

R. v. BHP Diamonds Inc., 2002 NWTSC 74

Date: 2002 12 09
Docket: S-1-CR 2001 000053

IN THE SUPREME COURT OF THE NORTHWEST TERRITORIES

BETWEEN:

HER MAJESTY THE QUEEN

- and -

BHP DIAMONDS INC.

Reasons for decision following a trial on charges under s.35(1) and s.36(3) of the *Fisheries Act*, R.S.C. 1985, c.F-14.

Heard at Yellowknife, NT: February 27-28, 2002 March 18-22, 2002, May 6-June 5, 2002, June 17-20, 2002, August 26-September 10, 2002, September 17-20, 2002

Decision delivered in Court on December 9, 2002.
Reasons for decision filed December 9, 2002.

REASONS FOR JUDGMENT OF THE HONOURABLE JUSTICE J.E. RICHARD

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REASONS FOR JUDGMENT

[1] The accused corporation (BHP) operates a diamond mine in the Lac de Gras area of the Northwest Territories. The charges before the Court relate to alleged breaches of the *Fisheries Act*, i.e., depositing a deleterious substance into waters frequented by fish, and also harmfully disrupting fish habitat. The charges arise from activities of BHP during the construction phase of the mining project in 1994-1997. The Court heard testimony from 26 witnesses during the lengthy trial and approximately 250 exhibits were tendered by the prosecution and defence. Several substantive issues are raised by the evidence and the submissions of counsel — e.g., the applicability of the *Fisheries Act*, a Ministerial Authorization to disrupt fish habitat, proof of the *actus reus*, and the defence of due diligence.

Background

[2] The mine site is situate on the tundra, or barrenlands, approximately 300 kilometres northeast of Yellowknife. It is 100 kilometres north of the treeline and 200 kilometres south of the Arctic Circle. The surface in the area is covered by numerous lakes, and by muskeg, boulder fields, eskers and bedrock outcroppings. One

characteristic of the area is continuous permafrost. The climate in the area is severe. Summers are short, winters are long and extremely cold.

[3] The watersheds in the area of BHP's mining project drain into Lac de Gras, a large lake. In particular, the Koala watershed (with which the present charges are concerned) drains into the western arm of Lac de Gras. Among a series of lakes in the Koala watershed, interconnected by small streams, and situate in a (rough) north to south alignment or sequence are Vulture Lake, Polar Lake, Panda Lake, Koala Lake, Kodiak Lake, Little Lake, Moose Lake, Nero Lake and Nema Lake.

[4] Within BHP's mineral claim block were discovered several diamond-bearing kimberlite pipes. Four of these kimberlite pipes are situate within a few kilometres of each other in the Koala watershed, and are beneath the lakes named Panda, Koala, Fox and Leslie. To access these kimberlite pipes each of these lakes has to be dewatered, and then open pit mining is to take place. The mine is expected to have an operating life of 25 years or longer. The vast infrastructure constructed on this remote site includes a processing plant and a permanent camp to accommodate a 400-500 person work force.

[5] The development of this huge mining project was expected to have a significant impact on the environment, including the lakes, streams and other aquatic habitat. Dewatering of lakes to access the diamond-bearing kimberlite pipes beneath would obviously eliminate those fish habitats. Similarly, the fish habitat of other lakes (e.g., Airstrip Lake which was dewatered to access granular resources for construction, and Long Lake into which process plant tailings would be discharged) would also be completely eliminated.

[6] One of the lakes to be dewatered to access the kimberlite pipes beneath was Panda Lake. Prior to development, Panda Lake had a significant water inflow at its north end. A diversion channel had to be constructed to divert the water around Panda Lake and Koala Lake (immediately south of Panda Lake) and into Kodiak Lake (immediately south of Koala Lake). This diversion channel, variously referred to as the Panda Diversion Channel or PDC, or the ditch, is approximately 3.5 kilometres in length. It is the focus of the charges before the Court.

[7] The development, construction and operation of this huge mining project required, and still requires, a variety of regulatory approvals. The mine is located on

federal Crown lands under the control of the Ministry of Indian Affairs and Northern Development (DIAND). DIAND is responsible for the issuance of mining leases, land use permits, land leases, quarry permits, etc., in connection with the BHP project. As the project involves the use of water and the alteration of water bodies and watercourses and the deposit of waste materials into water bodies, the regulatory regime of the *Northwest Territories Waters Act*, S.C. 1992, c.39 is applicable. The Northwest Territories Water Board is responsible for the issuance of water licenses for water use and for waste disposal into water bodies.

[8] With respect to the protection of fish, fish habitat and fisheries, the federal *Fisheries Act*, R.S.C. 1985, c.F-14. is applicable, administered by the Ministry of Fisheries and Oceans (DFO). In particular, DFO can, pursuant to s.35(2) of the *Fisheries Act* authorize the harmful alteration, disruption or destruction of fish habitat (i.e., activity that would otherwise constitute a breach of s.35(1) of the Act). It was clear from the outset that if this project was to proceed as proposed, a Ministerial Authorization under s.35(2) of the *Fisheries Act* would be required.

[9] In addition to the foregoing, there are many other statutes and regulations, both federal and territorial, which impacted on the development and construction, and operation of BHP's mining project.

[10] Further, because of the sheer magnitude and complexity of the proposed BHP project, the federal DIAND and Environment Ministers in 1994 directed that the proposed project be subjected to an extensive public review process (a process now required by statute, the *Canadian Environmental Assessment Act*, S.C.1992, c.37). The federal government appointed an Environmental Assessment Panel to conduct a public review of the environmental and socio-economic effects associated with BHP's proposed diamond mine, and to make a report and recommendations to the two federal Ministers. Public hearings were held in NWT communities throughout 1995 and 1996. As part of this Environmental Assessment Review Process (EARP), BHP prepared and submitted a multi-volume Environmental Impact Study (EIS). Excerpts from the EIS were tendered as exhibits at the trial herein. At the trial, BHP asserted that the EARP public review of this project, at the time, was the most extensive public review ever undertaken of a mining project in Canada, outside the uranium industry. In June 1996 the EARP panel made recommendations to the federal ministers that the project be allowed to proceed.

[11] The NWT Water Board also held public hearings in the fall of 1996, as required by its regulatory processes. One of the many aspects of BHP's application for a water licence under consideration at the Water Board hearings was the proposed diversion of water around Panda Lake and Koala Lake to Kodiak Lake. The technical merits of the many aspects of BHP's application was reviewed by the Water Board's Technical Advisory Committee.

[12] Due to the remote location, to the terrain, and to an environment that was both harsh and delicate, BHP faced a formidable challenge, in terms of logistical and engineering problems, in bringing this mine into production (proposed for 1997). The construction of the Panda Diversion Channel was but one segment of this challenging project.

Construction of the Panda Diversion Channel

[13] In November 1993, the Water Board issued a Type B water licence to BHP for water use and waste disposal at the Ekati mine site. This licence had an expiry date of November 14, 1996 and by its wording was restricted to "mining development and bulk sample milling and associated uses". Prior to bringing the mine into production, BHP was required to apply for a new (Type A) water licence for its mining and milling undertakings (other than the milling of a bulk ore sample).

[14] The Type B water licence required BHP to comply with a detailed Surveillance Network Program, i.e., to take water samples and effluent samples at specific sampling stations at specific times. These samples were to be analyzed for various parameters, e.g., pH, total suspended solids, oil and grease, arsenic, etc.

[15] In early 1994, BHP applied for an amendment to the Type B water licence to allow, *inter alia*, construction of the diversion channel around Panda and Koala lakes. The amendment to the water licence was ostensibly required because the proposed channel route would intercept with some small creeks. The amended licence was issued May 5, 1994. It provided that the diversion channel was to be constructed as approved by the Board. BHP was to provide the Water Board with details of how it planned to build the ditch. The details were to include, e.g., diversion of small intercepting creeks, erosion control, sediment loading downstream, fish passage, etc. A plug of material was to be left in the north end of the diversion channel, and no water was to be diverted from upstream of Panda Lake (i.e., the diversion channel was

not to be put into operation) until approved by the Board. Presumably the diversion channel was not to be put into operation until a Type A water licence was obtained.

[16] BHP provided the Water Board with the required construction details in June 1994. The channel design was prepared for BHP by a Vancouver firm, Rescan Environmental Services Ltd./Rescan Engineering Ltd. With the approval of the Water Board, construction of the diversion channel commenced in the summer of 1994.

[17] The diversion channel was originally designed to simply divert water and to allow fish passage. As a result of negotiations with DFO, BHP agreed, as a part of a larger Fish Habitat Compensation Agreement between DFO and BHP, to create new fish habitat within the diversion channel and to redesign the channel accordingly. This decision added further engineering challenges to an already difficult task.

[18] The proposed 3.5 kilometre route of the ditch was along inconsistent terrain. In some areas it was solid granite, in other lowland areas it was granite with an overlay of lacustrine tills. The proposed route also intercepted some small creeks and ephemeral streams. The redesigned channel was to maintain a 0.1% grade (a very gradual drop of only 3.5 metres over the entire length of 3.5 kilometres) in order to allow passage of the weakest fish species. There would be meandering sections of the channel at certain points to accommodate fish habitat enhancement. Parts of the channel would have a depth of 14 metres. Drilling and blasting would be required in order to excavate the bedrock materials. It was expected that in excess of 100,000 m³ of material would be excavated, granite rock being the predominant material. Depending on the soil conditions encountered, gentle side slopes (as opposed to steep slopes) would be required to provide proper erosion control, i.e., to prevent topsoil from falling into the channel. Rip-rap, or heavy rock layer of insulating material, had to be placed on the slopes to prevent thermal degradation of permafrost and also to prevent erosion of sediments into the channel. To say that this proposed channel presented a difficult engineering challenge in that particular geological terrain at that location is an understatement. This was a unique project.

[19] Taking into consideration the trial evidence, I am satisfied that it was, from the outset, acknowledged and understood by all concerned (i.e., BHP and the various regulators) that there would be siltation, or the carrying of sediment downstream, as a result of the construction of this channel. It was understood that it would take time, perhaps a number of years, for the channel to “settle”. It was understood that there

would, for example, be some erosion of the side slopes, particularly during periods of increased water flow, e.g., spring runoff, and that maintenance and remediation would be an ongoing requirement.

[20] The first phase of the channel construction occurred in the summer and fall of 1994 and the following winter. Construction activity ceased in 1995 and 1996 when most of BHP's efforts and resources were directed to the preparation of the EIS in anticipation of the EARP hearings following which a decision would be made as to whether the entire mining project would proceed or not. The second phase of the channel construction occurred in the latter half of 1996 and early 1997. The plug at the north end of the channel was removed in early 1997 at the time of issuance of the Type A water licence.

[21] The on-site construction of the channel was supervised by a field engineer of BHP. There were different engineers at different dates, and also on different shifts on the same date. Jeff Stibbard was a field engineer for much of the channel construction. He gave detailed evidence of the actual construction activities, the difficulties encountered, changes and modifications made due to actual field conditions, etc. He described his role as a team leader in the execution of this channel construction project. Other key members of the team were representatives from BHP's engineering department, BHP's environment department and the various contractors, e.g., the surveyors, the drilling and blasting contractors, the road haul contractors, etc. The Rescan June 1994 design was conceptual in scope and was the guiding document. Yet there was much "field-truthing" required.

[22] Detailed engineering drawings were prepared by a professional engineer for use in construction in the field. The field engineer then ground-truthed or field-truthed the drawings along the proposed alignment. Surveyors staked out the centre line of the channel route and the field engineer walked it. The alignment was then modified for various reasons, e.g., to avoid water ponds, to take advantage of varying elevations, etc. Other modifications to the design were made — again for various reasons that were described in detail in the trial evidence. Field personnel identified specific difficulties with implementing some of the design parameters. For example, some of the steeper slopes called for in the design were changed to gentler slopes for safety, construction, stability and erosion reasons. Other design changes were related to efficient use of construction equipment, and to minimize the overall footprint on the

tundra. Field personnel also had to take into account the challenge of achieving the precise gradient required for this 3.5 kilometre ditch.

[23] In addition to BHP personnel from the engineering and environment departments and the contractors directly involved in the channel construction, BHP also had access to geotechnical engineers from EBA Engineering Consultants Ltd. for professional advice within their area of expertise.

[24] As the drilling, blasting and excavation was occurring along the surveyed alignment where different types of terrain were being encountered, care had to be taken to prevent erosion of the banks of the ditch and thermal degradation of permafrost. Much of the construction activity necessarily occurred during the dark, cold winter (due to the delicate condition of the tundra in the short summer period) when everything was frozen and there was snow cover making it difficult to ascertain the extent of subsidence, thermal degradation, etc.

[25] As mentioned, the plug at the north end of the channel was removed in early 1997, and the designed and constructed diversion channel became 'operational' for the first time, i.e., water was diverted from the top end of Panda Lake around Panda Lake and Koala Lake through the channel to Kodiak Lake.

[26] During the spring run-off, or spring freshet of 1997, large quantities of sediment found its way into the channel and was carried down the channel into Kodiak Lake and beyond. I find on the evidence that no one anticipated that there would be that huge volume of sediment deposited into Kodiak Lake as a consequence of the construction of the diversion channel.

[27] With hindsight, it was determined that the vast majority of this sedimentation originated in the Grizzly lowlands area adjacent to and east of the constructed channel. Grizzly Lake is a medium-sized lake approximately one-half kilometre east of the channel. Between Grizzly Lake and Panda Lake is the so-called Grizzly lowlands, through which flows Grizzly Creek and some ephemeral streams. At the time of the spring melt in 1997 there was thermal degradation of the permafrost in these lowlands. At trial, various theories were advanced, by experts and others, as to the cause of the thermal degradation; however, I am unable, on the evidence, to make any determinative finding on the point. It has not been established on the evidence that it was caused by

any specific site activity of BHP, e.g., operating heavy equipment over that area of the lowlands.

[28] In February 1997, the plug at the north end of the channel was removed; hence, the 1997 spring freshet was to be the first test of the channel's performance. BHP fully expected that, once the water started to flow in the channel, it would carry suspended sediments into Kodiak Lake and downstream. It was believed that because the construction activity had disturbed the surface there would, naturally, be an initial transportation of sediments with the water flow. BHP proposed to limit the amount of suspended sediments entering Kodiak Lake by installing a sediment curtain in Kodiak Lake at the mouth (exit) of the diversion channel. In April 1997, prior to the freshet event, BHP sought and received DFO's concurrence with this plan. The sediment curtain was installed in May 1997 while there was still ice on Kodiak Lake and there was still a minor flow of water in the channel.

[29] There was, as expected, a heavy water flow in the channel during the freshet period of approximately two weeks in June 1997. Large amounts of sediment entered the channel and eventually overwhelmed the sediment curtain. DIAND and DFO inspectors attending the site in June noted the erosion, and the flow of water and sediment into the channel from the Grizzly Creek lowlands, and the deposit of sediment into Kodiak Lake beyond the sediment curtain. Photographs taken from aircraft in late June and in July clearly show the turbid or murky colour of Kodiak Lake, Little Lake and to a lesser extent, Moose Lake, caused by the deposit of sediment from the diversion channel constructed and operated by BHP.

[30] BHP undertook remedial action, commencing in June after consultations with DIAND officials and also with geotechnical engineers from EBA Engineering Consultants Ltd. The channel banks were stabilized at the Grizzly Creek area. The natural flow or drainage of the Grizzly Creek was shunted (temporarily) *via* pipes directly to the diversion channel. In due course a new, stable streambed was constructed for the Grizzly Creek at its point of entry into the diversion channel, to allow for the water of Grizzly Creek to enter the channel without erosion or thermal degradation.

[31] By 1999, the remediated channel was stabilized. Today, by all accounts the channel is considered a success in the sense that its objectives have been achieved. Clean water is being discharged into Kodiak Lake. Fish, particularly Arctic grayling,

use the channel as a natural transportation corridor. And the fish habitat creation and enhancement structures that were incorporated into the channel are being utilized by fish.

Charges under the *Fisheries Act*

[32] On September 4, 1997, DFO officials and an RCMP officer, armed with a search warrant, arrived by air at the Ekati mine site and conducted a search and seizure. Many documents and computer files were seized pursuant to an investigation of possible offences under the *Fisheries Act*.

[33] Later in September 1997, senior BHP officials met with the senior regional DFO official from Winnipeg and other DFO officials to complain about the search and seizure. At that brief meeting (which I will discuss further in these reasons) BHP's cooperation was sought with respect to remediating and improving the channel. Several persons in attendance at that meeting testified at trial. The senior regional DFO official, a Captain Pearce, did not testify. Although recollections differ as to the exact wording, I am satisfied that Captain Pearce made a statement to the effect that criminal proceedings were not in anyone's interest or to anyone's benefit. In any event I find that the message received by senior BHP officials was that it was clearly in BHP's interest to cooperate with DFO.

[34] In subsequent communications between BHP and DFO, BHP was requested to carry out certain improvements and measures regarding the diversion channel, e.g., hiring of graduate students to conduct annual studies of fish utilization of the channel.

[35] The charges before the Court were laid in December 2000. As this date was beyond the two-year limitation period for proceedings by way of summary conviction, the Crown was required to proceed by indictment. A preliminary inquiry was held in Territorial Court, and the accused corporation BHP was committed to stand trial in this Court. The four-count indictment was filed in this Court in July 2001.

[36] Three of the counts in the indictment allege the unlawful deposit of a deleterious substance into water frequented by fish contrary to s.36(3) of the *Fisheries Act*:

s.36(3) Subject to subsection 4, no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any

conditions where the deleterious substance or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water.

[37] In these three counts (Counts #1, #3, #4) the Crown says that the deleterious substance was, in particular, sediment. In Count #1 the “water frequented by fish” is Kodiak Lake. In Counts #3 and #4 the “water frequented by fish” is Little Lake and Moose Lake respectively.

[38] In Count #2 the alleged offence is constructing and operating the diversion channel in a manner that resulted in the harmful alteration of fish habitat in Kodiak lake, contrary to s.35(2) of the Act:

No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat.

[39] The time frame alleged in each count is the same — between July 15, 1994 and September 16, 1997. Although the “sedimentation event” (a term used by counsel and witnesses at trial) at the time of the spring freshet in June 1997 clearly spurred the laying of these charges, it is the Crown’s submission that it was BHP’s conduct throughout the construction of the channel which caused the sedimentation event and presumably that is why the time frame in the Indictment reads as it does.

[40] There was a great deal of evidence tendered at trial, and exhaustive and vigorous cross-examination of many of the witnesses, both Crown and defence. No stone, figuratively, was left unturned. Many issues are raised.

[41] I propose to deal with the issues in turn — proof of the *actus reus* of each offence, the defence of a s.35(2) Authorization, the defence of due diligence and the request for relief because of abuse of process. Firstly, however, I shall deal with the very application of the *Fisheries Act* to this case.

Application of the *Fisheries Act*

[42] It is argued on behalf of the accused BHP that the *Fisheries Act* applies only to “fisheries” and not merely to fish or fish habitat *per se*. It is thus submitted that the Crown must prove that a fishery is affected by BHP’s conduct and further, that the Crown has failed to do so on the evidence. In effect, it is argued that the scope of the

Fisheries Act does not extend to Kodiak Lake, Little Lake or Moose Lake, there being no fishery directly or indirectly affected.

[43] This argument relies, firstly, on the constitutional authority of Parliament to enact legislation with respect to “Sea Coast and Inland Fisheries” under s.91(12) of the *Constitution Act, 1867*. Further, BHP relies on the title of the Act, and on certain judicial interpretations in previous cases.

[44] For this argument significant reliance is placed on *R. v. MacMillan Bloedel Ltd.* (1984), 50 B.C.L.R. 280 (B.C.C.A.). In that case the defendant company was carrying out logging operations near a small stream which was the habitat of a small, unusual fish having no commercial or sporting value. Downstream from this habitat locale was a waterfall which was an impassible barrier preventing these fish from getting to the sea, and also preventing other fish from migrating from the sea to this small stream. At trial the company was convicted of an offence contrary to s.31(1) of the *Fisheries Act* (now s.35(1)) — harmful alteration of fish habitat.

[45] In the British Columbia Court of Appeal, the majority agreed with the company’s submission that because the fish in the small stream did not constitute a “fishery”, the *Fisheries Act* was not applicable.

[46] The majority in *MacMillan Bloedel (1984)* relied on two 1980 decisions of the Supreme Court of Canada in *R. v. Fowler*, [1980] 2 S.C.R. 213 and *Northwest Falling Contractors v. Her Majesty The Queen*, [1980] 2 S.C.R. 292. These two cases were heard by the Supreme Court of Canada at the same time. Both judgments were delivered by Martland J.

[47] In *Fowler*, the constitutionality of the (then) s.33(3) of the *Fisheries Act* was questioned:

s.33(3) No person engaging in logging, lumbering, land clearing or other operations, shall put or knowingly permit to be put, any slash, stumps or other debris into any water frequented by fish or that flows into such water, or in the ice other either such water, or at a place from which it is likely to be carried into either such water.

It will be noted that nothing in the wording of the impugned subsection links the prescribed conduct to actual or potential harm to fish or fisheries.

[48] Martland J. held that “fisheries” as used in s.91(12) of the *Constitution Act* refers to the natural resource, and that the federal power in relation to fisheries is concerned with the protection and preservation of fisheries as a public resource. In holding the then s.33(3) to be *ultra vires* Martland J. stated:

. . .The legislation in question here does not deal directly with fisheries, as such, within the meaning of those definitions. Rather, it seeks to control certain kinds of operations not strictly on the basis that they have deleterious effects on fish, but, rather, on the basis that they might have such effects. *Prima facie*, subsection 33(3) regulates property and civil rights within a province.

[49] In a separate case, *Northwest Falling*, there was a constitutional challenge to the (then) s.33(2):

s.33(2) Subject to subsection (4), no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any conditions where such deleterious substance or any other deleterious substance that results from the deposit of such deleterious substance may enter any such water.

(similar in wording to the present s.36(3) with which the within case is concerned.)
For purposes of s.33(2) the 1980 legislation contained definitions of “deleterious substance” and “water frequented by fish”, as does the present legislation.

[50] The attack on the validity of s.33(2) in *Northwest Falling* was on the grounds that it is not legislation in relation to “sea coast and inland fisheries”, but that it is legislation in relation to the pollution of water generally.

[51] In rejecting this argument, Martland J. noted that s.33(2) was concerned with water frequented by fish, and that the deleterious substance was defined as being deleterious to fish:

Basically, it is concerned with the deposit of deleterious substances in water frequented by fish, or in a place where the deleterious substance may enter such water. The definition of a deleterious substance is related to the substance being deleterious to fish. In essence, the subsection seeks to protect fisheries by preventing substances deleterious to fish entering into waters frequented by fish. This is a proper concern of legislation under the heading of “Sea Coast and Inland Fisheries.

(emphasis added)

In my view the underlined portion of this excerpt from *Northwest Falling* is a complete answer to BHP's submission on the applicability of the *Fisheries Act* to Kodiak Lake, Little Lake and Moose Lake.

[52] In the course of addressing the attack on the validity of s.33(2) on the basis that it was really an attempt to legislate generally on the subject-matter of pollution, Martland J. stated that the factual foundation in *Northwest Falling* was insufficient to question whether the scope of s.33(2) could extend to waters that were not fisheries waters:

The charges laid in this case do not, however, effectively bring into question the validity of the extension of the reach of the subsection to waters that would not, in fact, be fisheries waters. (at p.300)

[Nor do the charges in the present case.]

[53] It is this obiter comment which appears to have encouraged the majority in *MacMillan Bloedel (1984)*. The majority took the view that Martland J. contemplated the existence of waters with fish in them that did not constitute fisheries. I disagree that that is a reasonable interpretation of the language used by Martland J. in the judgment as a whole.

[54] In *Northwest Falling* Martland J. reiterated what he had said in *Fowler* a month earlier — that the federal power in relation to fisheries is concerned with the protection and preservation of fisheries as a public resource. And he added that protection was to be extended to each component of that resource:

Shellfish, crustaceous, and marine animals, which are included in the definition of “fish” by s.2 of the Act, are all part of the system which constitutes the fisheries resource. The power to control and regulate that resource must include the authority to protect all those creatures which form a part of that system. At p.300

[55] The whole point of the *Fisheries Act* is “to protect the resource by preventing acts which in any way threaten or actually do harm to fish and waters frequented by

fish.” *R. v. Abitibi Consolidated Inc.* (2000), 34 C.E.L.R. (N.S.) 50 (Nfld.P.C.).

(emphasis added)

[56] In interpreting the Act in a manner that focuses on fisheries as a public resource, I am in agreement with a statement made by the Newfoundland Court of Appeal in *Labrador Inuit Association v. Newfoundland Minister of Environment and Labour*, [1997] N.J. No.223 in the context of environmental laws generally:

If the rights of future generations to the protection of the present integrity of the natural world are to be taken seriously, and not to be regarded as mere empty rhetoric, care must be taken in the interpretation and application of the legislation. Environmental laws must be construed against their commitment to future generations and against a recognition that, in addressing environmental issues, we often have imperfect knowledge as to the potential impact of activities on the environment.

[57] For these reasons, and with respect, I am in disagreement with the narrow approach taken by the majority in *MacMillan Bloedel (1984)*. In my view the fish and fish habitat of Kodiak Lake, Little Lake and Moose Lake are afforded the protection of the federal *Fisheries Act* for the reason that they are part of the fisheries resource, a natural resource and a public resource of this country. To protect fish and fish habitat is to protect the resource (fishery).

[58] In any event, there is ample evidence of the existence of a fishery in these lakes in the Koala watershed. This watershed is distinguishable from the small isolated stream in *MacMillan Bloedel (1984)*.

[59] BHP itself, in its 1994 Project Description, made statements such as: “Although aquatic productivity is relatively low, the lakes within the claim block sustain modest fish populations.” And, “Aquatic productivity is relatively low in arctic lakes. However, sufficient nutrients are present in the lakes within the N.W.T. Diamonds Project claim block to support the phytoplanktonic food base for populations of zooplankton and aquatic macro-invertebrates and to sustain modest fish populations consisting of lake trout, round whitefish, arctic grayling, slimy sculpin and longnose sucker”.

[60] All three lakes named in the Indictment are medium-sized lakes. Kodiak has an approximate area of 830,000 m² and a maximum depth of 14 metres. Little’s area is

304,000 m² with a maximum depth of 18 metres, while Moose has an area of 397,000 m² and a maximum depth of 9 metres. In baseline studies conducted in 1994, lake trout, round whitefish and Arctic grayling were observed in each of these three lakes.

[61] All three species are edible by man. There is evidence that prior to mining companies' interest in the Lac de Gras region, the lakes in this region were fished by Aboriginal people.

[62] Lake trout and arctic grayling are particularly appealing to sports fishermen or recreational fishermen. The fact that these lakes are remote is irrelevant. As one witness stated, "Lakes in the middle of nowhere are some of the best fishing".

[63] During the summers of 1994 and 1995 workers at the Ekati site regularly fished during their time off. In 1994 a fishing derby was held. The winning fish was a 15-pound lake trout from Moose Lake.

[64] Eventually, to protect the resource, BHP prohibited sport fishing at the Ekati site. Ron Allen, DFO's Area Director in Yellowknife, testified that DFO was already considering a restriction on sports fishing in these lakes and would have done so by regulation had BHP not implemented its ban.

[65] Mr. Allen testified that prior to the mining development, Kodiak, Little and Moose lakes would have supported a sports fishery.

[66] To examine the likely harvest, e.g., the number of trophy fish per season, is only a question of degree. A sports fishery, albeit fragile, is a sports fishery. Despite BHP's strong submissions regarding the lack of evidence of a sustainable fishery, I find that there is no requirement in the *Fisheries Act* or the regulations regarding sustainability.

[67] In addition, I accept the evidence of George Low, a very experienced fisheries officer, to the effect that fish migrate between Lac de Gras in the south as far as Kodiak Lake to the north, and I find that one can also say that the waters of Kodiak, Little and Moose lakes are part of a larger fishery, i.e., the Lac de Gras fishery.

[68] On the trial evidence, it is specious to suggest that no fishery exists for the application of the *Fisheries Act* to these lakes.

Proof of the *Actus Reus*

[69] The charges in the Indictment — s.35(1) harmful alteration to fish habitat and s.36(3) deposit of deleterious substance into water frequented by fish — are strict liability offences. *R. v. Sault Ste. Marie* [1978], 2 S.C.R. 1299. Thus the Crown simply needs to prove the prohibited act beyond reasonable doubt and need not prove wrongful intention or negligence. In prosecutions of strict liability offences it is left open for the accused to avoid liability by proving that he took all reasonable care, i.e., exercised due diligence. The due diligence defence has been incorporated specifically into the *Fisheries Act* (s.78.6) and will be discussed further in these Reasons.

a) The *actus reus* of the s.35(1) charge

[70] Section 35(1) reads:

No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat.

And fish habitat is defined in s.34(1):

“Fish habitat” means 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.

[71] It has been held that the word “harmful” in s.35(1) only modifies “alteration” and not “disruption” or “destruction”. *R. v. Jackson* (1994), 10 W.W.R. 609 (Alta.Q.B.). It has also been held that the Crown need only prove that one element of fish habitat as defined in s.34(1) has been harmfully altered, disrupted or destroyed in order to establish the offence. *R. v. Maritime Electric Co.* (1990), 4 C.E.L.R. (NS) 289 (P.E.I.S.C.).

[72] Also, the Crown need not prove actual harm to fish in order to establish an offence under s.35(1). *British Columbia v. Posselt* (1999), 29 C.E.L.R. (N.S.) 213 (B.C.S.C.).

[73] In the present case, the s.35(1) charge is framed in the Indictment as follows:

On or between the 15th day of July 1994 and the 16th day of September 1997, at or near the Ekati mine site, in the Northwest Territories, did unlawfully carry on work or undertaking, to wit: the construction and operation of a diversion ditch, that resulted in the harmful alteration, disruption or destruction of fish habitat, to wit: Kodiak Lake, in violation of section 35(1) of the *Fisheries Act* and did thereby commit an offence contrary to section 40(1)(b) of the *Fisheries Act*.

[74] That there was, and is, fish habitat in Kodiak Lake has been proven beyond a reasonable doubt.

[75] That BHP was engaged in the construction and operation of the diversion ditch on the referenced dates is established by the evidence. The issue is whether the Crown have proven beyond reasonable doubt that that activity caused harmful alteration, disruption or destruction of the Kodiak Lake fish habitat.

[76] The evidence establishes that the construction and operation of the diversion channel caused sediment to be carried down the channel route and into Kodiak lake. Even though I cannot be satisfied, on the evidence, as to the precise cause of the degradation of the Grizzly Creek lowlands area, I find that there is a causal link between the construction/operation of the channel itself and the deposit of the sediment (i.e., including that sediment whose origin was the Grizzly Creek lowlands area) into Kodiak Lake. Put another way, but for the channel, the sediment originating from the Grizzly Creek lowlands area would not have been deposited into Kodiak Lake.

[77] Following the sedimentation event in the spring freshet of 1997, BHP commissioned a study to determine the extent of diversion channel sediments deposited into Kodiak Lake. This scientific study was conducted on August 18-20, 1997. The results of that study indicated that most of the sediments carried through the PDC were confined mostly to the mouth of the channel and within shallow areas of the lake. Accumulation of sandy to silty sediments at the mouth of the channel resulted in the formation of a small delta. The formation of this delta had, of course, been aided by the placement of the sediment curtain there prior to the 1997 freshet. The sediment curtain had also served to reduce the volume of channel sediment going into the main part of Kodiak Lake.

[78] Channel sediments extended into the lake 200 metres to the west of the channel, 300 metres to the north and 600 metres to the southwest. In general, the diversion channel sediment deposits into Kodiak Lake were determined to have a thickness between 2 centimetres and 30 centimetres.

[79] The authors of the study were of the view that some fine PDC sediments may also have found their way during the freshet period into other lakes downstream of Kodiak Lake, e.g., Moose Lake.

[80] One of the Crown's witnesses calculated that as much as 18,000 cubic metres of sediment was carried down the PDC in 1997 and deposited into Kodiak Lake and further, that perhaps two thirds (600,000 m²) of the lake bottom received a sediment deposit to a depth greater than 0.1 centimetres.

[81] There is ample photographic evidence of the deposit of silts and sediment material at the outlet of PDC into Kodiak. There are also aerial photographs which vividly display the muddy discoloration of Kodiak Lake, and also Little Lake, in comparison to surrounding lakes, in June and July of 1997.

[82] Dr. Ian Birtwell is an experienced scientist who works for DFO. He has a particular expertise on the effects of sediment on fish and fish habitat and has written and published peer-reviewed papers on the topic. He gave extensive evidence as a Crown witness in this case; in particular, he provided opinion evidence regarding the effects of sediment on the fish and fish habitat of Kodiak Lake in relation to the sedimentation event of 1997. He stated that there are a number of ways in which an excessive concentration of sediment, or finely divided solid matter, might be harmful to fish and fish habitat, e.g.:

- a) by acting directly on the fish swimming in the water in which the solids are suspended, i.e., gill damage, reducing growth rate, resistance to disease, etc.,
- b) by preventing the successful development of fish eggs and larvae,
- c) by modifying natural movements and migrations of fish,
- d) by reducing the abundance of food available to the fish.

[83] Dr. Birtwell testified that the effect of the sediment from PDC which was deposited into Kodiak Lake in the 1997 freshet was to harmfully alter and to destroy

fish habitat in certain areas of Kodiak Lake. In particular, he stated that the PDC sediment would have filled in and smothered spawning grounds, nursery and rearing areas and food supply areas in the lake.

[84] Taking into consideration the whole of the trial evidence, I accept the opinions and conclusions of Dr. Birtwell. A defence expert, Richard Hoos, gave opinion evidence as well. Mr. Hoos is an aquatic biologist with a great deal of experience in the northern environment. Although his opinions differ somewhat than those of Dr. Birtwell, (e.g., as to whether certain spawning areas in Kodiak Lake were indeed spawning grounds because of likely ice cover) on the whole there remains sufficient of Dr. Birtwell's evidence of harmful effect that is uncontradicted to satisfy me on the point. Mr. Hoos acknowledged that the sedimentation event had a detrimental effect on certain rearing areas in Kodiak Lake for juvenile trout (i.e., fish habitat). Also, he stated in his report that the introduction of sediments into Kodiak Lake (from PDC) likely had its greatest effect on the lake benthos (primarily fly larvae, clams and snails)) or food supply. He noted that in the summer of 1997 measured benthos densities were found to be lowest at a location within the sedimentation footprint. "The influx of sediments into this shallow-water area caused an alteration of the substrate and likely buried some of the benthic biota in the vicinity of the Panda Diversion Channel outflow". This is consistent with a finding made in a December 1997 study prepared for BHP and co-authored by Mr. Hoos (Ex.71): "The sediment plume arising from the transport of sediments *via* the Panda Diversion Channel adversely affected the benthic invertebrates located in the area of deposition, with [benthic] biomass, abundance and diversity being the lowest of all sites within the lake."

[85] Mr. Hoos' opinion evidence and his reports were subjected to extensive and vigorous cross-examination, including its minor details. At one point, he was even accused of plagiarism. Plagiarism, the taking of original and unique ideas or words from another source and passing them off as one's own, is a serious matter. No proof was tendered at this trial of any plagiarism committed by Mr. Hoos.

[86] In any event, as I have mentioned, I do not reject or discount the evidence of Mr. Hoos as I find it unnecessary to do so. His evidence taken as a whole, does not undermine the thrust of the expert evidence of the Crown expert Dr. Birtwell which I accept.

[87] In my view, the Crown has established the *actus reus* of an offence under s.35(1). As it is the heavy concentration of suspended solids in the water outflow from PDC which caused the harmful effect on fish habitat, I note the high levels of TSS (total suspended solids) measured in the PDC between June 2, 1997 and July 2, 1997, and find that the *actus reus* has been proven throughout that time period in particular. The Crown has proven beyond a reasonable doubt that the accused BHP, in its operation of the Panda Diversion Channel during that time period, interfered with the fish habitat in a way that impaired the value or usefulness of the habitat for one or more of the purposes described in the statutory definition of “fish habitat”.

b) The *actus reus* of the s.36(3) charges (Counts 1, 3 and 4)

[88] Subsection 36(3) reads:

Subject to subsection (4), no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any conditions where the deleterious substance or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water.

(subsection (4) does not apply to this case)

[89] The term “deleterious substance” is defined in s.34(1):

“deleterious substance” means

(a) any substance that, if added to any water, would degrade or alter or form part of a process of degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water, or

(b) any water that contains a substance in such quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water,

and without limiting the generality of the foregoing includes

(c) any substance or class of substances prescribed pursuant to paragraph (2)(a),

(d) any water that contains any substance or class of substances in a quantity or concentration that is equal to or in excess of a quantity or concentration prescribed in respect of that substance or class of substances pursuant to paragraph (2)(b), and

(e) any water that has been subjected to a treatment, process or change prescribed pursuant to paragraph (2)(c);

(paragraphs (2)(a), (2)(b) and (2)(c) do not apply in this case)

[90] The term “deposit” is defined in s.34(1), and further clarified in s.40(5)(a):

“deposit” means any discharging, spraying, releasing, spilling, leaking, seeping, pouring, emitting, emptying, throwing, dumping or placing;

s.40(5)(a) a “deposit” as defined in s.34(1) takes place whether or not any act or omission resulting in the deposit is intentional

[91] The three charges under s.36(3) are worded as follows:

Count #1: BHP Diamonds Inc. stands charged that they on or between the 15th day of July 1994 and the 16th day of September 1997, at or near the Ekati mine site, in the Northwest Territories, did unlawfully deposit or permit the deposit of a deleterious substance, to wit: sediment, in water frequented by fish, to wit: the waters of Kodiak Lake, in violation of section 36(3) of the *Fisheries Act* and did thereby commit an offence contrary to section 40(2)(b) of the *Fisheries Act*.

Count #3: BHP Diamonds Inc. stands charged that they on or between the 15th day of July 1994 and the 16th day of September 1997, at or near the Ekati mine site, in the Northwest Territories, did unlawfully deposit or permit the deposit of a deleterious substance, to wit: sediment, in a place, to wit: the waters of Kodiak Lake, under conditions where the said deleterious substance may enter water frequented by fish, to wit: the waters of Little Lake, in violation of section 36(3) of the *Fisheries Act* and did thereby commit an offence contrary to section 40(2) of the *Fisheries Act*.

Count #4: BHP Diamonds Inc. stands charged that they on or between the 15th day of July 1994 and the 16th day of September 1997, at or near the Ekati mine site, in the Northwest Territories, did unlawfully deposit or permit the deposit of a deleterious

substance, to wit: sediment, in a place, to wit: the waters of Kodiak Lake, under conditions where the said deleterious substance may enter water frequented by fish, to wit: the waters of Moose Lake, in violation of section 36(3) of the *Fisheries Act* and did thereby commit an offence contrary to section 40(2) of the *Fisheries Act*.

[92] There is ample evidence that between the dates in the Indictment the accused BHP deposited sediment into Kodiak Lake (i.e., from the diversion channel). There is ample evidence that each of Kodiak Lake, Little Lake and Moose Lake are waters frequented by fish. There is uncontracted evidence that water flows from Kodiak Lake downstream to Little Lake and then downstream to Moose Lake.

[93] At issue is whether the Crown has proven that the deposit of sediment on the dates in question was the deposit of a deleterious substance contrary to s.36(3).

[94] As was pointed out in *R. v. M^{ac}Millan Bloedel (Alberni) Ltd.* (1979), 47 C.C.C. (2d) 118 (B.C.C.A.) the offence in s.36(3) is putting the deleterious substance into water, not making the water deleterious by depositing the substance. The *actus reus* is the depositing of the contaminating material. In *M^{ac}Millan Bloedel (Alberni)* the substance was Bunker C oil (clearly a substance within the statutory definition of “deleterious substance”) and once it was proven that it was deposited, the offence was made out. But what of a substance that is not inherently toxic, e.g., silt or sediment?

[95] In *R. v. Abitibi Consolidated Inc.* (2000), 34 C.E.L.R. (N.S.) 50 (Nfld.Prov.Ct.) the substance deposited into water was silt and/or clay. The trial judge made a finding that the highest TSS level of the substance was at 112 mg/L. The issue for the trial judge was whether the substance was of such a level or concentration as to be of itself potentially dangerous. He held that on the evidence in that case he had a reasonable doubt that the levels of concentration of the substance deposited were such as to make the deposit deleterious.

[96] In the recent decision of *Fletcher v. Kingston*, [2002] O.J. No. 2324, M^cWilliam J. of the Ontario Superior Court of Justice referred to a two-tier test in a related case from the Ontario Court of Appeal and held that unless the particular substance was proven to be an inherently toxic substance, it would be necessary under s.36(3) to consider the quantity and concentration of the deposit as well as the time frame over which the deposit took place.

[97] Similarly, in another recent case, the British Columbia Provincial Court followed *Abitibi* in *R. v. Pacifica Papers Inc.*, [2002] B.C.J. No. 1639 and held that the Crown, in a prosecution under s.36(3) of the *Fisheries Act* is required to prove that a substance that is not inherently deleterious, is deleterious at the point it enters the receiving environment because of its levels of concentration.

[98] Accordingly, I must determine whether the Crown have proven beyond a reasonable doubt that the concentration of sediment deposited into Kodiak Lake from the PDC was such as to make the deposit deleterious.

[99] Silt and sediment are found naturally in the environment, and indeed often become suspended in a watercourse or a water column because of natural and regular occurrences in nature. Dr. Birtwell testified that sediment, whether caused by man or by natural causes, is considered one of the major contaminants facing the management of the aquatic environment. Crown and defence witnesses at this trial all agree that suspended solids must exceed certain concentrations for defined periods of time before it will deleteriously affect fish.

[100] From the outset of the planned development of the Ekati mine project, it was anticipated that water quality in the vicinity of the project site would be affected by sediment arising from construction activities generally. The chain of lakes downstream of Koala Lake were to serve as settling basins for any mine-generated suspended solids. In particular, sediment was expected to be experienced in the diversion channel to be constructed. Because of the difficult and varied terrain through which this ditch was to be constructed under challenging conditions, BHP did not know the extent to which sediment would be carried in the watercourse created by the channel and specifically requested that the authorities (e.g. Water Board) not set any regulated level of total suspended solids, or TSS. This was ultimately the decision of the Water Board, i.e., that the TSS level would be monitored but not regulated. I am satisfied on the evidence that this was indeed an important issue for BHP. That is, if the Water Board or DFO or any other regulatory body had imposed regulated levels of TSS, e.g., an average of 25 mg/L or a maximum of 50 mg/L, then BHP would have reconsidered the entire notion of this diversion channel on a conceptual basis. BHP felt unable to predict, or control, the exact amounts of sediment which would be created and carried by this channel (a project which was, in a sense, experimental).

[101] Water sampling stations were established within the channel. In 1995 the TSS levels and the turbidity of samples taken from within the channel were as follows:

	<u>TSS</u>	<u>Turbidity</u>
June 19, 1995	199 mg/L	259 NTU
August 8, 1995	47	78.3
September 12, 1995	113	34

[102] There is evidence of only one sample taken in 1996 — an August 6, 1996 sample taken from the PDC indicated a TSS level of 46 mg/L. (It will be recalled there was no construction activity in the PDC in the first half of 1996.)

[103] In 1997 the TSS levels within the PDC were determined to be as follows (the samples being taken at locations within the PDC just prior to entry into Kodiak Lake):

June 2, 1997 (station 1616-13)	484 mg/L
June 16, 1997 (station 1616-13)	355 mg/L
July 2, 1997 (station 1616-13)	83 mg/L
July 8, 1997 (station K3)	92.7 mg/L
July 14, 1997 (station 1616-13)	47 mg/L
August 1, 1997 (station 1616-13)	6 mg/L
August 2, 1997 (station 1616-13)	9 mg/L
August 8, 1997 (station K3)	10.5 mg/L
August 11, 1997 (station 1616.13)	4 mg/L
August 25, 1997 (station 1616.13)	less than 3 mg/L
September 1, 1997 (station 1616.13)	24 mg/L
September 8, 1997 (station K3)	14 mg/L
September 15, 1997 (station 1616-13)	17 mg/L

There is no evidence of samples taken in the PDC to measure TSS levels in 1997 prior to June 2, 1997.

[104] There was also trial evidence of analyses of water samples taken from the middle, or deepest part, of Kodiak Lake on the following dates:

<u>TSS</u>	<u>Turbidity</u>
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July 1994	6 mg/L	2.77 NTU
August 1994	4 mg/L	1.15 NTU
August 1995	1 mg/L	1.59 NTU
July 27, 1996	1-5 mg/L (range)	0.5-2.5 NTU
July 8, 1997	16-17 mg/L	17-19 NTU
August 8, 1997	2.5-5.0 mg/L	1.6-3.9 NTU
September 8, 1997	4-7 mg/L	2.1-2.7 NTU

[105] And, finally, there are the following results of analyses of samples taken from the Kodiak-Little stream, i.e., the stream through which water flows from Kodiak Lake to Little Lake:

	<u>TSS</u>	<u>Turbidity</u>
June 19, 1995	10	12.4
August 8, 1995	2	1.59
September 12, 1995	4	2.7
July 8, 1997	9.7	11.5
August 8, 1997	4.0	2.9
September 8, 1997	2.0	1.4

(The elevated turbidity readings in Kodiak Lake and Kodiak-Little stream on July 8, 1997 are consistent with the visual appearance shown in aerial photographs taken by witnesses in late June and early July of 1997.)

[106] Of particular concern to the offences alleged in Counts #1, #3 and #4 are the excessive concentrations of suspended solids in the water of the PDC in the period June 2, 1997 to July 8, 1997, as this water was entering Kodiak Lake, i.e., water containing suspended solids at TSS levels between 83 mg/L and 484 mg/L (an average of 254 mg/L in that time frame).

[107] As a point of reference, it is noteworthy that in BHP's water licence, one of the requirements imposed by the Water Board was that water discharged from the tailings containment area and the mine water settling pond were allowed to have maximum concentrations of TSS as follows:

maximum average concentration: 25 mg/L
maximum concentration of any grab sample 50 mg/L
(average concentration being the running average of any four consecutive analytical results)

[108] Dr. Birtwell testified that although all natural waters have some level of sediment or earth material in them, elevated levels of sediment generated through human activities that enters waterways is considered to be a major contaminant facing the management of the aquatic environment. He stated that the impact of sediment on fish depends on a number of factors, e.g., the species of fish, the concentration level, the rate of sedimentation, the nature of the sediment, the duration of the exposure. After reviewing the extensive evidence surrounding the sedimentation event of 1997, it was Dr. Birtwell's opinion that the levels of concentration of sediment observed entering Kodiak Lake on June 2, 1997-July 8, 1997, and the associated turbidity, would be harmful to fish, particularly salmonoids (lake trout, arctic grayling, whitefish). He gave detailed, specific examples of various (sub-lethal) harmful effects to fish, e.g., damage to gills, reduced ability to find food, reduced ability to grow, increased vulnerability to predation. I accept the opinion evidence of Dr. Birtwell as quite persuasive. The general thrust of his opinion evidence is reasonable and his conclusions are based on his extensive training and experience and on evidence presented at trial. The general thrust of his opinion that the levels of sedimentation flowing into Kodiak Lake on July 2-July 8, 1997 being harmful or deleterious to fish was not contradicted or altered by cross-examination or by any defence evidence.

[109] Defence counsel points to the testimony of Mr. Hoos and others that they could not find any evidence of any adverse effect on the fish populations during or after the 1997 freshet event. However, the Crown is not required to prove actual harm. See *MacMillan Bloedel (Alberni)*, *supra*, and *Abitibi*, *supra*.

[110] Defence counsel also submits that the samples taken from stations 1616-13 and K3 are not actually representative of TSS levels entering Kodiak Lake, and accordingly cannot be relied upon in determining whether a deleterious substance was deposited into Kodiak Lake. It is pointed out that these measuring stations are located inside the silt curtain at the outlet of PDC to Kodiak Lake. I find that there is no merit to this submission. Examination of the maps and photographs produced at trial, and testimony of eyewitnesses, shows the location of the silt curtain as being within Kodiak

Lake, not within the PDC itself. I find on the evidence that samples taken at station 1616-13 and station K3 reflect accurately the TSS level of sediment actually deposited into Kodiak Lake on the dates in question. To assert otherwise is like denying that water flows downhill.

[111] Accordingly I find that the Crown has proven beyond reasonable doubt that the deposit of sediment into Kodiak Lake between June 2, 1997 and July 8, 1997 was the deposit of a deleterious substance, and has proven the *actus reus* of a section 36(3) offence in Count #1.

[112] Given the evidence that there is a natural flow of water from Kodiak Lake to Little Lake and then to Moose Lake, the deposit of the deleterious substance into Kodiak Lake also constitutes proof of the *actus reus* in each of Count #3 and Count #4 as well — it is the same *actus reus*.

The Authorization Defence

[113] The accused BHP takes the position that it has a defence to the s.35(1) charge by virtue of the Authorization issued to BHP by the Minister of Fisheries and Oceans pursuant to subsection 35(2) of the Act:

s.35(1) No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat.

(2) No person contravenes subsection (1) by causing the alteration, disruption or destruction of fish habitat by any means or under any conditions authorized by the Minister or under regulations made by the Governor in Council under this Act.

[114] The Authorization was issued by the Minister on January 7, 1997 (approximately the same time as the issuance of the Type A water license by the Water Board). However, the issuance of this Authorization was in contemplation by BHP and DFO as early as 1994.

[115] At the trial the Crown and BHP urge upon the Court quite different interpretations of the Authorization (Ex.38). BHP's position is that the Authorization covers the "work or undertaking" that the Crown have particularized in Count #2, i.e., the construction and operation of the diversion channel. Crown counsel points out

that the Authorization document specifically mentions 12 lakes (not including Kodiak Lake, Little Lake, or Moose Lake) and submits that the Authorization covers only “works and undertakings” associated with those 12 named lakes.

[116] In the Environmental Impact Statement documents prepared by BHP and submitted to the Environmental Assessment Review Panel, BHP described the proposed project in some detail, and acknowledged that there would be harmful impacts on the environment, including the lakes and streams and fish habitats of the Koala watershed. The proposed diversion channel was included in the project description. The very construction of the diversion channel was expected to affect the water quality and nutrient level of Kodiak Lake. Because of the anticipated harmful alteration, destruction or disruption to fish habitat, BHP in its EIS recognized the proposed project would require an authorization under s.35(2) of the *Fisheries Act*. In the EIS it cited s.58 of the *Fisheries* regulations:

s.58 Any person who proposes to carry out any work or undertaking that is likely to result in the harmful alteration, disruption or destruction of fish habitat and who wishes to have the means or conditions of that work or undertaking authorized by the Minister under subsection 35(2) of the Act shall apply to the Minister in the form set out in Schedule VI.

An authorization given under subsection 35(2) of the Act shall be in the form set out in Schedule VII.

[117] Section 35(2) Authorizations usually require a habitat compensation agreement between the applicant and DFO pursuant to DFO’s “no net habitat loss” policy. Authorizations to harmfully alter, disrupt or destroy fish habitat are usually issued conditional on creating an equivalent amount of fish habitat in a nearby area, or mitigating the effects of the project on fish habitat, or on payment into a fund to finance the creation of an equivalent amount of fish habitat in other locations.

[118] In early 1994 BHP and DFO were negotiating the terms of a s.35(2) Authorization and were reaching an impasse related to DFO’s “no net loss” policy and the reconciliation of this policy with the proposed project. BHP’s environmental consultants Rescan Environmental Services proposed that the diversion channel (the planned purpose of which until that time was simply to divert water and to allow for free movement of fish) be redesigned and constructed in a way that would create habitat for fish. The Rescan proposal was put to DFO and eventually accepted by DFO as, in part, addressing the “no net loss” policy. The 1994 Rescan design

document for the PDC recognized that sediment would be transported in the channel due to surface disturbance, site runoff and erosion.

[119] In 1994 when BHP applied to the Water Board for an amendment to its Type B water license to allow construction of the diversion channel, DFO recommended the issuance of the amendment, subject to approval of the final design drawings. At the time of DFO's input to the Water Board regarding the proposed amendment, DFO was aware of the potential for water flowing through the channel to cause erosion and increased sediment loading. DFO specifically recognized the potential of the channel to affect fish, but was of the view that the effects were mitigable.

[120] The amended Type B water licence issued on May 5, 1994. Construction of the diversion ditch was allowed, as approved by the Water Board. A plug of original material was to be left in place at the north end of the channel, and no water was to be diverted from Panda Lake to Kodiak Lake until approved by the Board. As before, various water sampling stations were established under the licence's Surveillance Network Program, and maximum limits were set or regulated for certain parameters (e.g., TSS) for water samples taken at certain stations. No sampling stations were established within or adjacent to the diversion channel. The amended Type B licence did not regulate the level of suspended solids within the channel.

[121] The initial excavation of this diversion channel occurred in the latter half of 1994. In 1995 BHP conducted further monitoring of climate, hydrology and water quality as additional information to supplement what was presented in the 1994 Baseline Study part of the EIS. The 1995 water sampling indicated certain effects in Kodiak Lake in particular because of the construction activities at the diversion channel. Samples taken from within the channel during 1995 showed the following results:

	<u>TSS</u>	<u>Turbidity</u>
June 19, 1995	199 mg/L	259 NTU
August 8, 1995	47 mg/L	78.3 NTU
September 12, 1995	113 mg/L	34 NTU

This information was submitted by BHP in December 1995 as part of the public EARP process and would have been known to DFO.

[122] On March 22, 1996 BHP submitted to the Water Board its formal application for a Type A water license for the project.

[123] On April 15, 1996 BHP submitted to DFO its formal application for a s.35(2) Authorization for the project.

[124] The Water Board conducted public hearings in Yellowknife in September 1996 regarding BHP's application. Representatives from all interested parties and regulators, including DFO, were present. One of the BHP personnel who made a presentation was John Witteman, Environmental Manager. *Inter alia*, he stated:

...During the initial period of commissioning the Diversion Channel, there is likely to be elevated amounts of suspended sediment carried by the water as it flows through the ditch. This cannot be avoided. Even though the slope of the ditch is 0.4% overall, it must be remembered that the ditch is built through rock and glacial till, and it will take time for the ditch to stabilize and be cleared of sediment.

[125] In November 1996 a sub-committee of the Water Board's Technical Advisory Committee (on which Committee DFO had representation) made the following recommendation with respect to the PDC:

Sub-committee members agreed that the diversion channel on the BHP site has the potential to degrade water quality in downstream areas. However, it was also recognized that mitigation of these effects is not possible in the near-term. For this reason, it was recommended that the water flowing through this structure not be subject to regulation. Instead, appropriate monitoring should be conducted to evaluate the quantity of water that is discharged through this structure and the quality of that discharge (including TSS and other variables).

[126] The Water Board issued the Type A water licence to BHP on January 9, 1997. The licence, *inter alia*, permitted BHP to divert water from Panda Lake to Kodiak Lake. One of the many conditions of the licence was the establishment of a Surveillance Network Program with sampling locations at 30 specific locations at the mine site. Two of these sampling stations (1616-12 and 1616-13) relate to the PDC, one at the top end of the channel adjacent to the Panda Lake Dam, the other at the lower end just prior to entering Kodiak Lake. Although the licence set maximum concentration parameters for discharges at many of the other sampling station

locations, this was not done with respect to 1616-12 and 1616-13. Water quality at these locations was, however, to be monitored. The licence stated: “Water at Station Numbers 1616-12 and 1616-13 shall be sampled every two weeks during periods of flow and analysed for pH and Total Suspended Solids, and sampled monthly and analysed for a ICP Metal Scan.”

[127] These references to the Water Board licencing process which occurred concurrent to the s.35(2) Authorization process indicate clearly that all interested parties (in particular BHP and DFO) recognized that the construction and operation of the PDC was an integral part of BHP’s project.

[128] I turn now to the interpretation of the Authorization.

[129] Although the Authorization had been discussed and negotiated between BHP and DFO for years, it was by letter dated April 15, 1996 that BHP made formal request for a s.35(2) Authorization. The letter is signed by J.D. Excell, Project Manager, and is addressed to Ron Allen, Area Manager of DFO. The letter is entitled “Re: Application for Authorization for Works or Undertakings Affecting Fish Habitat”. The first paragraph reads:

Please find enclosed an Application for Works or Undertakings Affecting fish habitat associated with the NWT Diamonds Project. The application includes all projected works associated with the project. (emphasis added)

[130] The letter points out that BHP had previously submitted the EIS and additional documents under the EARP guidelines in July 1995 and December 1995, and that these many documents, and also other documents resulting from the BHP-DFO negotiations, are incorporated by reference in the application.

[131] The enclosed application is on a preprinted DFO form. The “Type of Activity” section sets out a number of options, and BHP placed an ‘X’ beside several of these — Bridge, Culvert, Dam, Stream Diversion, Mining and Dewatering.

[132] In the section entitled “Provide Details of Proposed Activity Including Reasons for the Project...”, BHP’s entry commences “BHP Diamonds Inc. is proposing to develop a diamond mine in the Lac de Gras watershed. This will cause unavoidable impacts to fish habitat within certain lakes and streams...”. BHP then continues with

some specifics, e.g., dewatering of some lakes for mining purposes and then refers to the many other documents previously submitted which “are referenced here to avoid duplication”.

[133] I note that s.35(2) contemplates that the Minister will authorize specific “works or undertakings”, affecting fish habitat, i.e., rather than simply authorizing harmful disruption of fish habitat at large. So what is the specific “works or undertakings” that BHP sought authorization for? I find that the only fair and reasonable interpretation of BHP’s application, (i.e., the April 15, 1996 letter, the enclosed Application form and the referenced documents) is that the company was seeking a s.35(2) Authorization for the NWT Diamonds Project at Lac de Gras, i.e., for “the Project”. The construction and operation of the Panda Diversion Channel was an integral part of “the Project”.

[134] The s.35(2) Authorization issued to BHP is signed on behalf of Ray Pierce, Regional Director-General of DFO and dated January 7, 1997. It was sent in a letter dated January 7, 1997 from Mr. Pierce to Mr. Excell, Project Manager of BHP. Also enclosed with the letter was the Fish Habitat Compensation Agreement dated December 17, 1996 and signed on behalf of BHP and DFO. I find that the three documents (the January 7, 1997 letter, the Authorization document and the Fish Habitat Compensation Agreement) together constitute the s.35(2) Authorization. Further, taking into consideration the entirety of the three documents I find that the specific “work or undertaking” authorized is “the Project” itself. Even if I am wrong in giving such a broad interpretation to the Authorization, I find that in any event the construction and operation of the diversion channel is necessarily covered by the Authorization. No other fair or reasonable interpretation is possible.

[135] The contrary interpretation urged by Crown counsel results from the fact that in the heart of the Authorization document there is specific reference to 12 named lakes (not including Kodiak, Little or Moose) which are to be directly impacted by “the Project”. However, on a fair reading of the entire documentation, (all three documents) this is simply setting out some of the particular harmful effects that were anticipated and cannot be construed as purporting to be an exhaustive list of the anticipated harmful effects. I remind myself again that it is the effects on fish habitat caused by specific works or undertakings being authorized under s.35(2), not harmful effects generally (notwithstanding the wording of some portions of these three documents).

[136] The Fish Habitat Compensation Agreement dated December 17, 1996 is the culmination of lengthy negotiations between DFO and BHP. In general terms this 8-page agreement addresses anticipated loss of habitat in two ways:

- a) harmful alteration of stream habitat is to be compensated by requiring BHP to construct the Panda Diversion Channel in a particular way, i.e., to create and enhance fish habitat within the channel,
- b) harmful alteration or loss of lake habitats is to be compensated by requiring BHP to pay \$1.5 million into a Fish Habitat Compensation Fund to be administered by DFO.

[137] In one of the paragraphs of the agreement, BHP covenants to create and enhance the fish habitat within the diversion channel “with due diligence and in a good and workmanlike manner”.

[138] The preamble to the agreement is helpful in placing the subject-matter of the agreement in the context of the larger “Project”:

WHEREAS:

...

- B. An assessment of the potential impacts of the Project on fish and fish habitat can be found in BHP Diamonds Inc. Environmental Impact Statement, July 1995 and supporting documents. In particular, the Project will impact directly on 12 lakes within the claims block. Six lakes must be dewatered to gain access to and exploit the underlying kimberlite pipes, one is to be dewatered to access granular resources for construction, four will be filled by process plant tails and one will be covered by a waste rock dump. In addition, a number of interconnecting and commonly ephemeral head water streams will be diverted. DFO has concluded that lake dewatering and stream diversion will result in the harmful alteration and destruction of fish habitat in the lakes and streams.
- C. Harmful alteration of stream habitat will be compensated for through fish habitat creation and enhancement within the diversion channel constructed to divert water from Panda Lake to Kodiak Lake, as described in the BHP report Panda Lake Diversion and Fish Habitat Enhancement Channel Design, June 1994. To provide for

no net loss of the productive capacity of lake habitats affected by the Project, BHP is prepared to compensate for the habitat losses, as described in its report Hypothetical Lake Replacement/Habitat Enhancement at Paul Lake, 1996.

- D. This Agreement documents the obligations of BHP with respect to compensating for impacted fish habitat.
- E. The harmful alteration, disruption or destruction of fish habitat associated with the BHP NWT Diamonds Project, as described in B. above, would otherwise constitute a violation of subsection 35(1) of the *Fisheries Act* and is only permissible after s.35(2) authorization and with strict adherence to the conditions set out within this agreement. Failure to strictly adhere to these conditions may result in charges being laid under subsection 35(1) of the *Fisheries Act*.

[139] In reference to preamble B, I note that the earlier EIS documents indicated that there would be lakes indirectly affected by the mining Project as well as those lakes directly affected. In BHP's Project Description Report, among the lakes named as likely to be indirectly affected were Kodiak Lake, Moose Lake and Little Lake.

[140] Also, it cannot be gainsaid that at the time of signing this agreement and, more importantly, issuing the Authorization, DFO was aware that the construction of the channel would cause sediment loading into Kodiak Lake in concentrations that would be difficult to control or predict and that would not be subject to regulation. The undeniable prominence of the PDC and its characteristics in January 1997 serve to clearly distinguish this case from the *B.C. Hydro* case relied upon by the crown for the proposition that a s.35(2) Authorization does not grant the recipient a blanket immunity from prosecution for any and all infractions under the *Fisheries Act*. See *R. v. British Columbia Hydro and Power Authority*, (1997) 25 C.E.L.R. (N.S.) 51 (B.S.S.C.).

[141] The letter of January 7, 1997 from Mr. Pearce of DFO, accompanying the Authorization document, contains the following words in its caption and first paragraph:

Re: Authorization for the Harmful Alteration, Disruption or Destruction of Fish Habitat
Pursuant to Section 35(2) of the *Fisheries Act* - BHP NWT Diamonds Project

The harmful alteration, disruption or destruction of fish habitat arising from the development of the BHP NWT Diamonds Project is hereby authorized pursuant to Section 35(2) of the *Fisheries Act*. This Authorization shall be conditional upon implementation of the mitigation and compensation measures specified in the Authorization and the Fish Habitat Compensation Agreement.

(emphasis added)

[142] The Authorization document itself is entitled “Authorization for Works or Undertakings Affecting Fish Habitat”. The word “project” is used in the document, e.g., the form requires entry of the “Location of Project”. Under the section entitled “Description of Works or Undertakings” is entered:

As part of the NWT Diamonds Project, BHP intends to conduct open pit and underground mining of kimberlite pipes. The Project will impact directly on 12 lakes within the claims block. Six lakes (Panda, Misery, Koala, Fox 1, Alexis and Leslie) will be dewatered to gain access to and exploit the underlying kimberlite pipes, one (Airstrip) is to be dewatered to access granular resources for construction, four (Long, Brandy, Willy and Nancy) will be filled with process plant tails and one (West Panda) will be covered by a waste rock dump. In addition, a number of interconnecting and commonly ephemeral head water streams associated with the above named lakes will be diverted.

(emphasis added)

[143] The operative paragraph of the document reads:

The holder of this Authorization is hereby authorized under the authority of s.35(2) of the *Fisheries Act*, R.S.C. 1985, c.F-14 to carry out the work or undertaking described herein.

[144] Under “Conditions of Authorization”, one of the conditions is:

To compensate for the loss of fish habitat associated with the Project, BHP Minerals shall implement the Fish Habitat Compensation Agreement negotiated between the Department of Fisheries and Oceans (DFO) and BHP Minerals. (emphasis added)

[145] I find, then, that on a plain reading of these three documents, the construction and operation of the diversion channel was included in the work or undertaking

authorized by the Minister under s.35(2). Indeed, the channel was not only authorized, BHP was required by DFO to construct the channel in a certain fashion.

[146] I am satisfied that at the time of its issue in January 1997, Exhibit 38 authorized any harmful alteration of fish habitat in Kodiak Lake and downstream that would result from sediment deposits into Kodiak Lake and arising from the construction/operation of the diversion channel, i.e., the careful and diligent construction/operation of the diversion channel.

[147] In a prosecution under s.35(1) the onus is on the accused to establish a s.35(2) defence on a balance of probabilities. Upon a careful consideration of the evidence, I find that BHP has discharged that onus.

The Defence of Due Diligence

[148] The offences in the Indictment are strict liability offences. As described by the Supreme Court of Canada in the seminal decision of *R. v. Sault Ste. Marie*, these are offences for which the Crown need only prove the *actus reus*, “leaving it open to the accused to avoid liability by proving that he took all reasonable care. This involves consideration of what a reasonable man would have done in the circumstances. The defence will be available if the accused reasonably believed in a mistaken set of facts which, if true, would render the act or omission innocent, or if he took all reasonable steps to avoid the particular event.”

(emphasis added)

[149] The due diligence defence is specifically made available to an accused charged with an offence under the *Fisheries Act* by the provisions of s.78.6:

78.6 No person shall be convicted of an offence under this Act if the person establishes that the person

(a) exercised all due diligence to prevent the commission of the offence; or

(b) reasonably and honestly believed in the existence of facts that, if true, would render the person’s conduct innocent.

[150] The due diligence test does not address merely the “general” standard of care exercised by the accused, but must focus on conduct which was or was not exercised in relation to the particular event giving rise to the offence in the Indictment. *R. v. Imperial Oil*, 2000 BCCA 553; *R. v. MacMillan Bloedel Ltd.* 2002 BCCA 510.

[151] In the determination of whether an accused took reasonable care to avoid the event, the inquiry is directed to that which is reasonably foreseeable. The law does not hold an accused responsible for failure to take reasonable steps against a risk that is not reasonably foreseeable. The focus of the inquiry, then, is the foreseeability of the *actus reus* of the offence in the Indictment. *MacMillan Bloedel (2002)*, *supra*, and *R. v. Rio Algom*, (1988), 3 C.E.L.R. (N.S.) 171 (Ont.C.A.).

[152] In advancing a due diligence defence, the onus on an accused is to establish, on a balance of probabilities, that he took all reasonable care to avoid the event. Perfection is not required.

[153] BHP advances a due diligence defence in this case.

[154] In countering the accused’s defence of due diligence, the Crown makes a litany of submissions on the issue. A number of these are exaggerated or overstated, many more are generalizations or expressions of opinion or statements of facts which have no foundation in the evidence. One consequence is that the trier of fact is then faced with a more onerous task in separating the wheat from the chaff. Another is, because of exaggerated submissions, the need to resist discounting of other submissions which may have merit. I have accordingly made careful and close examination of the evidence.

[155] The original Rescan 1994 channel design was conceptual but was subjected to public review and scrutiny, including that of DFO officials, for a number of years.

[156] At this trial, the parties have presented a great deal of evidence regarding the conduct of the accused in designing, constructing and operating the PDC. Evidence on the due diligence issue included documents, photographs, expert testimony and direct *viva voce* testimony.

[157] In particular, I heard direct evidence from BHP employees such as Jeff Stibbard who was directly involved in supervising the construction of much of the channel and

Alan Reeves who was directly involved with supervision and some design changes in phase 2, and from BHP's contractors such as David Humes who was engaged in excavation activities and Brian Doiron who was involved in surveying activities for most of the channel construction. These witnesses gave evidence of actual onsite activity of which they had personal knowledge. I found these witnesses to be truthful, credible and forthright, and that they gave their evidence without exaggeration or embellishment.

[158] I also heard direct evidence from inspectors and other government employees such as Julie Dahl and Larry Dow of DFO, and Darren Unrau, David Jessiman, and Scott Gallupe of DIAND. These witnesses, and also certain employees of BHP's consultants Dillon and Rescan, all gave evidence of visits they made to the Ekati site and of observations they made about the PDC and of photographs which were taken. Again, I found that these witnesses gave truthful evidence of actual observations.

[159] When I consider the totality of the evidence, I find that BHP acted reasonably in the construction of this diversion ditch. Although it is true, as Crown counsel submits, that BHP chose to build this ditch to facilitate its mining operations, the company's basic ditch project 'morphed' into a joint BHP-DFO project, i.e., the eventual design was very much to accommodate the fish habitat enhancement/creation features, e.g. gradient. (Indeed some of the documents identify the channel as the "DFO Channel"). BHP retained the services of environmental consultants (ResCan) to design the ditch, and the conceptual design was one that had the approval of DFO and also of the Water Board. "For construction" drawings were prepared and sealed by a professional engineer.

[160] Construction of the ditch was supervised by company personnel such as field engineers, though much of the actual work was executed by contractors. Group meetings were held each morning with various company supervisory personnel and contractors' representatives in attendance, and current problems and issues discussed and information exchanged. I find on the evidence that the company took special care to reduce the impact on the surrounding environment. There was a conscious effort to minimize the size of the PDC's "footprint". Modifications were made to the channel design for positive reasons, e.g., the gentler side slopes for stability, the realignment of the proposed route to avoid ponds, etc. Construction was halted in the Koala lowlands area when permafrost melted and work was delayed until cold weather allowed it to resume.

[161] The company sought and obtained geotechnical advice from EBA Engineering Consultants from the outset, and when it encountered difficulties. At times silt-laden water was pumped to a catchment area where it was allowed to be frozen and then removed. Judgment calls were necessarily made in the field by supervisory personnel such as Jeff Stibbard. These decisions were made with firsthand knowledge of the actual conditions being encountered, and some of these decisions had as their purpose the reduction of the amount of silt that would be transported down the channel.

[162] I am satisfied that Mr. Stibbard, for example, made proper and prudent judgment calls in the field when confronted with changing circumstances. One example is declining EBA's suggestion to build a swale in the Grizzly lowlands after the time of the sedimentation event as that would simply make matters worse or create more problems working with heavy equipment in that area in the melting environment.

[163] Work areas and turning areas for equipment were specifically defined. Work in silt-prone areas was done only in cold winter weather.

[164] I find that generally speaking, a thick layer of rip-rap material was placed on the channel banks as called for in the design and as required if erosion of the channel walls was to be avoided. In this regard I rely particularly on the evidence of Mr. Doiron. He struck me as a credible witness. Although he is an employee of BHP's contracted surveyors, he gave truthful evidence without embellishment, evidence that I accept. He stated that on many occasions he was asked to confirm, by surveying methods, that a segment of the ditch had been constructed by the excavation contractors according to the construction drawings, i.e., depth, gradient, placement of rip-rap, etc. It is his evidence that the rip-rap material was indeed put in place.

[165] I find, on balance, that there was a climate of environmental awareness surrounding BHP's mining development project generally and the PDC project specifically. The evidence reflects, generally, a conscientious attitude by BHP towards the environment. Although BHP's report card does not merit an A+, it certainly deserves a passing grade. Before, during and after the EARP hearing process, the company displayed an acknowledgement of the fragility of the pristine Arctic environment. A small example of a company policy related to the PDC construction project was one which restricted vehicles and equipment from being driven onto the tundra. Company personnel and contractors all testified as to the company's

insistence on adherence to its environmental policies. As one of the contractors put it, 'you were constantly reminded' of proper environmental practices.

[166] The company showed a high standard of awareness throughout the piece. They were aware, e.g., that the diversion channel had been approved by the Water Board and by DFO and that there were conditions in the water licence and the s.35(2) Authorization that must be met.

[167] A report prepared by a DIAND inspector at the "close out" of BHP's Type B water licence, covering the period 1994-1997, indicated compliance with the *Northwest Territories Waters Act* and all obligations under the water licence, including those related to construction of the diversion channel.

[168] One of the Crown's witnesses was John Brodie, a geotechnical engineer. He visited the Ekati site in August 1997, and made observations about the condition of the PDC at that time. Prior to giving testimony he also had access to various photographs of the channel taken by other persons, some of those photographs showing the channel and the downstream lakes during and after the 1997 spring freshet. He also had access to certain design and construction documents, and also to studies done of the sedimentation found in Kodiak Lake following the 1997 spring freshet. Mr. Brodie gave opinion evidence on the total quantity of sediment which was transported in the channel flow in 1997 (18,000m³) much of this originating from the Grizzly lowlands area. He also gave his personal opinion as to the likely cause of the thermal degradation of the Grizzly lowlands area. I listened carefully to his evidence and have considered it, yet I find it speculative and not probative. As mentioned earlier in these reasons, I find on the evidence I am unable to determine the actual cause of the degradation of the permafrost at the Grizzly lowlands area.

[169] Mr. Brodie was critical of certain aspects of the original Rescan design for the PDC. He was also critical of certain of the construction techniques. In giving his critical analysis of the construction of the diversion channel, he made certain assumptions, some of which I find were contrary to the trial evidence. For example, by merely viewing photographs he drew conclusions about the absence of rip-rap placement whereas I find, on the whole of the evidence, that rip-rap was generally placed as indicated by BHP's personnel and contractors. Where there is a conflict between what Mr. Brodie opines as to construction activities or steps which likely did/did not occur, and the direct evidence of those present on site at the time, e.g.,

Stibbard, Doiron, I prefer the evidence of those in attendance. More importantly, Mr. Brodie's evidence is after-the-fact. In my view, as trial judge my focus ought to be on what was actually done or not done by the accused at the time, rather than speculating on what might have been done, with the benefit of hindsight.

[170] I find as a fact that at the time of the initial operation of the PDC in 1997, BHP officials were of the view that the then expected sedimentation of downstream waters was covered by the s.35(2) Authorization issued by DFO.

[171] In my view BHP has demonstrated that it took reasonable care in the circumstances to limit the amount of sediment which would be carried down the channel. Erosion control measures in the design and construction drawings were implemented. Construction activities were carried out in a careful manner in difficult and challenging conditions. That there was going to be some sediment carried along with the heavy spring runoff was inevitable; everyone knew that. What was not foreseen and could not have been foreseen was the thawing of the permafrost in an area that was not immediately adjacent to the channel (i.e., to the area being disturbed) but some 15 metres and more to the east, and the resulting movement of those thawed materials towards and into the newly constructed channel.

[172] I find on the evidence that the permafrost degradation of the Grizzly lowlands area was not reasonably foreseeable. BHP could not have taken precautionary steps against that which was not foreseen.

[173] A successful defence of due diligence does not require perfection on the part of the accused. The evidence does not allow this accused, BHP, to claim perfection, nor do I understand that BHP asserts that claim. BHP's own internal audit in 1996 highlighted a number of deficiencies in its environmental policies, e.g. the absence of a formal Environmental Performance Requirements Manual. In the Spring of 1997 at the onset of the freshet period, BHP's environmental staff chose an odd time to organize and attend an off-site retreat. The amount of silt curtain ordered and installed at the PDC outlet in 1997 was one-half of what was recommended. Also in 1997, a newly-hired junior environmental specialist, Shelley Thibaudeau, raised legitimate concerns about the anticipated sediment flow, and these concerns were ignored by her supervisors. And BHP was not, in this general time period, maintaining timely and adequate information flow and communication with DFO and other regulators. These are but examples.

[174] But perfection is not the test. Also, none of these sins of imperfection contributed directly, in my view, to the sedimentation event which forms the *actus reus* of these offences.

[175] The construction of this diversion channel in this particular Arctic location was a unique, complex undertaking. The task of controlling the expected flow of silt within the channel was a specific challenge. Diligence was required in this task. The fact that there was an excessive flow of silt due to the unforeseen permafrost thaw at Grizzly lowlands is not the basis for finding a lack of due diligence.

[176] In considering the whole of the evidence, BHP has satisfied me, on a balance of probabilities, that it acted diligently and took all reasonable steps to avoid the deposit of an excessive amount of sediment into Kodiak Lake.

[177] Accordingly, I find that the defence of due diligence has been established.

Abuse of Process

[178] At the conclusion of the trial, defence counsel renewed BHP's request that the Court enter a judicial stay of these proceedings as being an abuse of the Court's process. A similar motion made at the commencement of the trial was denied as being premature, in reasons stated by me at that time.

[179] BHP submits that allowing these proceedings to continue offends the community's sense of fair play and decency, on account of the conduct of DFO officials and the prosecution officials. In particular, BHP points to the following actions:

- a) proceeding with this prosecution notwithstanding the Authorization which BHP says is a complete and obvious defence to the charges,
- b) proceeding by indictment rather than by summary conviction,
- c) misleading evidence given by a DFO official,
- d) breach of a BHP employee's right to privacy,
- e) inappropriate DFO pressure on BHP to cooperate or face charges.

[180] The first and main ground of complaint, i.e., the existence of the Authorization, was the focus of the preliminary motion at the commencement of the trial. I reiterate here what I stated then — the Authorization is not a blanket or automatic defence. There are conditions attached to the Authorization. There had to be an opportunity for the parties, including the Crown, to lead evidence at trial on whether the conditions of the Authorization had been met. For example, BHP had to adduce evidence that it exercised due diligence in the design and construction of the diversion channel (a condition of the Authorization) and the Crown was entitled to test that evidence at trial. As stated by the Supreme Court of Canada earlier this year in *R. v. Regan*, 2002 SCC 12, society has an interest in having charges disposed of on their merits.

[181] Also, I note that the unlawful activity alleged in the Indictment extends over a time period 1994 through 1997. Indeed, the Crown's allegations at trial included, e.g., faulty design and faulty construction techniques in the earlier part of that time frame. Had the Crown's position prevailed on findings by the trier of fact, how could an Authorization issued in January 1997 have aided BHP for earlier transgressions?

[182] Although I have determined that the Authorization indeed provides a defence to these charges, it was not clear and obvious that that would be the result.

[183] These charges against BHP were laid after the expiry of the two-year limitation period for summary conviction proceedings. Accordingly, at the time the charges were laid, proceedings could only be taken by way of indictment. It is pointed out on behalf of BHP that proceedings by indictment are normally reserved for the "most serious" of cases, and it is submitted that very few environmental cases proceed by indictment. Counsel seems to infer something sinister in the fact that the laying of charges only occurred after the costly channel remediation was complete and after the graduate student program was funded by BHP.

[184] The *actus reus* of the offences before the Court was clearly a serious interference with fish habitat. Whether it is 'serious' or 'most serious' is a matter of opinion on which reasonable persons might disagree.

[185] It is within the discretion of the prosecution to proceed by indictment or by summary conviction. In this case it was open to the Crown to proceed by indictment. There is no evidence of bad faith or of inappropriate exercise of discretion by the Crown.

[186] The “misleading evidence” submission in support of the abuse of process application refers to certain evidence of Julie Dahl, a DFO official.

[187] One of the main arguments consistently advanced by BHP throughout these proceedings is that there was a considered and deliberate decision of the regulators not to regulate the TSS level in the diversion channel, and yet the excessive TSS levels experienced in the 1997 freshet has resulted in these charges. The Water Board in its consideration of BHP’s application for a Type A water licence in 1996 sought advice from its Technical Advisory Committee. That Committee had a sub-committee of persons with expertise, entitled Sub-Committee on Effluent Quality Standards and Monitoring. Ms. Dahl was a member of a related sub-committee, the Environmental Effects Monitoring Sub-Committee.

[188] On its original abuse of process motion at the commencement of trial, BHP provided affidavit evidence demonstrating, *inter alia*, that the Water Board had considered the advice it received on whether or not to regulate TSS levels in the diversion channel. In particular, BHP provided a letter dated November 8, 1996 from Donald M^{ac}Donald, Chairman of the Sub-Committee on Effluent Quality Standards and Monitoring. A portion of that letter dealing with the proposed diversion channel states:

Sub-committee members agreed that the diversion channel on the BHP site has the potential to degrade water quality in downstream areas. However, it was also recognized that mitigation of these effects is not possible in the near-term. For this reason, it was recommended that the water flowing through this structure not be subject to regulation. Instead, appropriate monitoring should be conducted to evaluate the quantity of water that is discharged throughout his structure and the quality of that discharge (including TSS and other variables).

[189] In response to the abuse of process motion, the Crown submitted affidavit evidence including that of Ms. Dahl. In her affidavit she stated the advice she had given to the Technical Advisory Committee and the Water Board on behalf of DFO, and described discussions in which she participated. At paragraph 23 she states:

23. I do not recall receiving a copy of Mr. M^{ac}Donald’s report of the Sub-Committee on Effluent Standards and Monitoring dated November 8, 1996 and marked Exhibit F to the

affidavit of Mr. Wray until sometime in 2001 when a copy was provided to the DFO by the DIAND.

[190] BHP submits that in opposing the preliminary motion the Crown and DFO were suggesting that DFO was not aware in late 1996 that the Water Board would not be regulating TSS levels in the diversion channel and was advancing paragraph 23 of Ms. Dahl's affidavit in this context. When Ms. Dahl testified as a witness at trial she acknowledged, under cross-examination that she had indeed received a copy of the MacDonald letter back in 1996.

[191] BHP submits that this was misleading evidence and a distortion of events in an attempt to put DFO in a better light and to promote the prosecution of these charges.

[192] I have carefully considered this submission and closely examined the evidence, and I cannot find that there was any attempt to mislead the Court in this regard. I note that in some of her correspondence, at the time, to other officials she describes BHP being "out of compliance" or "will be out of compliance". In her evidence Ms. Dahl acknowledged that this turn of phrase may have resulted from a misunderstanding on her part, as she says she thought that the TSS levels coming out of the diversion channel were in fact regulated or to be regulated in the water licence.

[193] Next, BHP points to what it says was an unnecessary and flagrant intrusion upon the privacy rights of BHP employee John Witteman in DFO's and the prosecution's pursuit of these charges. Mr. Witteman is the environmental manager at the Ekati site. In September 1997 DFO officials arrived unannounced at the Ekati site armed with a search warrant to aid in investigation of these charges. Documents and computer files were seized from the engineering department and the environmental department. Among the records seized from Mr. Witteman's computer was a personal letter he had written to his daughter in February 1997, on the occasion of the death of Mr. Witteman's mother. Mr. Witteman had "deleted" this file but apparently it remained on his computer. Most of the contents of the letter were obviously personal; there was a brief reference to Mr. Witteman returning from a recent meeting with DFO in Winnipeg, and some comments on that meeting and the relationship with DFO.

[194] When Mr. Witteman attended before Larry Dow, DFO's investigating officer, in October 1998 to give a voluntary statement, he was shown a copy of the personal

letter and asked questions about it. It is obvious that he objected to this intrusion into his privacy.

[195] At trial the Crown, through officer Dow, put Mr. Witteman's statement to officer Dow into evidence, including the attached copy of the personal letter (I admitted the document into evidence at that stage of the trial notwithstanding the objection of defence counsel.). Later in the trial Mr. Witteman testified as a defence witness. During cross-examination by Crown counsel he was referred *inter alia* to the personal letter retrieved from his computer. The witness was visibly upset, and understandably so, at this intrusion into his privacy. Defence counsel submits this was an attempt to intimidate the witness.

[196] In all of the circumstances and even taking into consideration the many issues in this case, I find that the brief portion of the personal letter related to Mr. Witteman's dealings with DFO is of dubious relevance on any issue and I place no particular weight upon it. The use of this document of dubious relevance at trial is consistent with the generally aggressive adversarial nature of these proceedings; however, its use cannot form the basis of a stay on account of abuse of process. Common courtesy and respect for privacy, though, should have led counsel to reach an agreement to delete the personal portions of the letter before it was entered as an exhibit at trial and/or put to the witness in cross-examination. I confirm my order made at trial, out of respect for Mr. Witteman's right to privacy, that that portion of Exhibit 131 shall remain sealed and not re-opened without order of the Court.

[197] Finally, under the abuse of process argument, BHP points to the infamous meeting at the Yellowknife airport. This was initially raised as a "promise not to prosecute" issue however in the final analysis BHP does not put this argument in quite those strong or explicit words.

[198] Back in September 1997 BHP's senior officials were taken aback and shocked at DFO's actions regarding the search and seizure at the mine site and at BHP offices in Yellowknife. BHP sought a meeting with senior DFO personnel to register their concern and complaint. Arrangements were made to meet Captain Ray Pearce, the Regional Director-General of DFO from Winnipeg, at the Yellowknife airport as Captain Pearce was travelling through Yellowknife on other business. James Excell and Graham Nicholls, two senior officers of BHP met there, briefly, with Captain Pearce and with Ron Allen, DFO's senior manager in the Northwest Territories. No

notes were kept of this meeting. Mr. Excell, Mr. Nicholls and Mr. Allen testified as to their recollection of this meeting. I find that each of them attempted to give accurate and honest evidence as to what the witness recalls of the conversation. Apparently although Mr. Excell opened the conversation by voicing BHP's concerns about the search and seizure, Captain Pearce interrupted and thereafter did most of the talking. Captain Pearce did not want to talk about the past (i.e., the search and seizure); he stated that he wanted to see BHP's cooperation in remediating the problem at the Grizzly lowlands area and he stated that criminal proceedings don't really get anybody too far. Mr. Excell and Mr. Nicholls agree that no specific promise was made but that the clear message to BHP was to cooperate with DFO and if BHP did not, it would be facing charges.

[199] In *Re Abitibi Paper Company Limited and The Queen* (1979), 47 C.C.C.(2d) 487 (Ont.C.A.) the accused company operated a paper mill and had problems with its secondary effluent system polluting an adjacent river. In discussions with a senior official of the Ontario Ministry of the Environment a program for improvement of the system was agreed to, to be completed by a specified date. The senior official indicated that if the program was not completed by the accused company by the specified date, the Ministry would subject the accused to the probability of prosecution. The accused proceeded with the program; however, before the expiration of the period of grace the accused was charged. The Court stayed the proceedings as an abuse of process, holding that the conduct of the Crown in breaching the undertaking of one of its senior officers was vexatious, unfair and oppressive.

[200] A similar fact situation existed in *Western Pulp Ltd. Partnership v. British Columbia*, [1988] B.C.J. No.3127 (B.S.S.C.). The Court found there to be a plain and unambiguous agreement between the accused company and provincial and environmental officials that no prosecution would be launched while the company complied with the agreement during the currency of the agreement. The Court held that it was an abuse of process for the Crown to launch a prosecution under the *Fisheries Act* during the currency of the agreement.

[201] BHP is unable to rely on *Abitibi Paper* and *Western Pulp* as these cases are distinguishable on the facts. In the present case there was no agreement by DFO not to prosecute.

[202] Nonetheless, BHP submits that it was wrong for DFO (Captain Pearce) to suggest that there was a relationship between BHP's cooperation on the remediation steps and the likelihood of charges being laid. I agree.

[203] On the evidence I find that BHP did indeed cooperate and carry out various improvements to the channel and adjacent area, at considerable expense to BHP, at the request of DFO (including payment to graduate students to conduct studies on the channel). I also find, however, that much of this work BHP would have had to do in any event, in compliance with the terms of the Authorization and the Fish Habitat Compensation Agreement.

[204] It was obviously in BHP's interest to cooperate with DFO's requests in the remediation program and the fish habitat enhancement program. BHP did not want to be subjected to charges under the *Fisheries Act*. It is regrettable that Captain Pearce, in using the language he did, conveyed the threat of prosecution in order to achieve cooperation. However, the fact that the Crown later decided in its discretion to proceed with prosecution of BHP for offences under the *Fisheries Act* does not make Captain Pearce's conduct an act of state oppression or unfairness such as to amount to an abuse of the Court's process.

[205] For these reasons I find that the evidence falls short of what the law requires to justify a judicial stay of proceedings on account of abuse of the Court's process.

Summary

- a) I find that the *Fisheries Act* of Canada is applicable to the fish and fish habitat of Kodiak Lake, Little Lake and Moose Lake in the Northwest Territories.
- b) At this trial the Crown has proven beyond reasonable doubt the *actus reus*, i.e., that the accused corporation did indeed deposit a deleterious substance, to wit, sediment in waters frequented by fish, and also that the accused corporation did indeed carry on a work or undertaking, to wit, the construction and operation of a diversion ditch, that resulted in the harmful alteration or disruption of fish habitat.
- c) I find that the s.35(2) Authorization issued by the Minister on January 7, 1997 to the accused corporation authorized the harmful alteration or disruption which

occurred to fish habitat of Kodiak Lake and downstream in the time frame in the Indictment.

- d) The accused corporation has proven, on a balance of probabilities, that it exercised due diligence in the design, construction and operation of the diversion channel and took all reasonable steps to avoid the excessive deposit of sediment from the channel into Kodiak Lake. I find that the thermal degradation of permafrost in the Grizzly lowlands and the resulting movement of silt and sediment from that area into the diversion channel is unexplained and was not reasonably foreseeable.
- e) There is insufficient evidence in this case to justify a stay of proceedings on account of abuse of the Court's process.
- f) I find the accused corporation not guilty of the charges in the Indictment.

J.E. Richard,
J.S.C.

Dated at Yellowknife, NT this
9th day of December 2002

Counsel for the Crown: J. Cliffe, A. Regel, A. Slatkoff
Counsel for the Defence: D.R. Clark, B. Thompson

S-1-CR 2001 000053

IN THE SUPREME COURT OF
THE NORTHWEST TERRITORIES

BETWEEN:

HER MAJESTY THE QUEEN

- and -

BHP DIAMONDS INC.

REASONS FOR JUDGMENT OF
THE HONOURABLE JUSTICE J.E. RICHARD
