberlite ore to surface
- 130 18. Kimberlite ore stockpile area
- 131 19. Ventilation points
- 132 20. Underground mining
- 133 21. Mine portal
- 134 22. Fuel tanks
- 135 23. Potable water intake and pump house
- 136 24. Mine waste rock haul road
- 137 25. Propane storage area
- 138 26. Pilot plan facilities
- 139 27. Container storage
- 140 28. Cement storage
- 141 29. Lupin and mine access winter road
- 142 30. Seepage and collection ponds
- 143 31. Sumps
- 144 32. Berms
- 145 33. Quarry and esker excavation areas
- 146 34. Acid generating rock disposal area
- 147 35. Non-acid generating rock disposal area
- 148 36. Processed kimberlite disposal area
- 149 37. Hazardous waste disposal
- 150 38. Site transportation routing
- 151 39. Contractors lay down area

152 **2.4 Related Considerations**

153 **2.4.1 Hazardous Materials**

154 The risk and potential impacts associated with handling, storing, using, and disposing of hazardous  
 155 materials forming part of the proposed development, including:

- 156 I. location for hazardous or contaminated materials and details on how hazardous materials  
 157 will be managed; and,
- 158 II. the identification and description of all contaminant sources resulting from the project and  
 159 their related pathways to the receiving environment.

160 **2.4.2 Accidents and Malfunctions**

161 Clearly, explain the probability and potential magnitude of an accident and/or malfunction occurring, and  
 162 the resulting impacts on the proposed development, including the underground workings. Link the  
 163 outcome of the accident and malfunction probability analysis to consequential impacts to the environment.

164 **2.4.3 Closure and Reclamation**

165 De Beers shall explain its closure and reclamation approach and to what standards it will reclaim (i.e.  
 166 stable land forms, revegetation, return to previous ecological productivity?).  
 167



168 Based on proposed closure and reclamation intentions De Beers shall report the present day Canadian  
169 dollar value of reclamation costs associated with the closure and reclamation, including alternative  
170 approaches considered, of the proposed development as reported in section 2.3 Scope of Development.

## 171 **2.5 Environmental Assessment Methodology**

172 De Beers shall provide information on the environment and how it could be affected by the proposed  
173 development. De Beers should also provide a sufficient base for the prediction of positive and negative  
174 impacts. De Beers shall demonstrate the extent to which negative impacts may be mitigated and positive  
175 impacts augmented by planning, development design, construction techniques, operational practices and  
176 reclamation techniques. De Beers will refrain from providing significance conclusions in the EAR report. De  
177 Beers shall provide quantitative information to the extent possible regarding the nature of predicted  
178 environmental impacts. Where professional or traditional knowledge expertise is applied, an explanation of the  
179 soundness of those views shall be provided.<sup>2</sup>The Review Board has the final say on significance.

180  
181 Explicit documentation of the assumptions, models, information sources used, as well as information  
182 limitations and associated levels of uncertainty should support all steps of the environmental assessment report.

183  
184 The analysis should be quantitative where data are available, but where data or models are lacking, best  
185 professional and, or, traditional knowledge judgment may be used. The approach and methodologies used to  
186 identify and assess cumulative effects should be explained.

### 187 **2.5.1 Alternatives to Carrying out the Development**

188 Include a description of the main development/production/technical alternatives, in particular, those  
189 associated with the following:

- 190 I. mining methods;
- 191 II. waste rock and tailings management;
- 192 III. mine water management;
- 193 IV. energy production (i.e., diesel generation);
- 194 V. decommissioning and reclamation;
- 195 VI. mine production rates;
- 196 VII. employee work schedules;
- 197 VIII. mine development scheduling; and
- 198 IX. Employee/worker living conditions e.g. living quarters, leisure facilities, food, visitors,  
199 access to outdoors, etc.

200  
201 Where alternatives that would mitigate impacts on the environment and, or, enhance the socio-economic  
202 performance of the proposed mine are deemed not economically feasible, the economic analysis to  
203 determine feasibility should also be summarized and made available to the public. The Review Board may  
204 request that De Beers provide, in confidence, all supporting documentation in support of its conclusions.  
205 De Beers shall discuss the option of sorting and marketing the diamonds mined at the proposed mine. This  
206 should include a clear explanation of the options considered and the reason for selecting the preferred  
207 option.

208  
209 De Beers shall discuss alternative water treatment options considered, that can from an engineering standpoint,  
210 be used at the Snap Lake project for any mine water, waste rock seepage, or process water that will be

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<sup>2</sup> De Beers shall provide the credentials of the expert whose opinion is provided. This could be a curriculum vita for scientific experts, and a life history for Elders.

211 discharged into Snap Lake.

## 212 **2.5.2 Description of the Existing Environment**

213 De Beers shall provide a brief and clear textual and graphic depiction of the existing environment and its use,  
214 as it pertains to the potential impacts of the proposed development. The existing environment includes the  
215 resources being extracted over the predicted life of the mine, and contemporary/past land use and occupancy in  
216 the region, whether industrial or aboriginal.

217  
218 All existing reports and documents shall be appropriately referenced. De Beers will be expected to clearly and  
219 succinctly describe the following environmental components, as they relate to the proposed development:

- 220 I. air and climate;
- 221 II. surface and ground water quality and quantity;
- 222 III. aquatic organisms and habitat;
- 223 IV. wildlife and wildlife habitat, including migratory birds;
- 224 V. vegetation and plant communities;
- 225 VI. terrain, surficial geology, bedrock geology, seismicity, geological hazards, permafrost,  
226 soils, and lake sediments;
- 227 VII. structural geology
- 228 VIII. human health;
- 229 IX. economy;
- 230 X. employment, education and training;
- 231 XI. infrastructure;
- 232 XII. government revenues, cost; and
- 233 XIII. social and cultural resources.

## 234 **2.5.3 Spatial and Temporal Boundaries**

235 De Beers shall explain the rationale for its selection of 'spatial boundaries' (i.e., project related, local and  
236 regional scope) and 'temporal boundaries.'

237  
238 Spatially, boundaries shall reflect the maximum zone of influence of the proposed development for each valued  
239 ecosystem component (VEC) selected. De Beers shall provide a discussion of how the "maximum zone of  
240 influence of the proposed development for each valued ecosystem component" is determined.

241  
242 Temporally, De Beers shall assess environmental impacts of the proposed development for all phases of the  
243 proposed development including construction, operation, closure and post-closure. Provide sufficient detail to  
244 address the relevant impact issues on VEC's over the entire temporal scope of the development. Distinguish  
245 between biological, physical, social, cultural and economic parameters.

246  
247 The scope of the assessment for socio-economic variables should include communities that could reasonably  
248 expect to experience impacts because of the development, including but not limited to, increased traffic  
249 volumes or employment and business opportunities.

## 250 **2.5.4 Impact Description and Predicted Outcomes after Mitigation**

251 Describe the direct and indirect impacts resulting from the proposed development, after mitigation. Describe  
252 the impacts<sup>3</sup> so that people reading the report can easily understand how De Beers figured out what the impacts

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<sup>3</sup>Describe impacts including the method used in the analysis and prediction of impacts. Provide supporting traditional knowledge, technical and/or scientific knowledge literature and studies in appendixes or other supporting

253 would be, how sure De Beers is of its conclusions, and what those impacts mean for future generations in the  
254 Mackenzie Valley. Do not provide any conclusions regarding the significance of the impacts.  
255

256 Information gaps should be identified along with reasonable and suggestions to remedy them. De Beers shall  
257 describe each impact identified and the proposed mitigation measure(s) for all phases of the proposed  
258 development (i.e., construction, operation, closure and post-closure). De Beers shall describe planned  
259 mitigation measures and consequences (environmental impacts) of potential failure. The residual impacts  
260 should be described at least in terms of the following parameters.

- 261 I. magnitude;
- 262 II. geographic extent;
- 263 III. timing;
- 264 IV. duration;
- 265 V. frequency;
- 266 VI. irreversibility of impacts;
- 267 VII. ecological resilience; and
- 268 VIII. probability of occurrence and confidence level.

269  
270 Distinguish between ecological parameters and social / cultural parameters.

### 271 **2.5.5 Environmental Optimization**

272 The EAR should report the comparative present day Canadian dollar costs of proposed development  
273 alternatives and the corresponding environmental benefits. Any assumptions or uncertainty surrounding  
274 implementation of mitigation measures, such as untested technology, will be reported. The reporting of  
275 development impacts should provide readers with an easy to understand summary of present day Canadian  
276 value costs of alternatives and their corresponding future environmental benefits.

## 277 **2.6 Environmental Impacts**

278 The environmental assessment report should report impacts resulting from the proposed development on the  
279 physical, biological and social, economic and cultural components of the environment.

### 280 **2.6.1 Air Quality and Climate**

281 Report the impacts of the proposed development on air quality. The analysis should include a discussion  
282 of measures considered to minimize the release of air contaminants (dust, particulate exhaust fumes and  
283 other air contaminants). Climate should include not only the average or mean values but also the extremes  
284 that can be expected. The full range of weather conditions should be investigated. The analysis should  
285 also include:

- 286 I. atmospheric dispersion of emissions on a local and regional scale;
- 287 II. greenhouse gas emissions including, but not limited to, CO<sub>2</sub> and CH<sub>4</sub>, and All green house  
288 gas accounting should be done in CO<sub>2</sub> equivalent values;
- 289 III. acid deposition and impact of the acidic precipitation resulting from release of gasses such  
290 as NO<sub>x</sub> and Sox; and
- 291 IV. impact on biological receptors such as vegetation and wildlife;

### 292 **2.6.2 Terrain**

293 The environmental assessment shall provide a detailed description of the ground and permafrost conditions  
294 at the site including a description of surface materials and geology, ground ice content, a description of  
295 permafrost configuration including the frozen/unfrozen interfaces in the underground portion of the mine.  
296

- 297 Report the impacts on the environment when surficial geology, bedrock or soils are disturbed or used for  
298 construction purposes. The analysis shall include:
- 299 I. the proposed development's impact on the thermal milieu, including:
    - 300 a. impact on permafrost physical conditions (including physical strength  
301 characteristics) and thermal regime;
    - 302 b. impact of modified permafrost temperatures and ground ice conditions  
303 underground in the mine and above ground on roadway, waste rock piles, etc..;
    - 304 c. impact of thermal erosion in relation to altered drainage;
    - 305 d. impact of ice wedge occurrences beneath containment structures;
    - 306 e. impact of frost heave;
    - 307 f. impact of the water content contained in the processed kimberlite deposited in the  
308 north pile and the potential for pore-water expulsion during freeze back of the  
309 pile; and,
    - 310 g. the impact of climate change on the above.
  - 311 II. impacts of aggregate use including limitations on volumes of resource material and  
312 minimization of terrain disturbance associated with ground ice thaw;
  - 313 III. rock types, including the chemistry and stability of kimberlite by- products;
  - 314 IV. seismicity and potential for rock heave;
  - 315 V. quantity and sulphuric concentration of potentially acid-generating material and the  
316 resulting impacts of acidic generating material;
  - 317 VI. acid rock drainage and seepage potential and associated mitigation;
  - 318 VII. impact of remedial actions at the mine site (waste dumps, tailings); and
  - 319 VIII. impact of quarry development at esker including gravel, sediment, overburden and  
320 aggregate use;

321  
322 As the North Pile will be the location for the disposal of a variety of materials including solid inert waste,  
323 sewage sludge, mine rock and processed kimberlite. Report the impacts on the environment of the  
324 interaction of these materials, including long term management plans for ensuring the stability of the  
325 material.

326  
327 Report the impacts on the environment of the esker quarry south of the minesite. Include information on  
328 the timing and amounts of material required over the life of the diamond mine, the size of the esker,  
329 extractable quantities, and a quarry management plan suitable for environmental assessment purposes.

### 330 **2.6.3 Vegetation and Plant Communities**

- 331 The EAR should analyze impacts of the proposed development on:
- 332 I. local plant communities (classified as vegetation cover types);
  - 333 II. rare or highly valued species;
  - 334 III. long-term, direct and indirect, habitat loss or alteration; and
  - 335 IV. vegetation productivity.

### 336 **2.6.4 Water Quality and Quantity**

337 The environmental assessment report shall provide an analysis of proposed development impacts on surface  
338 and ground waters. Impact conclusions should be based on predicted water quality of all waste streams and  
339 containment ponds throughout the project, including mine water, seepage, surface runoff and collection ponds,  
340 process plant discharges, the minewater settling pond and the sewage treatment facility. This analysis should  
341 include the impacts on water quality and quantity, catchment areas and permafrost in relation to:

- 342 I. impacts of underground blasting and its associated residues, in particular, nitrogen, nitrate,  
343 nitrite and ammonia;
- 344 II. water from underground mine workings and site runoff;
- 345 a. provide a detailed characterization of geochemical influence on inflowing  
346 groundwater from all potential sources, including: mine rock exposed on  
347 underground walls, materials temporarily stored underground (muck, ore and /or  
348 waste rock); and water released or leached from backfill (kimberlite paste,  
349 quarried rock concrete and mine rock concrete), particularly with respect to  
350 metals, nutrients and major ions.
- 351 b. Provide a description of the predicted mine inflows and underground  
352 hydrogeology, water handling procedures, water balance predictions and  
353 contingencies for potential higher than expected flows, impacts of discharges on  
354 the hydrology of the lake and water balances for waste water containment  
355 facilities including contingencies and excess holding capacities.
- 356 III. impact on water quantity, including changes in timing, volume and deviation of peak and  
357 minimum flows resulting from the development;
- 358 a. provide a detailed description of predicted mixing zones in Snap Lake for any  
359 effluents discharged from the development. De Beers shall provide its assessment  
360 of water quality (metals, nutrients, major ions, process chemicals, bacteria,  
361 physical characteristics) within and at the boundaries of the mixing zone and  
362 criteria used to establish the mixing zone.
- 363 b. De Beers shall provide a description of the predicted impacts of releases of any  
364 effluents, surface runoff and seepages that may be directed to land (include  
365 consideration of surface ponding), with particular attention to impact linkages on  
366 vegetation, soil and wildlife. Ensure that criteria used to predict impacts are  
367 explicit and precautionary.
- 368 IV. impact of treated sewage flows to associated wetlands and downstream waters;
- 369 V. siltation effects (e.g., runoff along roadways and drainage channels);
- 370 VI. effects of nutrients on fish and non-fish bearing water sources, including possible trophic  
371 status changes of Snap Lake;
- 372 VII. dewatering of underground workings and resulting impacts on the water balance, Snap  
373 Lake water level, outflow rates, etc.;
- 374 VIII. impact of development on the water shed;
- 375 a. provide a detailed description of the hydrology of the Snap Lake watershed  
376 including an overview of the Lockhart River Drainage basin.
- 377 IX. impact of the use of berms for waste water containment including impacts of berm  
378 materials, berm construction leaching from the berm itself, and seepage through the berm;
- 379 X. water chemistry impacts of surface runoff;
- 380 XI. effects of processed kimberlite and other tailing stored at the North Pile; and
- 381 XII. water chemistry impacts of groundwater from underground mine workings on Snap Lake.
- 382

383 All parameter estimates (e.g. water balance), reported by DeBeers should include tractable, the source of  
384 information (either estimates or empirical), assumptions built into the data, and data reporting that includes  
385 ranges and confidence estimate for parameters.

#### 386 2.6.4.1 Water Balance

387 A water balance should be prepared that incorporates all components of the proposed development under a  
388 range of climactic conditions.

389 2.6.4.2 *General Water*

390 The assessment of proposed development impacts on water quality should also consider:

- 391 I. contaminant loading and dispersion (including surface runoff and airborne contaminants);
- 392 II. acid rock drainage, metal leaching and geochemistry; and
- 393 III. kimberlite toxicity and implications for aquatic wildlife.

394 **2.6.5 Aquatic Habitat**

395 The impacts on aquatic organisms and their habitat should be considered taking into account predicted water  
396 quality and quantity impacts and their associated effects on fish, fish habitat, and local drainage patterns. The  
397 analysis of development impacts should include:

- 398 I. productive capacity of aquatic systems during construction, operations, closure and post-  
399 closure;
- 400 II. impact on all lakes that may experience changes to fisheries resources<sup>4</sup> including, but not  
401 limited to Snap Lake and streams associated with these lakes;
- 402 III. habitat loss or alteration;
- 403 IV. rare and/or sensitive fish species and habitat;
- 404 V. mortality (includes fishing);
- 405 VI. impacts of underground blasting on fish and fish habitat on local aquatic systems; and
- 406 VII. impacts on all lakes and associated food webs and water use potential that may be  
407 impacted by changes in water chemistry (nutrients, bacteria, major ions, metals) due to  
408 runoff or discharges from the development.

409  
410 The environmental assessment report should include an overview of how the DFO, 1986 principle of No Net  
411 Loss will be achieved during the construction, operation, care and maintenance and closure stages of the  
412 proposed development.

413 **2.6.6 Wildlife and Wildlife Habitat**

414 The environmental assessment report should provide an analysis of the proposed development's impacts, (both  
415 direct and indirect), on wildlife and wildlife habitats, including migratory birds, giving consideration to and  
416 demonstrating linkages between predicted physical and biological changes resulting from the proposed  
417 development.

418 De Beers shall provide its informed view of "ecologically representative areas" in the ecoregion as defined in  
419 the NWT Protected Areas Strategy, as may be required for any adequate monitoring of impacts, and report  
420 potential impacts by the proposed development on those ecologically representative areas.

421  
422 De Beers shall also give special consideration to species identified in COSEWIC<sup>5</sup>'s listing as "Endangered,"  
423 "Threatened" and of "Special Concern." The analysis of development should include:

- 424 I. impact of loss of terrestrial habitat, and the quality of lost habitat for relevant species;

---

<sup>4</sup> Note that impacts should be assessed on all water bodies likely to be impacted by the proponent's activities, not just lakes and not just water bodies with fishery resources. It is important to note that the *Fisheries Act* applies to fish and fish habitat, the latter which is defined as "*spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes*". Secondly, the *Fisheries Act* does not restrict the conservation of fish and fish habitat only to fisheries. Instead, the *Fisheries Act* applies to all waters of Canada where fish or habitats are present.

<sup>5</sup> Note that the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has changed their species listings. The "Endangered" and "Threatened" listings remain the same, however, the "Vulnerable" listing has been changed to "Special Concern." Please refer to the website, [www.cosewic.gc.ca](http://www.cosewic.gc.ca), for further information.

- 425 II. disturbance of feeding, nesting, denning or breeding habitats;
- 426 III. wet-land habitat alteration, loss;
- 427 IV. physical barriers to wildlife;
- 428 V. disruption, blockage, impediment and sensory disturbance, of daily or seasonal wildlife
- 429 movements (e.g., migration, home ranges, etc.);
- 430 VI. rare, vulnerable, threatened or endangered species as outlined in the Canadian
- 431 Organization of the Status of Endangered Wildlife in Canada (COSEWIC), as well as,
- 432 species of international significance;
- 433 VII. direct wildlife mortality;
- 434 VIII. indirect wildlife mortality;
- 435 IX. reduction in wildlife productivity; and
- 436 X. implications of the proposed development acting as an attractant for particular species.

## 437 **2.7 Social, Economic and Cultural Components**

### 438 **2.7.1 Cultural and Heritage Resources**

439 Describe potential impacts of the proposed development on cultural and heritage resources. Potential impacts  
 440 on the cultural well being of the impacted communities should include, for example, anticipated or possible  
 441 changes on social cohesiveness or language use.

### 442 **2.7.2 Land and Resources Use**

443 Analyse and describe the proposed development's impact on land and resource uses potentially impacted by  
 444 the proposed development.

445  
 446 De Beers shall submit its informed view of "ecologically representative areas" in the ecoregion as defined in  
 447 the NWT Protected Areas Strategy, as may be required for any adequate monitoring of impacts at a regional  
 448 scale. Include maps and, or, verbal descriptions of existing and past land and resources uses in relation to the  
 449 proposed development. For additional clarity, include at least the following land and resource uses:

- 450 I. rare or ecologically significant areas;
- 451 II. traditionally significant areas;
- 452 III. seasonal camp areas;
- 453 IV. permanent camp areas, including the Lupin winter Road and maintenance camp at
- 454 Lockhart Lake; and
- 455 V. hunting, trapping, outfitting, recreational, tourism, commercial and sport fishing areas;

### 456 **2.7.3 Economy**

457 The impact of the proposed development on the economy, having regard to direct, indirect and induced  
 458 impacts on income and employment. Consideration shall be given to:

- 459 VI. wage and salary employment by skills category over the life of the proposed development,
- 460 including estimates of northern participation;
- 461 VII. availability and use of skilled workers in the NWT to meet job requirements;
- 462 VIII. opportunities for local, regional and territorial businesses to supply goods and services
- 463 both directly to the proposed development and to meet the demand created by the
- 464 expenditure of contractors and new employees;
- 465 IX. barriers to employment, advancement, and retention of northern workers, including the
- 466 training or retraining necessary for sections of the northern workforce to meet De Beers
- 467 employment standards (i.e. former Con or Giant employees);

- 468 X. opportunities to diversify the northern economic base to produce and to supply new goods  
469 and services;  
470 XI. barriers to employment;  
471 XII. impacts on the subsistence economy;  
472 XIII. federal and territorial revenues and costs;  
473 XIV. economic diversification and sustainable economic development;  
474 XV. impacts on the national and territorial Gross Domestic Product (GDP);  
475 XVI. probability and any effects of employee migration into or out of NWT communities;  
476 XVII. local government finances;  
477 XVIII. inflation and the cost of living impacts; and  
478 XIX. economic diversification.

479  
480 De Beers shall, for the diamond resource included within the scope of the environmental assessment,  
481 report the following:

- 482 I. the estimated total resource value in carats and present day Canadian dollars;  
483 II. planned annual resource extraction rates, reported in carats, and present day Canadian  
484 dollars; and,  
485 III. the impact of planned extraction rates and total resource extraction over the life of the  
486 proposed diamond mine on items II, III, V, VII, VIII, IX, X, and, XIV above.  
487

488 De Beers shall provide a detailed summary of its employment commitments, and minimum skill  
489 requirements for its predicted labour force, including contract and subcontracted employees. De Beers  
490 shall assess the impact of its employment commitments and minimum skill requirements on the labour  
491 force in the Northwest Territories.

492  
493 De Beers shall also report how federal and territorial governments intend to, or have committed to assisting  
494 De Beers achieve its employment commitments and the impact not securing the intended or committed  
495 assistance from governments.

#### 496 **2.7.4 Human Health**

497 The environmental assessment report shall analyze the potential development impacts upon the physical,  
498 mental, spiritual and cultural health of employees, their families and communities.

#### 499 **2.7.5 Government**

500 Assess the impacts of the proposed development on revenues, costs and net income accruing to federal and  
501 territorial governments. Report the net incremental benefits or costs to these governments arising from the  
502 proposed development. De Beers should also report other fee structures/costs it will incur such as quarry  
503 royalties, security deposits, abandonment, and restoration costs resulting from the proposed development.  
504

505 For clarity, provide a balance sheet or other appropriate accounting presentation of the total present day  
506 Canadian dollar value of federal and total territorial finances resulting from the proposed development.

#### 507 **2.7.6 Infrastructure**

508 Assess the impacts of the proposed development on existing social, institutional and community services,  
509 transportation facilities, services, infrastructure (e.g., transportation safety), and permanent changes to the  
510 infrastructure and services arising from the proposed development.



511 **2.7.7 Noise**

512 Assess the impact of the proposed development on the environment resulting from changes to ambient  
513 noise levels, and the effect of these changes on humans and wildlife.

514 **2.7.8 Visual and Aesthetic Resources**

515 Assess the visual and aesthetic impact of the proposed development. Report design components that  
516 mitigate visual and aesthetic impacts.

517 **2.8 The Effect(s) of the Environment on the Proposed Development**

518 De Beers should assess the effect(s) of the environment on the proposed development, and activities  
519 forming part of the proposed development. De Beers should consider the full range of climate conditions  
520 (including extreme weather events, wet, dry and normal precipitation and extreme temperature spells) and  
521 climate change (e.g. global warming scenarios). The discussion must specifically describe and assess how  
522 the potential for climate change, and extremes in current climate could affect permafrost and soils with  
523 high ice content in relation to the integrity of the proposed development infrastructure, particularly the  
524 tailings (processed kimberlite) containment impoundment, water retention dikes, the winter road and waste  
525 rock piles.

526 **2.9 Cumulative Impact**

527 For the purposes of this development, the environmental assessment should include an evaluation of  
528 cumulative effects that are likely to result from the proposed development in combination with other  
529 developments; and developments within the regulatory process on the day these Terms of Reference are issued.  
530 De Beers shall consider existing forecasting models of cumulative infrastructure development, where such  
531 models are available, and can be calibrated to the regional ecosystem encompassing the proposed development.  
532 Report the models considered.

533  
534 De Beers should include, as a minimum, the existing Snap Lake Advanced Exploration Program and other  
535 identified developments including but not limited to existing tourism operations in the region, the BHP  
536 Ekati™ Diamond Mine (including the expansion), Diavik Diamond project,™ and the Echo Bay Mines™  
537 Ltd. Winter Road, Lupin mine and the proposed Tahara diamond mine. De Beers should also report and  
538 describe developments considered but not included in the cumulative effects assessment, and rationale for  
539 the decision.

540  
541 De Beers shall explain the likelihood of the proposed development expanding, and any areas of medium to  
542 high development potential within the claims block.

543 De Beers should provide confirmation that all existing facilities, infrastructure, etc., De Beers plans to use  
544 can adequately handle the demands generated by the proposed development. Include cumulative impacts  
545 in relation to:

- 546 I. The bio-physical environment;  
547 II. social environment;  
548 III. economic environment;  
549 IV. cultural environment;  
550 V. heritage resources; and  
551 VI. visual and aesthetic resources.

552  
553 Explicit documentation of the assumptions, models, information sources used as well as information limitations  
554 and associated levels of uncertainty should support all steps of the cumulative environmental assessment, in the

555 environmental assessment report. The analysis should present data and analyses that are verifiable in nature,  
556 and quantitative where data are available. In the absence of verifiable knowledge, best professional judgment  
557 or expert opinion (unverifiable) should be used, whether that is from traditional or scientific sources.

558  
559 The approach and methodologies used to identify and assess cumulative effects should be explained.

#### 560 **2.10 Abandonment and Restoration**

561 De Beers should provide a description of regulations (regulatory framework), industry standards and  
562 government agreements that are needed with respect to the closure phase of the proposed development  
563 including plans for mitigating the social and economic impacts of mine closure. Where regulatory  
564 requirements, industry standards or government agreements exist, their minimum standards, criteria, etc.  
565 should be reported.

566  
567 De Beers shall provide a clear (visual and textual) description of the proposed development site at closure,  
568 and after restoration. Abandonment & Restoration (A&R), components and activities should be listed.  
569 Rationale and alternatives that have been discarded should be listed, e.g., the removal of all material from  
570 site versus partial or total burial, including costs. Details of methods and location of materials disposal,  
571 both on and off-site, including the structural foundations in the bottom of the mine water  
572 clarification pond.

#### 573 **2.11 Follow-up Programs**

574 Describe reporting (feedback) procedures including any proposed monitoring programs. The intent is to ensure  
575 that remedial actions are taken if the results of a monitoring program deviate from any established operational  
576 standards on environmental performance, or predictions on environmental impacts. De Beers shall describe the  
577 approach, objectives and proposed methodologies that will be used in any proposed monitoring program(s).

#### 578 **2.12 Compensation**

579 De Beers should provide key elements of its policy on individual compensation and on compensation  
580 agreements, contracts or other forms of compensation they have or will negotiate within the confines of  
581 confidentiality.

#### 582 **2.13 Regulatory Regime**

583 Provide mapping of the claim block and include a list of authorizations, permits and licenses required to  
584 undertake the proposed development. Specify short and long-term tenure requirements.

#### 585 **2.14 Corporate Compliance**

586 De Beers shall provide details on ownership of rights and interests in the development, operational  
587 arrangements and corporate and management structures should be provided. De Beers shall describe its  
588 relevant experience over the last 10 years in mining operations in Canada and in other countries with similar  
589 regulatory and social policy regimes concerning the following:

- 590     ▶ record of compliance with government policies and regulations pertaining to environmental  
591         protection and socio-economic issues, including details of any corrective measures or penalties  
592         imposed by government as a result of significant non-compliance;
- 593     ▶ mine safety, major accidents, spills and emergencies, including details of events and responses;
- 594     ▶ record in honouring commitments on environmental and socio-economic matters in the event of  
595         planned or premature mine closings or change of ownership;
- 596     ▶ operations in arctic and subarctic regions; and

597        ▶ De Beers shall provide a summary of all corporate policies and programs that bear on the expected  
598        environmental and socio-economic impacts of the proposed development including environmental  
599        management policies, northern hiring and business participation policies and programs, etc.

## 600    **2.15 Presentation**

### 601    **2.15.1 Conformity**

602    The environmental assessment report should include a conformity table outlining to reviewers the areas in  
603    the report (including appendices and technical reports) that address the specific sections, and where  
604    appropriate line items, of the Terms of Reference.

### 605    **2.15.2 Format**

606    The format of the environmental assessment report is largely left to the discretion of De Beers although  
607    reviewers must be able to clearly identify where specific issues have been addressed and directions  
608    followed.

### 609    **2.15.3 Appendices**

610    Detailed data should be contained in appendices and technical reports submitted in support of the primary  
611    environmental assessment report.

### 612    **2.15.4 Data Presentation**

613    De Beers should present the environmental assessment report in the clearest language possible. Where  
614    technical language is used a glossary defining technical words and acronyms should be included. De Beers  
615    should provide charts, diagrams and maps wherever useful to clarify the text. Where possible, maps  
616    should be of common scale and orientation to allow for comparison and overlap of mapped features. De  
617    Beers should also provide the EAR report in electronic format (e.g., CD-ROM). Please submit PDF  
618    formatted digital files of all documents in sizes suitable for downloading from the Internet.  
619

## 3 ROLES AND RESPONSIBILITIES

The roles and responsibilities of the Review Board, Review Board's staff and other parties involved in the EA process are explained in the following sections.

### 3.1 *Review Board*

The Review Board is required to undertake the following in relation to this EA:

- ▶ conduct the EA in accordance with ss.126(1) of the MVRMA;
- ▶ take into account any previous screening or assessment report made in relation to the development, in accordance with s.127 of the MVRMA;
- ▶ determine the scope of the development, in accordance with ss.117(1) of the MVRMA;
- ▶ consider environmental assessment factors in accordance with ss.117(2) of the MVRMA;
- ▶ make a determination regarding the environmental impacts and public concern of the development, in accordance with ss.128(1) of the MVRMA;
- ▶ report to the Federal Minister in accordance with ss.128(2) of the MVRMA; and,
- ▶ identify areas and extent of effects, within or outside the Mackenzie Valley in which the development is likely to have a significant adverse impact or be a cause of significant public concern, in accordance with ss.128(4) of the MVRMA.

### 3.2 *Review Board Staff*

The Review Board's Executive Director and staff are the primary contacts for De Beers, government bodies (federal, territorial and municipal), non-government organizations (NGOs), First Nations, expert advisors (experts contracted directly by the Review Board), the public and other interested parties. This does not limit or preclude De Beers from contacting other parties during the EA process.

The staff member coordinating and facilitating the EA is Mr. Louie Azzolini.

### 3.3 *Other Parties*

Government bodies may be involved in the EA process as:

- ▶ a Regulatory Authority (RA) to provide advice on regulatory matters;
- ▶ a pool of experts to assist the Review Board and provide advice related to environmental and socio-economic impacts; or
- ▶ both roles simultaneously.

Regulatory Authorities are those government bodies, such the Department of Natural Resources Canada, Indian and Northern Affairs Canada (INAC) or Fisheries and Oceans Canada (DFO) that provide licenses or permits that are required by a development. INAC and DFO would likely provide both regulatory advice in their roles as RAs and they would also provide technical expertise on specific aspects of a development. Other government bodies such as Environment Canada (EC) or Resources, the Government of the Northwest Territories (GNWT) would limit themselves to providing technical expertise because the proposed development would not require any licence, permit, or other authorization from them in their regulatory capacity.

In addition to the pool of experts available within government, the Review Board may choose to hire expert advisors to provide high quality technical expertise on specific aspects of the EA.

First Nations, NGOs, the public and other interested parties may provide the Review Board with information relevant to the EA of their own volition, or they may be asked by the Review Board to provide any relevant information they may have.

De Beers may present additional information to the Review Board during any portion of the EA before the closure of the public registry. The Review Board encourages De Beers to continue its discussions with potentially affected communities and organizations. The Review Board will request De Beers to provide a written record verifying consultations, including how the consultations may have influenced the design of any part of the development. De Beers is expected to respond in a suitable and timely course to the EA Terms of Reference that will be issued by the Review Board.

All submissions to the Review Board are considered during the Review Board's decision-making process on the environmental assessment. These submissions will be public documents and will be posted on the Review Board's Public Registry. Submissions should be in a format that is easily available to all stakeholders.

## 4 EA PROCESS

This section summarizes the process for the completion of an EA, in general, and this EA specifically.

### 4.1 Milestones and Responsibilities

Once a proposed development is referred to the Review Board for environmental assessment, the following milestones are established:

**Table 1 - Milestones Dates**

ACTIVITY AND MILESTONES	DAYS	START DATE	END DATE
Terms of Reference and Work Plan	84 Total	May 23, 2001	September 17, 2001
The Environmental Assessment	274 Total	September 21, 2001	October 24, 2002
Review Board Deliberation	174 Total	April 22, 2002	December 19, 2002
	<b>413 Grand Total</b>		

The time allocations and the information requirements for each milestone will vary with each EA, and will depend upon the complexity, location and duration of the development. These will also vary depending upon the reasons for decision provided by the preliminary screener(s), and upon the information provided by the developer.

**Table 2 - Milestones and Responsibility Assignments for Steps in the EA**

MILESTONE	DEVELOPER	GOVERNMENT BODIES	OTHER PARTIES	STAFF	BOARD
Start-up of the EA				●	
Advance consultation	●			●	
Prepare draft Work Plan				●	
Review draft Work Plan	●	●	●	●	
Approve final Work Plan					●
Prepare Draft Terms of Reference				●	
Review draft ToR	●	●	●	●	
ToR approved and issued					●
Preparation and submission of EA Report	●				
Conformity Statement		●	●	●	
Deficiency statement					●
EA analysis		●	●	●	
EA decision					●
Consultation - throughout / as required	●	●	●	●	●

Note: The Work Plan and Terms of Reference have been combined into a single document for this EA.

#### 4.1.1 Start-up of the EA

At the start of the EA, De Beers, government bodies, NGOs, First Nations, expert advisors, the public and other interested parties are informed of the referral. The notification lets people know that while the development is in the EA process, no licence, permit or other authorization can be issued by government. As part of the referral, staff starts a public registry on the development and start tracking development issues.

Notification of the referral is done by:

- ▶ Written notification;
- ▶ News release; and
- ▶ Newspaper advertising.

Tasks involved in starting the environmental assessment are:

- ▶ Open case file;
- ▶ Open public registry and registry log;
- ▶ Public notification of referral;
- ▶ Notify regulatory authorities of the referral; and
- ▶ Review Board notifies the developer of the referral.

**Deliverable:** Public registry, public notification, government notification, developer notification, issue tracking, expert advisor identification, responsible minister self-identification.

#### 4.1.2 Advance Consultation

Advance consultation helps to identify and inform stakeholders about the EA process and to identify potential environmental, socio-economic and cultural impacts that may need examination. Staff may conduct public information sessions. De Beers would participate in these sessions to provide information about its development proposal. A stakeholder notification list is prepared and can include any of the following:

- ▶ Communities;
- ▶ NGOs;
- ▶ First Nations;
- ▶ Government;
- ▶ Developer; and
- ▶ Other interested parties such as businesses or members of the public.

Meetings and discussions with government may be held to review the *Snap Lake Project Scoping report* and the *Snap Lake Diamond Project Technical Support Report*.

The Review Board may choose to participate in a site visit. The Snap Lake site visit would be arranged with De Beers and notification of the site visit will broadly advertised.

**Deliverable:** Raise awareness of the EA process and the development proposal. Any relevant issues identified by the public and government stakeholders during advance consultation are brought to the attention of the Review Board for possible inclusion in the EA Terms of Reference.

### 4.1.3 Work Planning and Time Frames

The Review Board, in consultation with stakeholders, prepares a work plan for completing the EA. Each work plan is unique as is every development proposal referred to EA. For example, as De Beers has submitted a *Snap Lake Project Scoping Document* and the *Snap Lake Diamond Project Technical Support Document*, with its application(s) that triggered the EA, that information could affect the length of time and level of effort spent on a particular step in the EA process. The draft Work Plan is developed during the advance consultation phase.

Once the Review Board issues its draft Work Plan, any comments received about it from interested stakeholders are considered before preparing the final Work Plan.

**Deliverable:** An approved Work Plan, including an estimate of resource requirements, for completing the EA.

### 4.1.4 EA Terms of Reference and Scope of Development Determination

The EA Terms of Reference are the Review Board's instructions to De Beers and are designed to ensure that the appropriate information is provided to understand the environmental consequences and the benefits of the proposed development. The ToR is prepared based on the development description provided by De Beers and any other relevant information. The ToR also provide the scope of the development<sup>6</sup> and scope of assessment<sup>1</sup> determination of the Review Board.

Staff will coordinate the preparation and consultation of the draft ToR with other parties. After the Review Board's consideration and approval of the final ToR, they are sent to De Beers and others as required.

**Deliverable:** Draft and final Terms of Reference, direction to the developer including confirmed scope of development and associated scope of assessment, identification of key issues, effects, baseline data requirements, and desired results of research, and suggested environmental assessment report table of contents.

### 4.1.5 Preparation and Submission of the EA Report

De Beers will use the EA Terms of Reference to complete its EA report. That is, De Beers will provide additional information besides the information it has already provided in its *Snap Lake Project Scoping Report* and the *Snap Lake Diamond Project Technical Support Report*. All together, the information provided will tell the story of how people and the natural world could be changed by the proposed development and what is to be done about these changes.

To properly execute its duties under the MVRMA, the Review Board should have the following information on the proposed development:

- ▶ Title (of the development proposal);
- ▶ Executive summary (translated into appropriate aboriginal languages, if requested);
- ▶ Corporate and development information including an environmental record;
- ▶ Description of the development (e.g., phases, timetables, location, maps, photos, technology used, alternatives to the development, development design details taking into account the environment);
- ▶ Description of the existing environment biophysical and socio-economic environment,

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<sup>6</sup>Defined in Appendix 1.



- ▶ Impact of the development on the environment including impacts or effects on the socio-economic environment. Include impacts by accidents or malfunctions, and any cumulative impact(s);
- ▶ List of potential impacts and the proposed mitigation or remedial measures;
- ▶ Identification and description of the residual impacts after mitigation or remedial measures;
- ▶ Results and summary of issues from public and community consultation, including any concerns and mitigation;
- ▶ Plans for any environmental management plan, follow-up and monitoring;
- ▶ List of supporting evidence and information sources, including previous environmental assessments; and
- ▶ List of the required licences, permits and other authorizations, if relevant.

**Deliverable:** An EA report from De Beers that addresses the requirements of the EA Terms of Reference, and additional information from other sources as directed by the Review Board.

#### 4.1.6 Conformity Analysis

After receiving the completed EA report from De Beers, the Review Board will ensure that De Beers has provided all the information requested in the Terms of Reference.<sup>7</sup>

The Review Board will decide conformity and, where required, issue a deficiency statement if needed.

**Deliverable:** Review Board issues deficiency statement on the developer's EA report.

#### 4.1.7 Technical Analysis

The Review Board's staff will coordinate the analysis of the EA. The aim is to provide opportunities for RA's, federal and territorial governments, First Nations, the public and other interested parties to participate in the EA and express their ideas, and present their information (e.g., traditional knowledge holders and scientific experts) to the Review Board. The more complete the analysis, the better the EA. This is a critical stage in the EA because key issues and impacts are identified, and it is important that people have opportunities for input before any final decisions are made.

The analysis identifies unresolved issues and environmental impacts, and provides possible suggestions for addressing the issues and impacts. Where unresolved or unclear issues or impacts are identified, De Beers, and other appropriate parties (e.g., RAs, experts) will have the opportunity of responding. De Beers can formally provide and present its views on any information brought to the Review Board's attention after submission of its environmental assessment report including any proposed amendments, additions or refinements to the development or the environmental assessment.

The Review Board will coordinate the technical analysis and may conduct technical hearings and public hearings.

**Deliverable:** Technical reports from participants that clearly state the reviewer's conclusions, recommendations and supporting rationales, technical hearings to discuss technical and issues and public hearings.

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<sup>7</sup> **Note:** *This conformity check determines whether or not De Beers has responded to what was asked for in the EA Terms of Reference; it does not reflect the technical adequacy of the information provided De Beers. Any additional technical information, or further explanation, required would be requested through information requests (IR's). IR's would facilitate the technical analysis of the development.*

#### **4.1.8 Information Requests**

Throughout the review the EA, the Review Board and stakeholders may have additional information needs for technical analysis of the developer's environmental assessment report. This information can be requested by submitting IR's to the Review Board. These IRs and responses form part of the public registry.

The IRs represent very specific and focused requests for clarification or additional information, required in order for the party or parties requesting the information to complete its analysis and reach a conclusion about the developers EA report and proposed development.

The Review identifies milestone dates for the submission of IR's and responses to the IR's. Depending on the technical adequacy of the information submitted there could be two rounds of IRs during an EA. If a third round is required, then the Work Plan would be revised after De Beers and other interested participants were informed and provided an opportunity to comment on the proposed work plan amendment.

**Deliverable:** Responses to Information Requests are placed on the public registry and circulated to all stakeholders to assist in their analysis of the environmental assessment report.

#### **4.1.9 Public and Technical Hearings**

- The Review Board intends to conduct technical and public hearings on the De Beers' environmental assessment report, expert responses to the report and any outstanding issues.

**Deliverable:** Technical hearings and Public hearing(s) for the Review Board to obtain additional information about the issues regarding the proposed development and the conclusions reached by stakeholders in filed documents.

#### **4.1.10 EA Decision and Written Reasons**

The Review Board will prepare its Report of Environmental Assessment, its decision and reasons for decision after considering everything in the public registry. The Review Board will then prepare its written reasons. The Review Board will give the Minister of DIAND. The Minister of DIAND will distribute them to every responsible minister. The Mackenzie Valley Land and Water Board and to De Beers.

Staff would work with the Review Board in the preparation of its Report of EA and written reasons.

**Deliverable:** Report of the Review Board on the EA, with decision and written reasons.

#### 4.2 EA Work Plan Schedule

Table 3 on the following page provides an estimated timeline for completing each indicated milestone in the EA process. The Review Board may amend the milestone dates at its discretion.

**Table 3 - Milestones Dates**

ACTIVITY AND MILESTONES	WORK DAYS	START DATE	END DATE
<b>Terms of Reference and Work Plan</b>	<b>84</b>	<b>May 23, 2001</b>	<b>September 17, 2001</b>
Referral to Environmental Assessment	1	May 23, 2001	May 23, 2001
Draft ToR and Draft WP consultation	62	June 21, 2001	September 17, 2001
Decision on Draft ToR and Draft WP	1	September 17, 2001	September 17, 2001
<b>The Environmental Assessment</b>	<b>274</b>	<b>September 21, 2001</b>	<b>October 24, 2002</b>
De Beers Prepares the EA	110	September 21, 2001	February 21, 2002
De Beers Submits the EA	1	February 26, 2002	February 26, 2002
Conformity Consultation Period	30	February 27, 2002	April 9, 2002
Conformity or Deficiency Statement Issued	1	April 10, 2002	April 10, 2002
Review Board Information Request	20	February 26, 2002	March 25, 2002
Information Request Round One	30	February 26, 2002	April 8, 2002
De Beers Response To Information Requests	1	May 6, 2002	May 6, 2002
Information Request Round Two	36	April 4, 2002	May 27, 2002
De Beers Response To Information Requests	1	June 24, 2002	June 24, 2002
Experts submit Technical Reports to the Board	1	July 22, 2002	July 22, 2002
Pre-hearing conference	1	August 6, 2002	August 6, 2002
Technical Session and Public Hearing	20	September 16, 2002	October 11, 2002
Review Board Site Visit	1	October 14, 2002	October 23, 2002
Close Public Registry	1	October 23, 2002	October 24, 2002
<b>Review Board Decision</b>	<b>174</b>	<b>April 22, 2002</b>	<b>December 19, 2002</b>
Board Decision and Report of Decision	173	April 22, 2002	December 18, 2002
Issue Decision document	1	December 19, 2002	December 19, 2002
<b>TOTAL</b>	<b>413</b>		

## APPENDIX 1

### 1.0 Review Board Legal Context for Environmental Assessment

The Review Board, in exercising its authority is guided by the following legal principles and by definitions, purposes and factors found in the MVRMA. This context provides the developer, RA's, the DRA (NEB) as required, federal and territorial governments, First Nations, expert advisors, and other affected or interested parties the framework within which the EA will be conducted.

#### 1.1 Legal Principles

The Review Board is governed by the rules of natural justice and procedural fairness. This essentially means that fair play is required when exercising decision-making functions. Three of the basic elements are:

*(i) The right to be heard - means providing fair opportunity for parties to prepare and state their case, and to correct or contradict relevant statements prejudicial to their position;*

*(ii) The rule against bias - is a rule against prejudging a case; addressing not only actual bias but also any reasonable apprehension of bias; and,*

*(iii) Fettering of discretion - means the Review Board is governed by the common law principle which requires that As/he who hears must decide. This means that the Board members who hear or review the evidence in an EA must be the decision makers. Members who did not participate can play no role in the decision. The law also requires that the Board and its members must be free to exercise their full authorities under the statute. The Board must decide each case on its own merits.*

#### 1.2 Definitions

The context within which the Review Board conducts an EA is based on following definitions and indicated sections from the MVRMA.

**Development** - means any undertaking, or any part of an undertaking, that is carried out on land or water and, except where the context otherwise indicates, wholly within the Mackenzie Valley, and includes measures carried out by a department or agency of government leading to the establishment of a national park subject to the National Parks Act and an acquisition of lands pursuant to the Historic Sites and Monuments Act.

**Environment** - means the components of the Earth and includes

- ▶ Land, water and air, including all layers of the atmosphere;
- ▶ All organic and inorganic matter and living organisms; and
- ▶ The interacting natural systems that include components referred to in paragraphs (a) and (b).

**Follow-up program** - means a program for evaluating

- ▶ the soundness of an environmental assessment or environmental impact review of a proposal for a development; and
- ▶ the effectiveness of the mitigative or remedial measures imposed as conditions of approval of the proposal.

**Harvesting** - in relation to wildlife, means hunting, trapping or fishing activities carried on in conformity with a land claim agreement or, in respect of persons and places not subject to a land claim agreement, carried on pursuant to aboriginal or treaty rights.

**Heritage resources** - means archaeological or historic sites, burial sites, artifacts and other objects of historical, cultural or religious significance, and historical or cultural records.

**Impact on the environment** - means any effect on land, water, air or any other component of the environment, as well as on wildlife harvesting, and includes any effect on the social and cultural environment or on heritage resources.

**Mitigative or remedial measure** - means a measure for the control, reduction or elimination of an adverse impact of a development on the environment, including a restorative measure.

**Scope of assessment** - the components of the environment that will be evaluated for impacts from the proposed development and includes a determination of the environmental effects to be addressed and the scope of the environmental effects to be assessed.

**Scope of development** - a description of the development and associated parts as determined by the Review Board.

**s.114** The purpose of this Part is to establish a process comprising a preliminary screening, an environmental assessment and an environmental impact review in relation to proposals for developments, and

- ▶ to establish the Review Board as the main instrument in the Mackenzie Valley for the environmental assessment and environmental impact review of developments;
- ▶ to ensure that the impact on the environment of proposed developments receives careful consideration before actions are taken in connection with them; and
- ▶ to ensure that the concerns of aboriginal people and the public are taken into account in that process.

**s.115** The process established by this Part shall be carried out in a timely and expeditious manner and shall have regard to

- ▶ the protection of the environment from the significant adverse impacts of proposed developments; and
- ▶ the protection of the social, cultural and economic well-being of residents and communities in the Mackenzie Valley.

**ss.117(1)** Every environmental assessment of a proposal for a development shall include a determination by the Review Board of the scope of the development, subject to any guidelines made under section 120.

**ss.117(2)** Every environmental assessment and environmental impact review of a proposal for a development shall include a consideration of:

- ▶ The impact of the development on the environment, including the impact of malfunctions or accidents that may occur in connection with the development and any cumulative impact that is likely to result from the development in combination with other developments;
- ▶ The significance of any such impact;
- ▶ Any comments submitted by members of the public in accordance with the regulations or the rules of practice and procedure of the Review Board;
- ▶ Where the development is likely to have a significant adverse impact on the environment, the imposition of mitigative or remedial measures; and
- ▶ Any other matter, such as the need for the development and any available alternatives to it that the Review Board or any responsible minister, after consulting with the Review Board, determines to be relevant.