A Review
of
The Quinsam Coal Monitoring Process

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The Campbell River Environmental Committee
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SUMMARY

The Campbell River Environmental Committee (CREC) is requesting intervention by the B C provincial ombudsman into the monitoring process of the Quinsam Coal Project which is presently being supervised by the Ministry of Environment. Our primary interest is protecting the fisheries resource that exists within the Campbell/Quinsam River System. Since the mine has gone into operation we have seen a number of changes. Historically sulphates within the system averaged between one and two milligrams per litre throughout. Sulphates leaching into the system from the mine site have raised the levels dramatically, with Long Lake, because it is closest to the mine, being the most effected. Sulphates within Long Lake have averaged over 100 milligrams per liter at the deeper depths for the past many years which is above the provincial guidelines for freshwater aquatic life. We have seen changes in the phytoplankton community of Long Lake and Middle Quinsam Lake which have been linked to the change in sulphates. We have seen a raise in the pH in Long Lake. We are now seeing toxic metals including arsenic, iron and manganese all which exceed the B C Provincial guidelines for aquatic life at a number of sites in the Long Lake area. We are also seeing polycyclic aromatic hydrocarbons (PAHs) which is a group of toxic chemicals associated with coal mining, exceeding the B C Provincial Guidelines in the Long Lake area. The benthic invertebrate population (bug life) has also been effected. These changes have been clearly linked to the Quinsam Coal Mine. Far down stream at a site close to where the Quinsam River runs into Campbell River, Environment Canada is reporting that the benthic population is, "severely stressed." While the Quinsam coal mine is suspect, Environment Canada is still trying to pinpoint the cause of the difficulty there. These are the problems. The solution, if there is one, is with the government regulatory agencies requiring the company to modify their mining practices to better protect the environment. We believe that the process presently in place needs to be improved.

Central to the difficulty is lack of enforcement of the company's mining permits. The City of Campbell River, the Comox-Strathcona Regional District and Claire Trevena MLA North Island have all written to the provincial government requesting that permits be enforced yet violations are still taking place. The latest water quality monitoring report of August 2006 lists 131 effluent violations. The only attempt that we have seen by the government to bring the

company into compliance with their permits is to revise the permits upward so that the company does not exceed them. Quinsam Coal's effluent has been specifically implicated in the pollution problems in the Long Lake area. The company has indicated that they will be applying for yet another permit change in an attempt to curtail their current effluent violations.

A second problem is what we consider to be the extreme slowness in which the Ministry of Environment seems to handle their monitoring responsibilities. This slowness involves the implementation of recommendations of the Environmental Technical Review Committee (ETRC) that controls the project, answering letters, reviewing safety documents prepared by the company, scheduling meetings that they have agreed to schedule, bringing important pollution information to the ETRC and publishing minutes of the ETRC meetings. We believe that their lack of follow through in a timely way may have encouraged an attitude of complacency on the part of Quinsam Coal. Our brief describes this in detail.

We also believe that the Ministry of Environment has made it very difficult for lay groups such as ours to find out what is going on. The City of Campbell River and the Regional District have both requested that the annual ETRC meetings be held in public. So did a representative from the Ministry of Mines who is on the ETRC. Yet the Ministry of Environment continues to refuse. As the Quinsam River flows through the Regional District, that group also requested representation on the committee. This was refused. The way that our group has been able to track the process has been to read the ETRC minutes. This is not satisfactory to us. Despite our protests, the minutes are often sent out several months after the annual meeting has taken place.

The company is planning a major new mine expansion, possibly even a new mine. We believe that the present monitoring process needs to be improved or our fisheries resource may not exist by the time the mine finally expires.

The following brief outlines these concerns in more specific detail. To make it easier for the reader to verify the facts we have used R followed by a numeral to indicate reference material included at the end. The underlining in the reference material is CREC's.

BRIEF

The Quinsam Coal Mine is located approximately 27 Km southwest of the City of Campbell River. It is adjacent to Long Lake and Middle Quinsam Lake which form part of the Quinsam River. From the mine area the Quinsam River flows mostly north for approximately 35 Km where it enters the Campbell River. (Appendix A and B in the reference material contains maps of the area) The Campbell/Quinsam River system is extremely valuable to the people of Campbell River. Much of the city's history traces back to the world famous chinook salmon that are still caught each season at the mouth of the Campbell from rowboats. The city is named in honor of the river. The Province of British Columbia has designated the Campbell as a Heritage River.

On the Quinsam River approximately 3 Km upstream from its confluence with the Campbell, the federal government operates a salmon hatchery. The hatchery uses the Long Lake area as part of its coho colonization program. Environment Canada and Fisheries and Oceans Canada estimated the dollar value alone of the Quinsam River stocks as $2,474,200 annually. (1983 dollars)

The Quinsam Coal Project is monitored by an Environmental Technical Review Committee composed of representatives form several government agencies who report to the Ministry of Environment. Our group, which has been involved with the Quinsam Coal Project since the early 1980's before the mine began operating in 1986, has become increasing concerned that the present mine and planned expansions may impact on the fishery resource in a severe way. We are concerned about the monitoring process and are requesting a review of it by the B. C. Ombudsman. Our concerns are as follows.

1) **The lack of opportunity for public involvement or even public awareness of material being discussed and decisions being made by the ETRC** Both the city of Campbell River (R 1) and the Comox Strathcona Regional District (R 2) have requested that Environmental Technical Review Committee that meets annually to monitor the Quinsam Coal project be open to the public. This request was denied. The Comox-Strathcona Regional District also requested representation on the committee as the Quinsam River flows through their jurisdiction. This was denied. (R 3)

As our group has not been allowed to attend the ETRC meetings, at the 2003 meeting the

representative from Fisheries and Oceans and the representative from the Quinsam Hatchery both suggested that the ministry provide direct contact to the author and to CREC regarding findings of the ETRC and progress and overview of the meeting. According to the meeting minutes the chairman agreed to do this. (R 4) It never happened. At the 2004 ETRC meeting the Ministry of Mines representative also suggested holding the meetings in public. He noted that this had been done at a number other mine sites around the province. (R 5) The suggestion was denied. At an informal meeting at our city hall on May 10, 2006 which included the ETRC chairman, the author and another member of CREC, the city's environmental coordinator, and a Quinsam Coal representative, the ETRC chairman was asked by the city's environmental coordinator if members of the public could attend as, "observers only." (R 6) Again the answer was no. The reason given was that it would be inconsistent with the terms of the Quinsam Coal Inquiry of 1983. At this inquiry the Ministry of Environment recommended that the committee include representation from the six government agencies presently involved but also stated, "The Ministry is not opposed to the inclusion of non-government persons on this review committee, but leaves the recommendation of such membership to the Commission." (Page 195) (R 7) We can not find anywhere in the Quinsam Coal Inquiry report where the commission specifically forbids non-government people from being on the committee. More import we can find nothing in the inquiry report to even remotely suggest that meetings should be behind closed doors.

The ETRC was originally called the Vancouver Island Mine Development Review Committee. Minutes from its December 16, 1992 meeting (Published January 8, 1993) indicate that 19 individuals including a representative from the Ministry of Parks attended. A representative of CREC was also invited. We have included the minutes from that meeting. (R 8) CREC's interest in the ETRC meetings has nothing to do with making technical recommendations or carrying a vote.

The way that our group has been able to find out what is happening with the ETRC meetings is by reading the minutes after they arrive at our city hall. This has not been satisfactory to us because of the time delay between the meeting and the releasing of meeting minutes, typically several months. We wrote to the chairman of the ETRC complaining of this and requested that the meeting minutes be released in thirty days. In July of 2004, the committee chairman assured us that every effort would be made to release these minutes in a timely fashion. (R 9) Despite this assurance the minutes of the November 15, 2005, meeting arrived at the City of Campbell River office on April 4, 2006. (R 10) The November 24, 2004 meeting minutes

arrived at the Campbell River office on March 9, 2005. (R 11) As noted above, back in 1992-93 the minutes were put out in three weeks despite the Holiday Season.

2) **The provincial Ministry of Environment's failure to enforce the company's pollution control permits.**

The majority of Quinsam Coal's permit violations over the years have involved their discharge of effluent into the environment. However there have also been violations regarding permitted suspended solids (coal dust) at their Middle Point coal storage facility, failure to update their Environmental Procedures Manual on a yearly basis, failure to inspect authorized works regularly and maintain them in good working order and failure to notify proper authorities within 24 hours when an emergency took place. To our knowledge there has never been a fine, even a small one, for any of these violations. The only way that we have seen the Ministry of Environment bring Quinsam Coal into conformity with their permits is simply to revise the permits upwards so that their effluent discharges do not exceed them. This pattern is described in detail in section 7. CREC is aware that fines by themselves do not lead to a clean environment. However it is hard for us to see that the company is being given motivation to improve their practices. On February 7, 2003, we wrote to the Regional Waste Manager and requested that if he was not going to fine the company or use any other enforcement procedures that he at least make reference to the permit violations in his report to the people of Campbell River that he places in our newspaper each year. (R 12) Failure to do so was misleading the citizens of Campbell River. The District of Campbell River, (R13) the Comox Strathcona Regional District (R14) and the Tyee Club of British Columbia (R 15) all wrote to the Regional Waste Manager that year requesting the same.

In the following year the Regional Waste Manager in his report to the people of Campbell River, which appeared in our newspaper on January 21, 2004, stated: "permit effluent discharge quality compliance was good throughout the reporting period with only one exceedance". (R 16) In reality there were 29 pH violations, 33 maximum flow violations and 56 average daily flow violations from settling pond #4 and 9 average daily flow violations from pond #1. There were also an unreported number of violations for discharging outside of the permitted 180 day window. This means that in total there were over 127 violations reported. All of these violations were listed in the 2002/2003 annual Water Quality Monitoring and Reclamation Report. (R 17)

One result of lack of permit enforcement was the spill of 11,000 cubic meters of mine effluent into the river system in December of 2003, which resulted from an undermining of a discharge culvert. According to their permit the company was supposed to be inspecting the works on a regular basis. They failed to do so. The spill was supposed to be reported within 24 hours. It occurred on December 18, 2003 but was not reported until December 22, 2003. There were no alarm systems in place to alert mine staff of the spill. Although the company could have been fined up to $300,000. the ministry simply issued a warning letter on June 14, 2004, and a directive to the company to update their Environmental Procedures manual which was supposed to be done each year in March but had been outstanding since March of 1998. (R 18) CREC later found that on May 17, 1999 Quinsam Coal received a letter from the Ministry of Environment stating that the Environmental Procedures Manual was, "inadequate and should be updated". (R 19) Whether the ministry was aware at the time of their June, 2004, warning letter that they had issued a similar one in May of 1999 but failed to enforce it we could not determine. At the November 24, 2004 ETRC meeting the Environmental Procedures Manual still had not been updated and Quinsam Coal was directed to submit the upgraded manual by May 31, 2005. (R 20) However, the ministry confirmed that the manual still had not been updated as of September 1, 2005.(R 21) Somewhere between September 1, 2005, and the ETRC meeting of November 15, 2005 the manual was submitted. At the November 15, 2005 ETRC meeting it was agreed that the committee chairman would, "complete a review of the EP manual and report back to QCC by Spring 06." (R22) However at the previously mentioned meeting of May 10, 2006, the author asked the ETRC chairman if he had completed the review. He said that he had not. (R 6)

The Environmental Procedures Manual and materials accompanying it perhaps typify the concerns we have about the monitoring process. In 1989, the ministry apparently requested that Quinsam Coal produce an awareness handbook summarizing the contents of the manual. According to Quinsam Coal the purpose of the awareness handbook was to inform and educate employees about the policies and procedures in force at the mine. It was to, "serve as a reference in the event of emergencies, occurrences or query in the absence of immediate authority." (R 23) The Annual Water Quality Report, published in April 1992, states that this handbook was compiled by Quinsam Coal and submitted to the ministry in 1989, but not approved until March of 1992. It appears that the company was not happy with the ministry's slowness and made the following statements in the above mentioned report . "The

Environmental Awareness Manual has just been approved after two years on the Ministries desk. It will be published shortly." (underling CREC's) (R 24) It appears to us that delays of this type may have been putting the health of employees as well as the health of the river system at risk.

After our group made our local political representatives aware of the full implications of the spill of December, 2003, The City of Campbell River, (R 1) The Comox-Strathcona Regional District (R 25) and Claire Trevena, MLA for the North Island, all wrote to the Honourable Barry Penner, Minister of Environment requesting that all the environmental permits be enforced. Their letters were answered by Mr. Eric Partridge, Assistant Deputy, Environmental Division, who stated in part, "The city can be assured that the ministry will continue to require the permittee to comply with the permit limits". (R 26) It appeared to us that the Assistant Deputy was simply unaware that the company was in violation of their permits for so many years, or expected that in due time the company would be brought into conformity with all of their permits by simply changing the permits.

3) **The provincial government's failure to disclose the fact that the mine's operation was adversely affecting the water quality in Long Lake and No Name Lake in terms of metals, polycylic aromatic hydrocarbons and benthic macro invertebrates to both the public and the ETRC in a timely way.**

In order to determine if the mine operations were effecting the nearby lakes, in September of 2003 and September of 2004, the Ministry of Environment took measurement samples for polycyclic aromatic hydrocarbons (PAHs), metals and benthic invertebrates (bug life). Polycyclic aromatic hydrocarbons are a group of chemicals frequently associated with coal mining. The ones measured are thought to be toxic to aquatic life, presumably due to soil disturbance during mining and the loss of settling pond water. As early as 2003, the PAHs naphthalene, benzo pyre and phenanthrene were found to be above the British Columbia Guidelines for aquatic life at several sites. Naphthalene was above the provincial guidelines in 10 of the 12 sites. (R 27) Long Lake, as expected because it is closest to the mine, was the most affected. According to the Nordin Report Appendix table 3 the B C Guideline is set at 0.01.(R 28) At one site near the Long Lake outlet it was 0.67 which appears to us as being over six times the limit. The figure for 2004 at this site was 0.77 and one other Long Lake site was 0.94. (R 29)

The 2004 data also shows that naphthalene and phenathrene exceeded the provincial guidelines at 15 of 19 sites sampled. Exceedances in Long Lake were also found for acenapthalene, benzoganth, racene, benzo pyrene chrysene and flourener. Nordin concludes, "It seems clear that the PAH concentrations in the sediments of Long Lake are likely a consequence of the mining activity as the lake shows much higher sediment PAH concentrations than Middle Quinsam or Upper Quinsam lakes." (R 27)

In 2003 measurements above the B C Guidelines were found at a number of sites for the following metals; arsenic, iron and manganese. According to the Nordin report the metal of greatest concern was arsenic found at one site in No Name Lake and the two sites in Long Lake. Nordin specifically called attention to one site near Long Lake outlet where one of the mine's settling ponds enters, that had a value of 224 ug/s. (R 30) According to Appendix Table 5 of his report the guideline is set at 5.9/17 ug/s. (R 30) Thus it appears to us that the arsenic at this site was between 17 and 37 times higher than the guideline allows. The 2004 data is similar to the 2003 data. Nordin concludes by saying, "There is no widespread metal contamination in the Quinsam area but there are enough high values in the Long Lake area to be of concern that aquatic life might be effected. The metal of greatest concern is arsenic." (R 31)

The Benthic Invertebrate samples taken during 2003 and 2004 suggest that while there is no strong evidence that there are differences in the overall invertebrate population between the Quinsam Lakes, "the benthic invertebrate community in localized areas in or near Long Lake has been effected." (R 32)

The focus of our group regarding the Quinsam Coal Mine for the last several years has been Long Lake. The Quinsam Hatchery uses Long Lake for its coho Colonization Program and will continue to do so, "providing that environmental conditions do not put the fish at risk." (R 33) We can not understand why data that dates back to September of 2003 could not have been made available to the ETRC before the summer of 2006. We are particularly concerned about the information on arsenic described above. Indeed Nordin seems to be implying that the very high reading at the one site in Long Lake is connected to Quinsam Coal's settling pond. We received our copy of the Nordin report on July 11, 2006, from the Regional Environmental Protection Manager and wrote to him on July 13, 2006 complaining about the lateness. (R 34) He confirmed that the information had not been previously shared with the ETRC but defended the process as being, "consistent with a prudent scientific approach." (R 35)

4) **Environment Canada's failure to disclose information to the public and the ETRC regarding the, "severely stressed" benthic population found at a site close to where the Quinsam River enters the Campbell in a timely way.**

Benthic surveys were carried out by Environment Canada in September of 2001, October of 2003, September of 2004, and early fall of 2005. Writing on November 10, 2005, the senior water quality scientist indicated that at that point the 2005 data had not been analyzed but stated, "The benthic surveys that we have carried out at our site over several years have all, however, indicated that the benthic population at this site is very far removed from what we would expect and is classified as 'severely stressed' in comparison with the reference condition." and "At this time we're unable to say whether it is the mine or some other more localized influence that's impacting the bugs. The additional samples we collected this year will hopefully help clarify this but we won't have the results back on that for several months." (R 36) On April 25, 2006, our group wrote to her supervisor, Mr. Mike Hegan and indicated that we were interested in the sources of pollution that might be causing the results that Ms Ryan reported and any corrective action his ministry might be taking. We also mentioned to him that from the ETRC meeting minutes from the last several years we could find no reference to any of this information being discussed and that his office did not have a representative at the most recent meeting. On July 28, 2006, Mr. Hegan answered our letter and stated that they were still analyzing the 2005 Quinsam River water quality and benthic samples and would send us a "preliminary analysis by the end of the summer." (R37) It is now December and we have received nothing. In his letter he also stated, "The water quality monitoring office of Environment Canada is investigating why the results of the survey conducted at the Quinsam River near the mouth (B C 08 H D 0004) indicated such large departure from reference condition." This seemed to us as a strange statement to be making in late July of 2006, when the data goes back to September of 2001. Mr. Hegan further indicated that more benthic sampling would be done in the fall of 2006. It appeared to us that Environment Canada was doing sampling almost every year and not using this information to assist the ETRC.

5) **The disparity between the findings of both the Nordin report and the Environment Canada report and the Annual Water Quality monitoring and Reclamation Reports**

prepared for Quinsam Coal Corporation by Navus Environmental Consulting each year (Navus Reports)

We have reviewed the Annual Water Quality Monitoring and Reclamation Reports for the past several years. We have never seen reference to PAHs. While the most recent report does mention some elevated metals at Long Lake seep, there is no mention for arsenic. For the past many years metals at the ponds were either below permitted levels or below detection limits. We believe that it is safe to say that metals have historically not come up on the radar screen that these annual reports provide. This suggests to us that the monitoring system that has been in place for the past several years may not be sensitive enough to pick up these contaminants.

In each report we have reviewed, we have seen what we considered to be significant amounts of missing data. In January of 2003, we raised this issue with then Regional Waste Manager in Nanaimo, Mr. Lloyd Erickson. He indicated that all monitoring systems occasionally missed data and he judged Quinsam Coal's to be about average. At the time we accepted that. However in light of the fact that contaminants appear to be getting into the river system that are apparently unaccounted for, we believe that we must again raise the issue of missing data. We have included statements of the missing data from recent years. (R 38)

6) **Failure on the part of the Provincial Ministry of Environment to enforce some of the important recommendations of the ETRC.**

We mentioned the Environmental Procedures Manual in the previous section. Let us list two other situations that concerned us. At the October 2001 ETRC meeting it was agreed that Quinsam Coal would perform a pit wall wash test in their south pit to determine run off potential. This information was requested by March 31, 2002. At the October 2002 ETRC meeting this recommendation was still outstanding and was brought to the company's attention. At the October 15, 2003, meeting it still had not been completed, despite the fact that Quinsam Coal's Director of the Environment was quoted in Campbell River North Islander of August 2, 2003, as saying, "We've met all the recommendations of the Environmental Technical Review Committee". (R 39) Reference Items from the 2001, 2002, and 2003 ETRC meeting minutes are included. (R 40) In a telephone conference on April 20, 2004, the chairman of the ETRC

confirmed to the author and another CREC member, that this recommendation had still not be implemented. Our group made the matter public and the tests were finally run on June 15, and 16. 2004. The report was completed on September 28, 2004, almost 3 years after it had been agreed to. These tests found that concentrations of dissolved aluminum at one site and copper at 2 sites would exceed the B C approved water quality guidelines for fresh water aquatic life. We have been told that corrective mitigative action has now been taken. It appears to us that this action could have taken place two years earlier.

One of the recommendations of the consulting firm employed by Quinsam Coal following the spill of December 2003 was to replace the Alder trees ripped out of the ground by the escaping effluent. We thought they would be replanted that winter. Yet at a meeting with the ETRC chairman and the company on March 11, 2005 we found that they still hadn't been planted as of that date. We made the matter public and the alders were soon replanted. We have included a picture of the uprooted trees. (R 41)

7) **Lack of office efficiency on the part of the Ministry of Environment**

In December of 1999, Quinsam Coal applied for permit amendments to increase the upper pH limit of their effluent in pond # 4 from 8.0 to 8.5 and to increase the number of days that they were allowed to discharge effluent into the watershed from 180 to 365. According to the Regional Waste Manager and the chairman of the ETRC these amendments were informally granted. This was the reason given to us as to why those two aspects of their permits were not enforced or reported in their annual reports to our people. However the necessary paper work to make these amendments official was not completed until July of 2004. (Telephone message from ETRC chairman, March 2005) This means that from December 1999, to July of 2004, the company was able to exercise (and did exercise) the privilege of discharging effluent into the watershed for more days than they were paying for. Actually Quinsam Coal had been discharging effluent outside of their 180 day window for some time previous to applying for a permit amendment. According to information given to us by the Ministry of Environment the cost of a 180 day permit is $3000 per year. The cost of a 365 day permit is $7500 per year which amounts to a difference of $4500 per year. From December of 1999 to July of 2004 is at least four and one half years. This means that the lost revenue amounts to approximately $20,000 plus interest. This has to be considered either extreme inefficiency or a deliberate

government subsidy to industry at the environment's expense.

For many years our group has been concerned about sulphates originating at the mine site and escaping into the river system. The Provincial Water Quality Guidelines for Freshwater Aquatic Life specify 50 Mg/L of sulphates as the Alert level and 100 Mg/L as the, "Maximum concentration not to be exceeded at anytime". The baseline for sulphates in the River system, including Long Lake, before the mine went into operation ranged between 1 and 2 Mg/L. Sulphate levels rose significantly in the 1990's with Long Lake being the most heavily effected. According to the 2002/2003 Annual Water Quality Monitoring and Reclamation report the sulphates within Long Lake increased at all four levels sampled over the previous year and exceeded the provincial guidelines of 100 mg/l at all four levels. The average increase was 20.2%. Yet the Regional Waste Manager's report to our people of January 21, 2004, stated that the above water quality monitoring report indicated a decrease in sulphates.

On April 20, 2004, the author and another member of CREC met with the Regional Waste Manager, the staff biologist and the chairman of the ETRC in Nanaimo to discuss the above discrepancy and those previously stated in section 2. We explained that the District of Campbell River, the Comox-Strathcona Regional District and the Tyee Club of British Columbia and our group in the previous year, all specifically requested that the Regional Waste Manager report permit violations in his yearly report to our people. The three men seemed puzzled by this and so we showed them copies of the four letters. After reading them carefully all three said that they had not seen any of these letters before. These events are fairly well described in an article which appeared in the Campbell River Courier-Islander on June 2, 2004. (R 42)) Readers should note that the ETRC chairman, who appeared in front of municipal council, also reported that the 100 mg/L of sulphate was a "yellow light" so to speak. One of the councilors who had the provincial guidelines in front of him stated, "Your warning level is 50."

The three men from the Regional Waste Management Office were also confused about the sulphates statistics that we showed them in the latest Annual Water Quality and Reclamation Report. They attempted to find the statement in the report that indicated that the sulphates decreased from the previous year. They could not. Finally they said that they would get back to us. A few days later the chairman of the ETRC telephoned the author, apologized and said that at the time he wrote the newspaper article for our people he was looking at the wrong report.

Our group was aware that the Waste Management Branch had done sampling in Long Lake as far back as 2003, and we had been trying to get some kind of a report. So were members

of the ETRC. Finally we were informed by the chairman of the ETRC in a meeting at the Campbell River City Hall on March 11, 2005, that the study had been completed, the report had been written but was still in the process of being "vetted". On April 28, 2005 we wrote to him and asked for a draft of the report. He replied to our letter on September 1, 2005, and much to our surprise stated that, "on going biological monitoring conducted by MOE in the vicinity of the Quinsam Coal Mine site is not yet complete." (R21) When we called attention to the discrepancy between his two statements at a meeting on May 10, 2006, he admitted his error and stated that he had the Quinsam Water Quality report confused with another report. Evidently the ministry took the data that they had gathered in September of 2003 and September of 2004 and sent it to Dr. Rick Nordin of the University of Victoria and commissioned him to write the report. Our question is when did they send the data to him? His report does not contain any data taken after September of 2004. What happened to the, "on going biological monitoring being conducted by MOE", that was not complete in September of 2005? Assuming that the 2003 and 2004 data were promptly made available to Dr. Nordin why was the report not completed until July of 2006?

On April 28, 2005, we wrote to the chairman of the ETRC and asked a number of questions regarding the spill of December 2003. Among other things we asked for a copy of the warning letter sent to the company. As we received no reply in two months we appealed to the City of Campbell River, the Comox-Strathcona Regional District, our North Island MLA and the B C Pacific Salmon Forum. All three of these local government representatives, as well as the Pacific Salmon Forum, wrote to the ETRC chairman asking him to please answer our April 28, letter. (R 43) In mid August we still had not received a reply, so we wrote to Environment Minister Penner with copies of of the above mentioned letters enclosed, and asked him to request that the chairman reply to our April letter. On September 1, 2005 the chairman finally replied to our letter. As his reply contained information that we considered uncomplimentary to both the company and the ministry it appeared to us that the delay may have been an attempt by some one to keep this information from us.

According to the minutes of the annual meeting of the ETRC of November 15, 2005, the committee decided to hold what they described as a, "public meeting" to review the latest annual water quality report published in August of 2005. CREC was to be invited. The ETRC chairman agreed, "to arrange a meeting early in the New Year." (R 44) Spring rolled around and no meeting had been called, so on April 20, 2006 we wrote to the Regional Waste Manager

bringing this to his attention. A meeting on very short notice was called for May 10, 2006. At this meeting we found ourselves asking questions about an ETRC meeting that took place approximately six months earlier. This ETRC meeting was to discuss the Annual Water Quality Report that was published approximately three months earlier than the ETRC meeting. Within 3 months the next report would be released. We believe that we were being denied information long enough so that there was no way that we could respond to it in an effective way.

The ETRC chairman gave several reasons for the delay in scheduling the meeting, two of which were: "the need to respond to a number of inquiries to political representatives as a result of letters sent by CREC." (We saw no alternative.) and, "assistance I had hoped to get from our administrative support staff was not forthcoming." (R 45) We believe this last statement needs to be explored further.

8) **Lack of continuity between the Quinsam Coal Inquiry Report of 1983 and some of the procedures that followed.**

The Quinsam Coal Mine was a very controversial issue in Campbell River and elsewhere in the early 1980's. As a result the provincial government sponsored an inquiry into the project. The purpose of the inquiry was to identify the environmental impacts of the mine and identify measures for avoiding and mitigating these impacts. The inquiry took place in Campbell River from October 12 to November 25, 1983, meeting almost every work day. The cost of the inquiry was estimated to be between $500,000 and $600,000. The inquiry included the company, government agencies, the District of Campbell River, The Comox-Strathcona Regional District, environmental groups and interested individuals. All testimony was given under oath.

The inquiry report indicated that the Quinsam River System had the characteristics of a, "virtually undisturbed natural environment" but was "very sensitive to environmental damage." (R 47) The system also sustained a vigorous and valuable fishery both in the river system itself and in the surrounding salt waters of the Campbell River area. "The protection of this fishery and the protection of the pristine environment of the Quinsam system are extremely important to both economic and recreational well being of the people of Campbell River." Stated the inquiry report. (R 46) However it was decided that the mine could operate without damage to the environment provided proper care and attention was demonstrated by both the company and government control agencies. This proper care and attention needed to include, "adequate

contingency measures for any emergency or unforeseen event." (R 47) CREC believes that this principal has been compromised by both the company and the Ministry of Environment. The inquiry report also indicated that environmental damage could be avoided, "provided the recommendations of the commission are followed." (R 48)

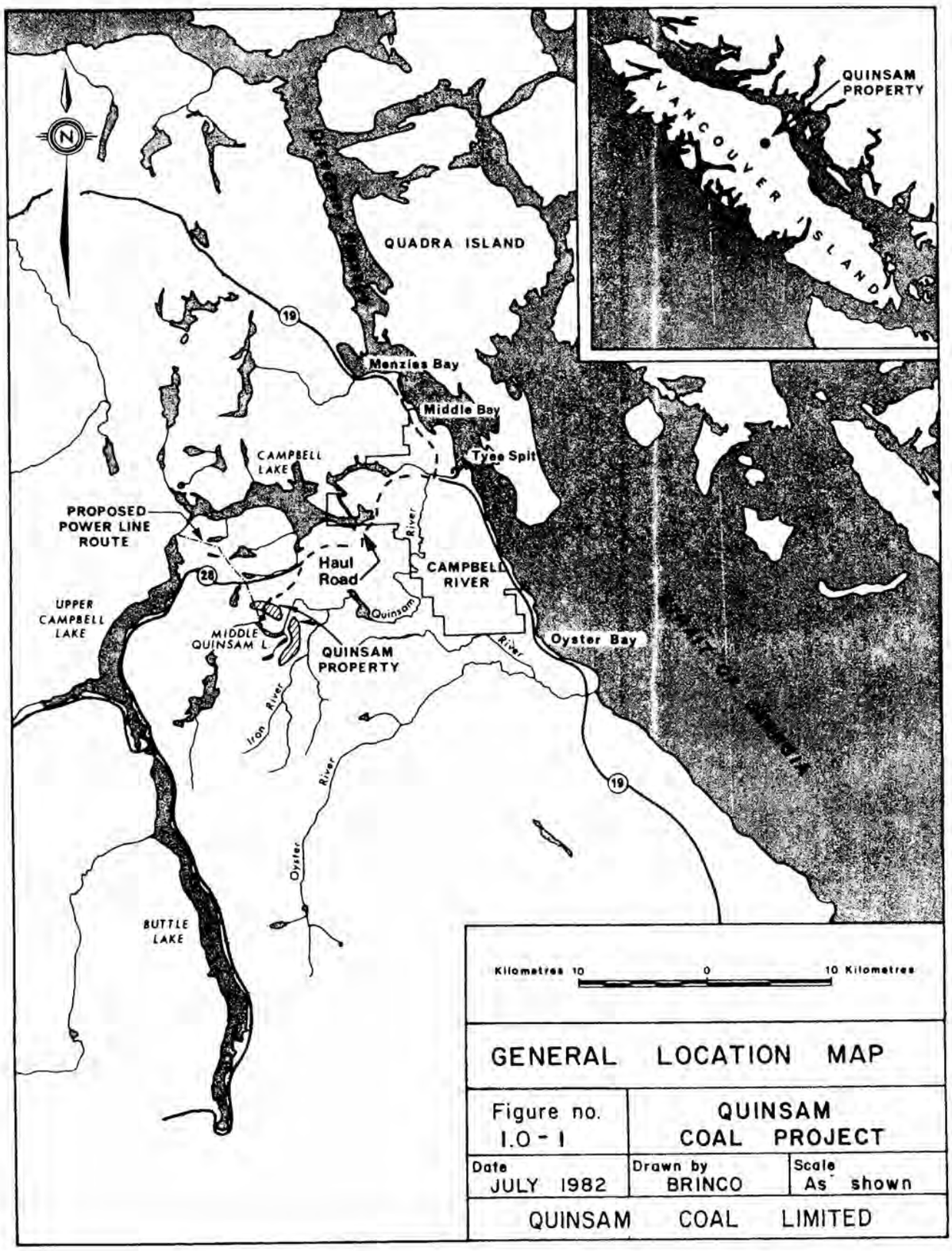
At the inquiry the company explained their coal haulage route. The company proposed, and the Department of Highways agreed, that, "the only feasible" route was from the mine site along the Argonaut road to Highway 28, east along Highway 28 and then north across a logging bridge (a short ways west of Campbellton Elementary School) and then along a logging road north to Highway 19 and then along Highway 19 to Middle Bay." (R 55) This route is marked clearly on the general location map labled Appendix A. It was further recommended that trucks be washed and covered to eliminate the possibility of fugitive coal dust along the haul route. (R 49) When the company started mining, however, the reality was different. The coal trucks came all the way down to the junction of Highways 28 and 19 in Campbellton. The trucks were not covered. We observed tennis ball size coal chunks at various places along the route, with the junction of the two highways for some reason a catchment area. As early as October 1987, the author wrote to the regional waste manager and complained both about the haul route and the fact that the trucks were not covered. (R50) The Regional Waste Manager replied that he had asked the company to cover their trucks, but that his ministry did not specify, "haul roads used in waste management permits." (R 51) The problem with noise and coal spillage continued. Finally in December of 1992 our mayor, Mary Ashley, wrote to Mr. E. W. Beresford, chairman, Vancouver Island Mine Development Review committee and stated, "I have personally observed the spillage which is unacceptable to our community in view of the environmental standards set during the Quinsam Coal Hearings." and, "The route to Middle point was originally approved as an off highway route and should be adhered to by the drivers." (R 52) To this day the Quinsam Coal trucks still use the through town route and avoid the logging road to Middle Bay.

One of the statements made in the Federal governments presentation at the inquiry was, "Most important is the successful implementation of a water management plan by the proper construction of facilities, diligent attention to maintenance and monitoring and rapid modification of plan and facilities if dictated by actual site conditions and mining practices." When the mine first started operating effluent discharge volumes from the settling ponds were very low and far below permitted levels. As time went on however, this situation began to change. As the company was having trouble keeping the mine dry to protect the miners, they pumped the water

out and as a result found themselves frequently discharging in excess of their permits. This problem extends back many years and in 1999 the company attempted to partially resolve this problem by applying for a permit change which would allow them to discharge 12 months a year rather than 6, which is described elsewhere in this report. Although this permit change was granted the company is still having trouble managing its water, and staying within its permits. (According to the latest Annual Water Quality Monitoring Report, August, 2006, at settling pond 4 there were 6 exceedances of the permitted maximum daily flow and 131 exceedances of the permitted average flow.) (R 53) At the previously mentioned May 10, 2006 meeting the ETRC chairman indicated that there were two ways that Quinsam Coal could avoid these permit violations: 1)modifying the permit, or 2) developing a different water management plan. The Quinsam Coal Environmental Coordinator selected number 1 and said that he would be applying for yet another change in permits. The "rapid modification of plan and facilities," discussed at the inquiry seems to have gotten lost somewhere.

One of the specific recommendations of the Quinsam Coal Inquiry Commission was that, "pond effluent should be monitored on a continuous basis to ensure that pH is not less than 6.0 or greater then 8.0." (R 54) Yet we know that Quinsam Coal was brought into compliance regarding their pH permit for pond number 4 by raising their permit from 8.0 to 8.5. At the May 10, 2006, meeting the author took in the Quinsam Inquiry Report and read sections from it. He then asked the Quinsam Coal Environmental Coordinator if he had ever seen a copy of the report. His response was that he had not. The author was shocked! How could the Environmental Coordinator be unfamiliar with the inquiry report when the entire Quinsam Coal Project is supposedly built around it? The ETRC chairman quickly stated that the mine is now controlled by permit regulations. We don't agree. We have yet to see how the permit regulations, regulate. We also believe that the Quinsam Coal Inquiry Report contains a wealth of specific scientific information germane to protecting the river system, as well as commitments made by the company.

It is our opinion that the Quinsam Coal Inquiry Report needs to be used as a reference document by all people involved in the management of the Quinsam Coal Project.


QUINSAM PROPERTY
VANCOUVER ISLAND
QUADRA ISLAND
Menzies Bay
Middle Bay
Tyee Spit
CAMPBELL LAKE
PROPOSED POWER LINE ROUTE
Haul Road
CAMPBELL RIVER
Quinsam River
UPPER CAMPBELL LAKE
MIDDLE QUINSAM L
QUINSAM PROPERTY
Oyster Bay
Strait of Georgia
Iron River
Oyster River
BUTTLE LAKE
19
28
Kilometres 10 0 10 Kilometres
GENERAL LOCATION MAP
Figure no. 1.0 - 1
QUINSAM COAL PROJECT
Date JULY 1982
Drawn by BRINCO
Scale As shown
QUINSAM COAL LIMITED

1. INTRODUCTION AND BACKGROUND

In the early 1980's, Quinsam Coal Corporation proposed a coal mining operation to extract thermal coal in the Quinsam watershed southwest of the City of Campbell River (Figure 1). They received approval-in-principle from the Environment and Land Use Committee in February 1983 and a Public Inquiry into the Quinsam Coal Project was held in October and November 1983. The Inquiry Commission reported to the Minister of Environment and concluded that they felt that the Quinsam River and its watershed were very sensitive to environmental damage. Regardless, mining began in 1986.

The mine property and the mining activities are adjacent to Middle Quinsam Lake, Long Lake, No Name Lake and the Quinsam River. The mine operations have included two underground workings, several open pit operations and a coal processing area. At present, only the underground workings located near Middle Quinsam Lake are being mined. Both groundwater and surface water originating from the mine site are directed to settling ponds to remove settleable solids prior to being discharged to Long and Middle Quinsam Lakes (Taekema 2002).

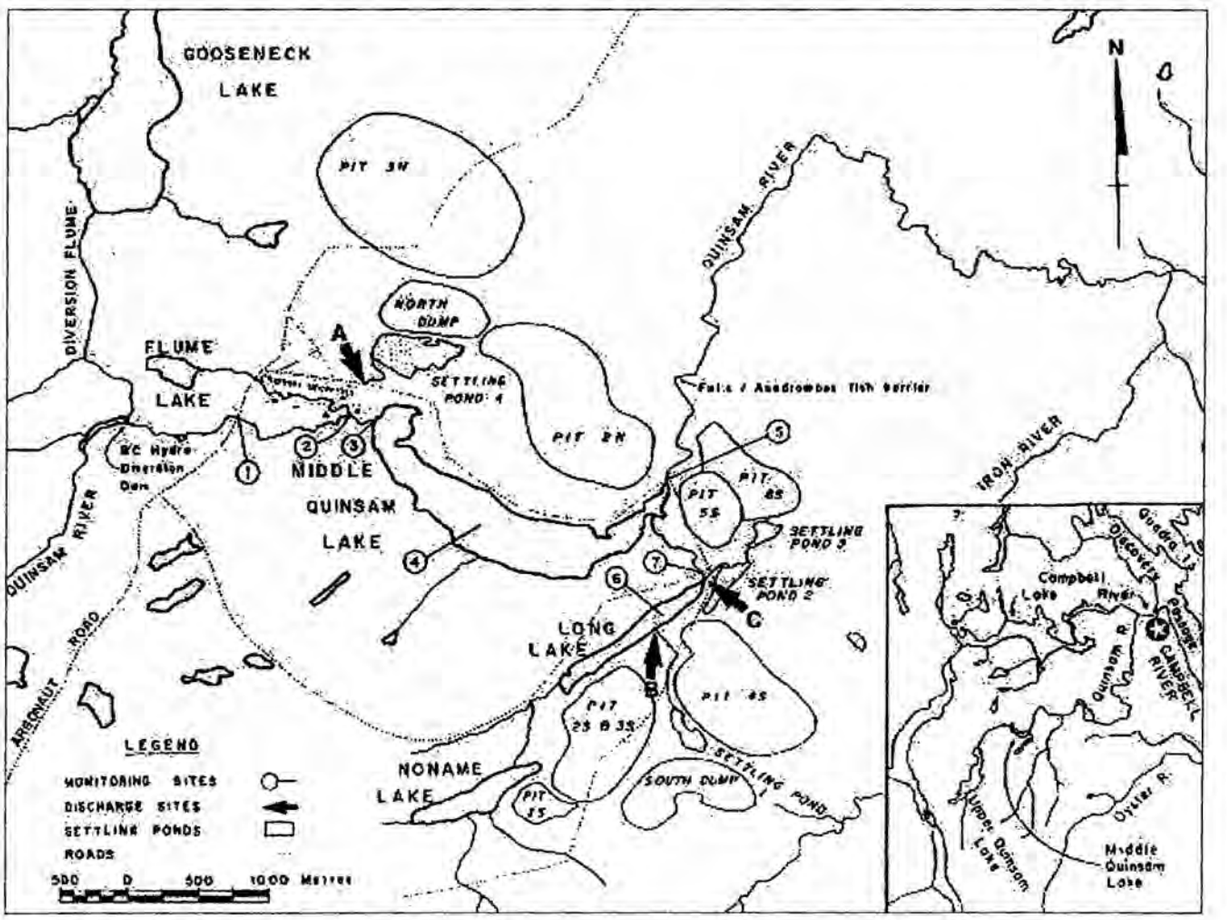


Figure 1 Quinsam study area showing mining areas and lakes (from Kangasniemi 1989)

The Ministry of Environment carried out extensive sampling prior to the mine starting up and

R 1

City of Campbell River
From the Office of the Mayor

0510-20/QCOA

November 10th, 2005

Honourable Barry Penner
Minister of Environment
PO Box 9047, Stn. Prov. Govt.
Room 112, Parliament Buildings
Victoria BC V8W 9E2

Dear Minister Penner:

Re: Quinsam Coal Environmental Permit

Over a period of several years, the City has been made aware of ongoing water quality concerns relating to the Quinsam River in the vicinity of the Quinsam Coal Corporation (QCC) mine site. It is my understanding that your Ministry has requested that QCC comply with their environmental permit (PE-17181), but that despite this request, violations of the environmental permit continue.

We have been assured of the Ministry's commitment to protect the Quinsam River watershed and to take appropriate actions to ensure the Quinsam River water quality is maintained. We are, however, again requesting your assurance that the terms and conditions of QCC's environmental permit are complied with.

To assist with our monitoring of the Quinsam River water quality issues, we would also propose to expand the membership of the Quinsam Coal Environmental & Technical Review Committee (QCETRC) to include public representation. City Council would be pleased to assist in offering a list of potential candidates.

Thank you for your attention to this matter.

Yours truly,

Mr. Lynn D. Nash
MAYOR

Copies to: Randy Alexander - Vancouver Island Region Environmental Protection Manager
Campbell River Environmental Council

K:\Mayor and Council\Conf Mayor\letters\Penner (Min Environ) re Quinsam Coal Env Permit.doc
301 St. Ann's Road, Campbell River, B.C. V9W 4C7 Phone (250) 286-5700 Fax (250) 286-5760

THE COMMITTEE REVIEWED:

R 2 DRAFT

- Northern Communities Emergency Planning
- Delegation and Purchasing Authority Bylaw
- Campbell River Environmental Council (CREC)
- Coastal Community Network

THE COMMITTEE RECOMMENDS:

1) THAT the Regional District of Comox-Strathcona request that the Ministry of Environment respond to the questions posed by the Campbell River Environmental Council (CREC); AND FURTHER THAT Item No. 6 of CREC's request to the Ministry be modified to include that all meetings follow the guidelines of the Community Charter with respect to public access; AND FURTHER THAT the correspondence be copied to the North Island MLA's and Quinsam Coal.

2) THAT the Regional District of Comox-Strathcona Delegation of Purchasing Authority Bylaw No. 2793, 2005, including the Purchasing Management Services policy be forwarded to the Board for adoption.

BRITISH COLUMBIA

R 3

VANCOUVER 2010

Reference: 86113

FE 02 2005

Jim Abram, Chair, and Directors
Comox Strathcona Regional District
600 Comox Rd
Courtenay BC V9N 3P6

Dear Chair Abram and Directors:

Thank you for your letter regarding the board's request for representation on the Environmental Technical Review Committee (ETRC) which reviews the operations and monitoring of the Quinsam Coal Corporation operations in the area of Middle Quinsam Lake approximately 27 kilometer south west of Campbell River. I apologize for the delay in responding.

The ETRC was established at the recommendation of the Commission convened to conduct the Public Inquiry into the Quinsam Coal Project (1983). The Commission noted that the Review Committee "be composed of technical representatives each from the federal Fisheries and Oceans and the Environmental Protection Service, the Provincial Government's Ministry of Environment (MOE), and Ministry of Energy, Mines and Petroleum Resources, the City of Campbell River and the company". The purpose of the ETRC was noted by the Commission as "coordinating and reviewing the construction and operational monitoring results" with the results of their review reported to the Regional Director of MOE. The Commission also directed that the ETRC prepare an annual review and make available to the public.

The intent of the ETRC is to provide technical recommendations to the Regional Director of MOE regarding the monitoring of activities at and around the mine so that the Regional Director can revise the operation's monitoring requirements as allowed for under the Province's applicable environmental legislation. This committee includes local municipal government technical representation who have in the past, brought forward the concerns of local community groups. If the Comox Strathcona Regional District has concerns regarding the monitoring requirements associated with the mine, I would suggest they advise MOE or any other member of the ETRC and the issues will be considered.

.../2

Ministry of Environment
Office of the
Assistant Deputy Minister
Environmental Protection Division
Mailing Address:
PO Box 9339 Stn Prov Govt
Victoria BC V8W 9M1
Telephone: (250) 387-1288
Facsimile: (250) 387-5669
Location:
5th Floor, 2975 Jutland Road
Victoria BC

REGIONAL DISTRICT of
Comox-Strathcona

From the office of the
CHAIR OF THE BOARD

R 3

November 2, 2005

File: 0410-20/Environment

The Honourable Barry Penner
Minister of Environment
P.O. Box 9047
STN PROV GOVT
Victoria, BC V8W 9E2

Dear Minister Penner:

RE: Quinsam River System Environmental & Technical Review Committee Membership

The following motion was made at the October 24, 2005 Regional District of Comox-Strathcona board meeting:

THAT a letter be written to the Minister of Environment to point out that the problems of pollution of a river system go beyond municipal boundaries, and are in fact, of concern to our Regional District of Comox-Strathcona, and therefore the Environmental and Technical Review Committee (ETRC) membership for the Quinsam River System should be expanded to include regional representation;

This letter and the request to expand the ETRC membership to include regional representation are being copied to Mr. Hubert Bunce, Vancouver Island Region Environmental Protection Officer. This is an important matter for our board of directors and we look forward to your response.

Sincerely,

Jim Abram
Chair of the Board

cc: Hubert Bunce, Environmental Protection Officer
S. Goodrich & Gord McLaughlin, Campbell River Environmental Committee
District of Campbell River Council
Claire Trevena, MLA, North Island
BC Pacific Salmon Forum, Nanaimo
Dave Selent, Quinsam Coal Corporation, Campbell River
John Deniseger, Ministry of Environment, Nanaimo
Kim Bellefontaine, Ministry of Energy and Mines, Victoria
Mike Hagen, Environment Canada, Vancouver
Stan Hagen, MLA, Comox Valley
Department of Fisheries and Oceans, Quinsam River Hatchery, Campbell River
Environmental Coordinator, District of Campbell River, Campbell River

600 Comox Road, Courtenay, B.C. V9N 3P6
Telephone (250) 334-6000 • Fax No. (250) 334-4358
TOLL FREE IN AREA CODE (250) 1-800-331-6007
www.rdcs.bc.ca

receiving environment sensitivity.

D Ewart and D Simpson suggested that the ministry provide direct contact to Stan Goodrich of the Campbell River Environmental Committee regarding the findings of the ETRC and progress and overview of the meeting. Action Item HB to contact Stan Goodrich regarding the findings of this ETRC meeting. #4

Action Item HB to provide copy of Trevor Davies paper on provincial sulphate criteria to Mike Hagen.

Action Item HB and KB to provide specific comments on the annual report directly to DS.

4. Recommendations

Maintain sampling program as previously recommended

QCC to provide a report on the estimated sulphate loadings to Long Lake from the Long Lake seep.

Ensure that 3S pit wall wash monitoring is completed and reported See prior notes

Add monitoring and reporting of 6 new pilot sulphate treatment cells for input and output sulphate levels and flow rates.

QCC to ensure it includes a QA/QC program as part of their sampling program. The cost of this program should represent approximately 10% of their sampling budget.

Meeting Adjourned at 2:30 pm

Mine Monitoring Issues

HB noted the elevated level of concern in Campbell River community regarding Quinsam Coal's potential impact on the Quinsam River Watershed. The Campbell River Environmental Committee have written a number of letters to the ministry and various levels of government regarding environmental issues and the mine in the last year, and there have been a number of related articles in local newspapers.

JE suggested the possibility of holding the ETRC meeting in public to help resolve some of the public's concerns regarding the mine operations and possible environmental impacts. He noted that this had been done at a number of other mine sites around the province.

DE noted local community concern that Middle Quinsam and Long Lake are dead. DE noted that this was not the case as they have found Coho in the watershed and continue to stock the system. (This is further confirmed by observations and sampling of MWLAP environmental quality staff.)

DE noted that river turbidity had been high in Campbell River during recent rain fall events. He asked if this had been the case at the mine site. Rom noted that the outlet of Middle Quinsam Lake had been clear lately. DE wondered if maybe there had been a slide or significant erosion downstream of Middle Quinsam Lake. It was also noted that there has been greater than normal logging activity in the watershed in advance of an increase in stumpage due at the end of the year. This logging activity may be contributing to turbidity.

DE noted that he would like to get any information JD may have collected and any reports written on the biological health of the watershed. **Action Item JD to provide provincial sampling data to DE.**

DE noted that sulphate levels at the hatchery are still good.

During introductions Jenifer Brunn (Drinking water quality specialist with the District of Campbell River) noted she was sitting in for Mike Roth.

Jeff Fillipone noted that Golder and Associates have been involved with the geo tech work on the QCC tailings impoundment and with the recent rebuild of the settling pond #4 dam.

KB noted that monthly sampling (for all parameters) of the waste rock remediation test pad cell runoff would be more than adequate. QCC is currently sampling these weekly. JF indicated a report assessing the findings regarding the test pad cell leachate will be provided in the near future. **Action Item: JF to provide report on test pad leachate.**

HB noted that adherence to monitoring schedule by QCC is generally good with the exception of the Long Lake Seep winter monitoring.

6. There was a discussion regarding past amendments to permit limits that were related to economic issues (period of discharge) and changes in mining activity and the subsequent related permit amendments. It was noted again that the amendment were subject to referral to all other agencies and a complete reviewed to determine any potential environmental impact prior to amending the permit.

There was discussion about whether the ETRC meeting should include public representatives. HB noted that the Inquiry had defined the members of the ETRC and that its role was that of providing technical advice based on monitoring results. SG again raised the issue that the ETRC should meet twice per annum. HB noted that that had been the case in the past but attendance at two meetings a year had proven difficult and as a result a single meeting was now utilised. KC suggested that maybe the City could invite a member of the public to sit as an observer at ETRC meetings. **HB noted that this request would be considered and a response provided.** HB noted that he personally felt that the current process was providing an appropriate and efficient method for both the technical and public review and input to occur.

DE noted that he found this meeting particularly useful.

The continued vigilance of CREC and in particular SG in relation to issues related to the Quinsam Coal Mine was applauded by NL. HB agreed that the work of CREC played a critical role in helping to protect the Quinsam and Campbell River watersheds.

8. Other Issues

GS raised a number of additional questions.

1) Questioned the findings reported in the annual report relative to high metals numbers and low pH from 4S rock. It was noted that this was information relative to test pad work and that the material was deposited sub-aqueously to treat the type of discharge found at the test pad.
2) Asked if the sulphate reports required had been submitted. HB noted the sulphate balance report requested had yet to be submitted. Golder is currently working on it but and the other 2 reports had be submitted. **Dave Selent agree to supply Golder's 2005 Sulphate Assessment report to CREC.**
3) Env Protection manual submitted by QCC as required. GS asked if annual review by the permit every March had been completed. I noted it had not as I was still reviewing the latest document and awaiting additional information from other coal mine operations for comparison.

DE reported out on fish population issues and health.

DE noted the hatchery currently stocks Long Lake with 12500 fry, Middle Quinsam and Lower Quinsam with 50000 fry each. He notes that late summer low flows are a limiting factor for fish in the last few years but the hatchery had developed a low flow channel on a portion of the Quinsam River which helped to rectify this issue.

The environmental monitoring programs for all phases of the Quinsam Coal Project are subject to change, based on continuing review.

Further, a review of the acid generation report by Sturm Environmental Services confirms the need for operational and post-operational groundwater quality and level-fluctuation monitoring in conjunction with the disposal of materials which are potentially acid-generating. Details of this monitoring to be prescribed by this Ministry include:

- special purpose
- number and location of sample sites
- sampling frequency during baseline and subsequent phases of monitoring.

The Ministry proposes to set up an operational monitoring committee to establish the monitoring program required for various permits and licences. This committee would be chaired by the Waste Management Branch and include regional staff from the Ministry plus representatives from the Departments of Fisheries and Oceans, (Canada) and Environment (Canada), and the Provincial Ministry of Energy, Mines and Petroleum Resources. The committee would publish the results of its proposed program, which would be subject to the normal public review process prior to its finalization. During the operation of the mine, an environmental review committee should be established, reporting to the Regional Director of the Ministry of Environment in Nanaimo. This committee would review the results of the environmental monitoring program and publish these on a regular basis. From this Ministry's viewpoint, its regulatory requirements could be met through a membership consisting of regional staff and representatives from Department of Fisheries and Oceans, Environment Canada, Ministry of Energy, Mines and Petroleum Resources, and the Company. The Ministry is not opposed to the inclusion of non-government persons on this review committee, but leaves the recommendation of such membership to the Commission.

The main objective of the surveillance and supervision program is to ensure that the project is implemented through to its completion in compliance with prescribed environmental specifications. This program entails overseeing the planning, construction, operation and

R 8

January 8, 1993

File: 206-20

VANCOUVER ISLAND MINE DEVELOPMENT REVIEW COMMITTEE

Attendees:

Eric Beresford	MEMPR, Nanaimo	Chairman
Wayne White	Environ. Protection	Campbell River
Lloyd Erickson	Environ, Parks	Nanaimo
John Brenner	MEMPR	Victoria
Barry Lawley	D.F.O.	Nanaimo
Wayne Knapp	D.F.O.	Vancouver
Benoit Godin	Envir. Canada	North Vancouver
Arnis Dambergs	MELP-Water Mgmt	Nanaimo
Ron Bollans	M.O.E.	Nanaimo
Rik Simmons	B.C. Parks	Parksville
Allan Morrison	M.O.E.L.P.	Nanaimo
Mike Hagen	D.O.E.	Vancouver
Peri Mehling	Envir. Canada	Vancouver
Norm Ringstad	MDRP/MEMPR	Victoria
Bob Bone	MEMPR	Nanaimo
Don Smith	MOTH	Nanaimo
Ted Oldham	M.O.E.	Nanaimo
Steve Gardner	Quinsam Coal Mine Mgr.	Campbell River
Jack Cann	Quinsam Coal Env. Mgr.	Campbell River

Apologies for Absence:

Greg Jones	B.C. Env.	Nanaimo
Bill Price	MEMPR	Victoria
Don McIver	Envir. Council	Campbell River
Ken Mathews	M.O.F.	Port Alberni

MINUTES OF THE MEETING: Dec. 16th 1992.

Quinsam Coal Review:

- Approximately 0.5 million tonnes of coal produced and sold in 1992, open-pit and U/G. Development of the U/G mine continues for the long term future of the operation but the open-pit is very important for cash flow and needed for the economic viability of the mine Requirement for 1993 is 200,000 to 250,000 tonnes from the open-pit out of a planned production of 500,000-650,000 tonnes of clean coal, or up to 800,000 tonnes of run-of-mine.

- The 10 year U/G mine plan application is under review with the provision of a new adit. The 2 Sth. pit has some 80,000 tonnes remaining and design work is underway to develop the original open-pit application area. Drilling has been carried out to define coal reserves. The tailings disposal area in the 2 Nth open-pit area may not be sufficient to hold all the tailings over the life of the mine.

Middle Point Barge Load-out

Stage I plans are for a covered stockpile area and load-out conveyor to the barge. These improvements would require an investment of 2.5 to 3.0 million dollars. Stage I would require dredging Middle Point load-out to receive Panamax vessels.

Truck Haul Route

The present coal haul route from the mine to Middle Point does not use the logging road cut-off from Highway 28 to Highway 19, for the following reasons:

1. The logging road is a private road owned by Fletcher Challenge and is poorly maintained and single lane width in parts.

2. There is a section of road grade of 10 to 12% and a 90° curve immediately off a wooden deck bridge.

3. The wood deck on the bridge is slippery and dangerous in winter.

4. Trucks have to turn left off Hwy 28 over a double yellow highway centre line on a bend in the road.

5. The hauling is carried out by independent contractors with a truck and pup combination of 26.17 tonnes gross weight which is a legal load and can therefore use the public highway.

6. The intersection of Hwy 28 and 19 in Campbell River had a left turn signal light installed 3 years ago which makes for a higher degree of safety for trucks turning.

7. The haulage contractors complained of the safety aspects of using the logging road after trying the route for 6 months after start-up and reverted to the public highway.

8. At the Environmental Hearing in 1985, it was proposed to use 40 ton B-train type trucks but these were never put on the haul.

Trucking to Courtenay

A recent trial shipment of special coal to the U.S.A. required a truck haul to the railway at Courtenay. This order was completed but due to specification problems it does not look as if this will be repeated.

The Committee discussed the recent complaint from the Mayor of Campbell River and the C.R. Environmental Committee regarding coal spillage and mud on Hwy 28 and the impact of increasing coal truck traffic to Middle Point. It was recommended that Quinsam Coal engage in a public relations exercise to explain the reasons for use of Hwy 28 over the logging connector road and to better deal with public complaints as they arise.

It was also suggested that some paving at the entrance to Hwy 28 or a truck wheel washing bay should be examined to prevent mud being carried onto the highway.

In addition, a traffic monitoring study be implemented to assess coal truck haul use and impact on the highway.

A discussion was also held on the prevention of siltation from leaving the internal haul road section between the North and South pits.

Some catchment basins had been constructed to settle out siltation off the road but the company was advised to address this road issue and the bridge.

The Chairman to write to Quinsam Coal requesting a written up-date report be submitted to cover the areas discussed

E. W. Beresford, P. Eng.,
Chairman,
Vancouver Island MDRC

EWB\tb

cc: G. McKillop, Asst. Director, Environmental Impact
N. Ringstad, Manager, Mine Dev. Assess. Branch

write for more explanation
complaints about traffic
public detail etc

Further to the issues raised in your June 3, 2004, letter to the Mayor and Council I provide the following:

1) Upon completion of the ongoing study of the options for mitigating sulphate impacts implementation of the appropriate actions will be undertaken.

2)Quinsam Coal Corp. provided a report on the acid rock drainage potential of the 3 South Pit wall on May 25, 2004, and has completed the requested 3-South Pit wall wash sampling.

3) The investigation into the spill this past winter has been completed by the Conservation Officer Service and Quinsam Coal Corp. has been advised of the findings.

4) The Regional Waste Manager will continue to consider the recommendations of the ETRC and ensure they are implemented in accordance with the ministry's priorities.

5) The Regional Waste Manager will continue to ensure, through a variety of means, that the terms and conditions of Quinsam Coal Corp.'s *Waste Management Act* permits are complied with.

6) The Regional Waste Manager shall continue to make available to the public an annual report that interprets the operational monitoring results as suggested by the 1983 Public Inquiry.

7) The Regional Waste Manager shall make every effort to ensure the minutes of ETRC meetings are completed in a timely fashion.

Further to your request at our April meeting, I have included a copy of the summary the sulphate pilot treatment test cell results provided by the permittee in the fall of 2003.

Thank you for your review of the Environmental Technical Review Committee's public notice and your interest in protecting the Quinsam River watershed.

Yours truly,

Hubert Bunce
A/Section Head Business and Standards Section
Environmental Protection
Vancouver Island Region

cc: Mayor and Council of the District of Campbell River
Quinsam Coal Corporation

Enclosure

From: "Jennifer Brunn" <Jennifer.Brunn@campbellriver.ca>
Subject: **FW: Minutes from the last Annual Quinsam Coal Meeting**
Date: April 4, 2006 9:58:49 AM PDT
To: <goodrich@oberon.ark.com>
1 Attachment, 53.0 KB

-----Original Message-----
From: Jennifer Brunn
Sent: Monday, April 03, 2006 1:57 PM
To: 'goodrich@oberon.com'
Cc: Derek Richmond
Subject: FW: Minutes from the last Annual Quinsam Coal Meeting

Stan,

I hope this helps. Looks like Hubert will be organizing a public meeting to review. I will make sure you are kept informed.

Jennifer Brunn

-----Original Message-----
From: Bunce, Hubert ENV:EX [mailto:Hubert.Bunce@gov.bc.ca]
Sent: Monday, April 03, 2006 1:25 PM
To: Jennifer Brunn
Cc: Selent Dave (Selent, Dave)
Subject: RE: Minutes from the last Annual Quinsam Coal Meeting

Hi Jennifer

in Mike's absence I wasn't sure who to forward the minutes to at the City, (a coop student named Kim attended the meeting). Are you taking over this file permanently? In talking to Mike he indicated that maybe the city would be hiring someone to replace him. Please feel free to look over the minutes attached. I'd be interested in any comments you may have.

I would like to set up a public meeting to review the ETRC meeting minutes and public notice info with yourselves, QCC, CREC and the CSRD and possibly any other interested parties. In the past Mike had provided a meeting room for this get together. Might this be possible again? I would hope to fit this meeting in sometime later this month.

Hubert Bunce
Senior Environmental Protection Officer
Vancouver Island Region
ph (250) 751-3254
fax (250) 751-3103
email Hubert.Bunce@gov.bc.ca
2080A Labieux Road
Nanaimo BC V9T 6J9

From: Jennifer Brunn [mailto:Jennifer.Brunn@campbellriver.ca]
Sent: Mon, April 3, 2006 12:42 PM
To: Bunce, Hubert ENV:EX
Subject: Minutes from the last Annual Quinsam Coal Meeting

R 11

MEETING MINUTES

Subject: Environmental Technical Review Committee Meeting

Date: November 24, 2004

File: PE-07008

Location: Quinsam Coal Mine Site Office, near Campbell River

Time: 10:30 am

Attendees:		
	Paul Krivokuca	Quinsam Coal Corp., Campbell River (until 11:30).
	Dave Selent	Quinsam Coal Corp., Campbell River
	Rom Santos	Quinsam Coal Corp., Campbell River
	Jeffrey Fillipone	Golder Associates, Victoria
	Stevii Greschuk	Navus Environmental Consulting, Campbell River
	Kim Bellefontaine	Mining Division, MEM, Victoria
	John Errington	Mining Division, MEM, Victoria
	Jennifer Brunn	District of Campbell River
	Mike Hagen	Environment Canada, Vancouver
	Dave Ewart	Quinsam Hatchery, DFO, Campbell River
	Hubert Bunce	Business and Standards Section, MWLAP, Nanaimo

Purpose: To review the Quinsam Coal Corp. 2003 Annual Monitoring Report for completeness, identify issues and potential changes to the monitoring program and agree on recommendations to be made to the Regional Waste Manager.

Introduction

Update on Mine Activity

Paul Krivokuca provided an update on the mine and Quinsam Coal Corp. (QCC) future plans. Coal market is very robust. Metallurgical coal price has doubled or tripled in recent months. There is currently a lot of interest in their thermal coal. QCC have doubled staff levels from 45 to over 80 (payroll of over $5,000,000/a) which includes 7 shifts of four miners each (of a maximum of 12 possible shifts). The mine held a job fair this spring and hired a number of new young miners (apprentices) to supplement their experienced underground staff. They have a contract with the United Steel workers good through 2007. They produced 300,000 tonnes in 2004 and expect to ramp up to 500,000 tonnes in 2005. All their coal is committed through 2005. They would like to get to 750,000 t/yr production level. 350,000 tonnes is sold through long term contracts with cement

R 12

Campbell River Environmental Council

112 So. McCarthy Street
Campbell River, B. C. V9W 5P8

February 7, 2003

COPY

Mr. L. J. Erickson
Ministry of Water, Land and Air Protection
2080A Labieux Road
Nanaimo BC V9T 6J9

Dear Mr. Erickson,

Re: Quinsam Coal Corporation Environmental Technical Review Committee Report, Nov. 2002

We have recently written to you regarding our concerns about the impact that the Quinsam Coal project is having on the Campbell/Quinsam River system especially Long Lake. We are also concerned about the nature of the report that your office filed in our local newspapers on December 11, 2002. This report was intended to summarize the 2001/02 Annual Water Quality and Reclamation Report on the Quinsam Coal Project and the work of the Environmental Technical Review Committee,(ETRC) which reviews it and monitors the Quinsam Coal operation. Your summary indicated that the reporting period was from April 2001, to March 2002, the composition of the committee, the tons of coal produced, and where interested readers could find the full report. It also indicated that some "receiving environment" results exceeded the provincial criteria for sulphates and that while acceptable sulphate levels were "occasionally" exceeded at or near the mine site, water quality in the Quinsam River remained good.

Our first objection is to the vagueness of the term "receiving environment." In personal conversation with you, you have indicated that "receiving environment" refers to Long Lake. Long Lake, which is a part of the Quinsam River, is very important to the people of Campbell River because the Quinsam Hatchery uses it for their Coho colonization program. We are requesting that in the future your office refer to Long Lake as Long Lake. We also question your use of the word "occasionally." The provincial criteria to which you refer specifies 100 mg/L of sulphate as the, "Maximum concentration not to be exceeded at any time," for fresh water aquatic life. During the reporting year of which you write, sulphates in Long Lake averaged 144 mg/L at 9 meters and 158 mg/L at the bottom. Although we couldn't locate a record of the actual measurements, for them to average this high they must have been either more than occasional or very severe when they did occur.

During the time period covered by the report, Quinsam Coal exceeded their permitted ph level at settling pond #4, 38 times. They also exceeded their permit in

District of Campbell River
From the Office of the Mayor

May 9th, 2003

Ministry of Water, Land & Air Protection
2080 Labieux Road
Nanaimo, BC V9T 6E9

Fax: 250-751-3103

Attention: Mr. Lloyd Erickson, Head - Environmental Section

Dear Mr. Erickson:

Re: Quinsam Coal Corporation Request for Update.

As a member of the Environmental Technical Review Committee (ETRC) for Quinsam Coal Corp., the District of Campbell River requests confirmation from the Ministry of Water, Land & Air Protection (MWLAP) that its staff, along with the Ministry of Energy & Mines (MEM), are working with Quinsam Coal Corp. to address the outstanding recommendations of the October 2002 Annual Report.

The District also requests that the MWLAP require Quinsam Coal Corp. (QCC) to provide a written summary on the progress it has made to date in meeting the recommendations of the ETRC review of the annual reports. The summary should also identify which, if any, of the recommendations have not been implemented and why.

In addition, the District is concerned that the progress being made to meet the permit requirements for ambient water quality of sulphate levels discharging into the Quinsam Watershed, continues to be above acceptable levels. To aid in assessing the status of QCC to meet its obligations as outlined in its permits, the District recommends that all violations of QCC's permits be noted in future annual reports.

The District is aware that changes and cutbacks in various Provincial Ministries have placed an additional burden on all remaining staff persons. As such, the District would like confirmation that the technical resource persons currently participating on the ETRC from each Ministry will remain on the Committee.

Sincerely,

Mr. Lynn D. Nash
MAYOR.

Copies to: Ministry of Energy & Mines
Quinsam Coal Corporation

301 St. Ann's Road, Campbell River, B.C. V9W 4C7 Phone (250) 286-5700 Fax (250) 286-5760

REGIONAL DISTRICT
Comox-Strathcona

COMMUNITY PLANNING SERVICES

File: Quinsam Coal

July 16, 2003

FAXED

The Honorable Richard Neufeld
Minister of Energy and Mines
PO Box 9060
Station Prov. Gov't
Victoria, BC V8W 9E2

Dear Minister Neufeid:

Re.: Quinsam Coal Project

The Regional Board of the Regional District of Comox-Strathcona adopted the following resolution at the June 30th, 2003 Board meeting:

> ***"THAT the Regional District of Comox-Strathcona write to the Minister of Mines and Energy requesting that they continue to be involved in monitoring of the Quinsam Coal Project to the same degree in the future that it has been in the past; AND FURTHER THAT the recommendations of the Environmental Technical Review Committee, which monitors the Quinsam Coal Project be enforced by the Acting Regional Waste Manager of the Ministry of Land, Water and Air Protection; AND FURTHER THAT all future annual reports on the Quinsam Coal Project made available to the public by the Acting Regional water Manager include references to permit violations as well as specific costs and efforts taken by the Quinsam Coal Corporation to mitigate the impacts to the environment."***

The Regional Board has expressed its concern with this project in the past and wishes to ensure that impacts to the natural environment are minimized. Please do not hesitate to contact me if you have any questions.

Yours truly,

Gerard V. LeBlanc, MCIP
General Manager

cc. Stanley Gooderich, Environment Technical Review Committee
Stan Hagen, MLA, Comox Valley

G:\Planning\LETTERS\Gerard\July 03\NeufeldQuinsamLet071603GVL.doc

600 Comox Road, Courtenay, BC V9N 3P6
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Toll Free in Area Code (250) 1-800-331-6007
e-mail: planning@rdcs.bc.ca
www.rdcs.bc.ca

THE TYEE CLUB

of BRITISH COLUMBIA

Since 1924

August 4, 2003

REFERENCE #3

Mr. L.J. Erickson
Ministry of Water, Lands and Air Protection
2080A Labieux Road
Nanaimo BC V9T 6J9

Dear Mr. Erickson,

I am writing this letter on behalf of the Directors of the Tyee Club of British Columbia in support of the position taken by the District of Campbell River (May 9,2003) and that of the Regional District of Comox-Strathcona (July 16, 2003) and their support of the recommendations made by the Campbell River Environmental Council regarding Quinsam Coal and the discharge of effluent into the Campbell/Quinsam watershed. Those recommendations included:
(1) The Ministry of Mines continues to be involved in monitoring of the project to the same degree in the future that it has been in the past.
(2) All recommendations of the Environmental Technical Review Committee, which monitors the project, are enforced by the Acting Regional Waste Manager of the Ministry of Land, Water and Air Protection, Nanaimo Office.
(3) All future annual reports on the Quinsam Coal Project made to the public by the Acting Regional Waste Manager include references to permit violations.

In recent years members of the Tyee Club have worked closely with Fisheries and Oceans Canada, the staff of the Quinsam Hatchery, BC Hydro and many other community members and organizations to ensure that the Campbell and Quinsam Rivers and their salmon and trout stocks were protected and restored. These projects have included: the development of a Water Use Management Plan: the creation of spawning channels; the addition of spawning gravel to the river; the restoration of the estuary as a rearing area for young salmon; the maintenance of a net-pen and the feeding of juvenile salmon.

We are most alarmed with the sulphate levels found in the Quinsam River watershed. We believe that this presents a threat to the total fishery in both the short and long-term.

PO Box 338, Campbell River, B.C. V9W 5B6 Ph. 250-287-2724

B0 Legals Jan 21, 2004

QUINSAM COAL CORPORATION ENVIRONMENTAL TECHNICAL REVIEW COMMITTEE REPORT - DECEMBER 2003

Waste Management Permit PE-07008 was issued December 23, 1987, to the company presently known as Quinsam Coal Corporation for the discharge of effluent to the environment. The permit specifies environmental conditions and establishes the Environmental Technical Review Committee to co-ordinate an annual review of monitoring results. This committee is composed of technical representatives from Fisheries and Oceans Canada; Environment Canada; the Ministry of Water, Land and Air Protection; the Ministry of Energy and Mines; the District of Campbell River; and Quinsam Coal Corporation.

The committee reviews all monitoring data for the mine site and releases a report to the public once per year. This is the fifteenth report and covers the period from April 2002 to March 2003. Approximately 341,432 tonnes of clean coal were produced in this period from the underground mining operations.

Permit effluent discharge quality compliance was good throughout the reporting period with only one exceedance occurring January 2, 2003, for total suspended solids. This exceedance with due to an extreme rainfall event.

The 2002 Annual Report records that some receiving environment sulphate samples taken within Long Lake and at the outlet of Long Lake between July and December ranged up to 175 mg/L and 154 mg/L respectively. The report notes that these levels are slightly lower than the sulphate levels recorded in the previous year. Monitoring by the Ministry of Water, Land and Air Protection confirms these results.

At the direction of the Ministry of Water, Land and Air Protection, the Ministry of Energy and Mines and Environment Canada, Quinsam Coal is continuing to take action to reduce the loss of sulphate from the mine site through containment and treatment. Quinsam Coal is evaluating the effectiveness of the sulphate containment and control works (installed in the previous year) and continues to investigate sulphate source definition and additional sulphate treatment and mitigation methods. Quinsam Coal recently installed a second set of pilot scale sulphate treatment works in the south mine area.

Sulphate levels in the Quinsam River at the outlet of Middle Quinsam Lake and at the Quinsam River at the Gold River Bridge were well below the provincial guideline for sulphate during the reporting period and averaged 33 mg/L and 9.4 mg/L respectively.

The Ministry of Water, Land and Air Protection is conducting further studies to re-evaluate the provincial receiving environment guideline for sulphate defined by the ministry in 2000 at 100 mg/L.

Although some sulphate samples have exceeded the guideline the actual effect on biological communities is dependent upon environmental factors such as hardness. Although MWLAP has not found any impairment of the biota health due to sulphate the ministry continues to evaluate the guideline with respect to sulphate impacts on the local receiving environment.

It is the opinion of the committee that while acceptable sulphate levels were occasionally exceeded at or near the mine site during the reporting period, water quality in Middle Quinsam Lake and the Quinsam River remains good with sulphate levels well below the present provincial guideline. The 2002 Annual Report is available for review at the Ministry of Water, Land and Air Protection office in Nanaimo (2080-A Labieux Road, telephone 250-751-3100) the Quinsam Coal Corporation mine site office, telephone 286-3224, The District of Campbell River, telephone 286-5700 or the Campbell River Branch of the Vancouver Island Regional Library.

R. Alexander
Regional Waste Manager
Vancouver Island Region

7008. ALS conducted 96-hour pass/fail toxicity tests (LC_{50}) with rainbow trout on all of the samples using a 10/10 (100%) survival rate as an indication of a pass. All samples for both ponds received a 10/10 result.

All water quality parameters were below the permit limits at Pond #4 and Pond #1 for 2002 except for 29 exceedances of the pH permit limit and one isolated exceedance of the TSS permit limit at Pond #4. Values of pH that exceeded the permit limits ranged from 8.05 to 8.22 and occurred in all months of the report period except March 2003. The TSS exceedance (38 mg/L) occurred in the first week of January 2003.

Flows at Settling Pond #4 exceeded the permitted maximum and average discharges on a number of days during the winter months and flows at Settling Pond #1 exceeded the permitted average discharge on a number of days during the winter months. There were a total of 33 exceedances of the permitted maximum flow of 25056 m^3/day and a total of 56 exceedances of the permitted average daily flow of 6912 m^3/day at Pond #4 and a total of 9 exceedances of the permitted average daily flow of 8640 m^3/day at Pond #1 . Maximum flow exceedances at Pond #4 ranged between 25150 m^3/day and 28730 m^3/day and occurred during the months of December, January and March. Average daily flow exceedances at Pond #4 ranged between 7060 m^3/day and 25,750 m^3/day and occurred during the November to March period. Average daily flow exceedances at Pond #1 ranged between 9430 m^3/day and 21870 m^3/day and occurred during the months of December, January and March. The high flow volumes are a result of the high water volumes that must be pumped from the 2 North underground mine and the 4 South underground mine during periods of high precipitation in the winter months. The 2 North mine is required to be kept dry to keep the mine in operation and for the safety of the workers underground. The company is permitted for 180 days of discharge per year but because of the increased water accumulation underground, QCC has been exceeding the 180-day limit. Along with the application for an increased pH limit at Pond #4, QCC has requested an increase in the 180 day/year discharge limit to 365 day/year.

Chemical analysis at Middle Quinsam Lake and Long Lake indicate a general increase in pH at both lakes over the past few years. Increased pH levels in both Middle Quinsam Lake and Long Lake are likely related to land disturbances that occurred in the north and south area during open pit and underground mining operations (due to the calcareous substances contained in abundant minerals such as calcite). Increased pH with time in the Settling Pond

BRITISH COLUMBIA

COPY

FILE COPY

June 14, 2004

File: 2004-00334
PE-07008

REGISTERED MAIL

Quinsam Coal Corporation
2100-1075 W. Georgia St
Vancouver BC V6E 3G2

Dear Permittee:

On December 22, 2003, David SELENT of Quinsam Coal Corporation (QCC) reported a failure of dam structure #4 settling pond culvert to Hubert BUNCE of the Ministry of Water, Land and Air Protection (MWLAP). The amount of effluent discharged was estimated to be 11,000 cubic meters.

Subsequent to the report made by QCC, an investigation was conducted by the Conservation Officer Service and the Environmental Protection section of the ministry.

The investigation revealed that a dam failure occurred on or about December 18, 2003. Additionally, it was determined that the cause of the failure was an undermining of a discharge culvert. At the time of the failure, there were no alarm systems in place to alert mine staff of a decrease in effluent level in pond #4.

QCC retained the services of technical experts to determine the impact of the failure and repair the dam structure. It was determined that, as a result of the effluent discharge, a minimal amount of sediment had been deposited downstream of the failure location on #4 settling pond.

Permit PE-07008 issued to Quinsam coal Corporation states a number of conditions the permittee must adhere to be in compliance with the permit. Section 3.2 **Environmental Procedures Manual** states in part, "*The permittee shall review the Environmental Procedures Manual at least on an annual basis to determine if any changes are required and submit any revisions to the Regional Waste Manager for approval. Annual reviews and submission of revisions are due on March 31 of each year.*"

.../2

Ministry of Water, Land and Air Protection

South Coast Region
Conservation Officer Service

Mailing Address:
2080A Labieux Rd
Nanaimo BC V9T 6J9

Telephone: 250 751-3100
Facsimile: 250 751-7383
Website: http://wlapwww.gov.bc.ca

The most recent manual received by the Regional Waste Manager was received on March 05, 1998. Inquiries made by Hubert BUNCE of MWLAP to David SELENT of QCC indicated that the Regional Waste Manager had the most recent copy of the above-mentioned manual.

Additionally, Section 3.9 **Maintenance of Works and Emergency Procedures** states in part, *"The permittee shall inspect the authorised works regularly and maintain them in good working order. In the event of an emergency or condition beyond the control of the permittee which prevents effective operation of the approved method of pollution control, the permittee shall immediately take appropriate remedial action and shall notify the Regional Waste Manager or an Officer designated by the Regional Waste Manager within 24 hours of the start of the event:..."*.

QCC failed to inspect the authorised works regularly, as required by this section. An undermining of the dam/culvert structure could not be attributed to a meteorological event and, therefore, the detection of the gradually failing structure would have been detected through regular thorough inspections.

Section 3.10 of the permit states, *"The permittee shall ensure that no effluent is discharged without being processed through the authorised works unless prior written approval is received from the Regional Waste Manager."*

QCC released approximately 11, 000 cubic meters of effluent through the undermined culvert on or about December 18, 2003, without prior written approval which constitutes a violation of the above noted section.

Section 54(7) of the *Waste Management Act* states:

> "A person who, holding a permit or approval issued under this Act to introduce waste into the environment, fails to comply with the requirements of the permit or approval commits an offence and is liable to a penalty not exceeding $300 000."

The investigation is now complete. As a result of the evidence gathered and an examination of the available evidence, a decision to warn rather than charge Quinsam Coal Corporation for failing to comply with conditions 3.2, 3.9 and 3.10 of Permit PE 07008 has been made. Nothing in this letter precludes further action that may be taken by the ministry, as a result of the now completed investigation.

.../3

If you have any questions or concerns that have not been made clear in this letter, please feel free to contact me directly at 250 751-3162.

Yours truly,

ORIGINAL SIGNED BY

Mike deLaronde
Conservation Officer
General Investigations
South Coast Region

cc: Hubert Bunce, Environmental Protection Officer

Analysis of the 2 North coarse middling material reveals an average NNP value of 81.28 tons/1000 tons of material. As expected, the average NNP has increased significantly from the previous year due to the disposal of the PAG 4 South middling material in the 3 South Pit. There were no samples taken from the 2 North material that indicated a negative NNP value.

The total precipitation recorded for the minesite during the report period was 551 millimeters. The actual precipitation was greater, however, due to computer problems, some data was missing. There were five notable rain events during this report period. The first event occurred on October 12th, the second and third occurred during the second week of December, the fourth event occurred of February 22nd and the last event occurred on March 22nd.

Ditches and culverts were cleaned when necessary. The Quinsam River bridge approach ditches have been cleaned during the summer of 1999. Grading on roads was done to ensure proper drainage.

There were no surface disturbances in the 1999 reclamation year and there was no application of fertilizer or seed during the 1999/00 report period.

The environmental procedure manual (EPM) was updated and submitted for review in March of 1998. On May 17, 1999, Quinsam received a letter from Ministry of Environment stating that the updated version of the EPM was inadequate and should be updated again to include missing information. The EPM has not yet been updated to include these changes but will be done sometime in the future.

currently unsure whether SO_4 might be remobilized under some future conditions. QCC needs to study the long term robustness of the system before committing to its use. Even if it turns out to be viable its use may be somewhat limited, but could be used to reduce the level of sulphate discharge from the more significant sources.

JF noted the need to look at the source of the calcium they use in the treatment cells as the clinker cell output showed elevated levels of metals, in particular chromium.

JF indicated he will be assessing all the information collected to date on the sulphate issue to come up with a proposal for the appropriate expanded use of sulphate treatment at the mine site. Golder has experience with the implementation of similar passive treatment "Biopass" systems in Ontario.

KB suggested possibly using non-performing barrels to check other variables to match likely mine site conditions.

DS noted that JF will provide a technical report from which a schedule for the application of further sulphate treatment at QCC will be implemented. **Action Item JF to provide report on the implementation of additional sulphate treatment works at the mine site.**

DE asked about a time line for the implementation of additional treatment. DS suggested the Keystone ditch in the 3S area is a location QCC is currently considering. JF will do a more thorough assessment as part of his report.

HB asked for more detail on the calibration records of monitoring equipment used at the mine site. DS noted this information was available and would be provided to SG for inclusion in the report. **Action Item SG to include additional calibration information in the annual report.**

HB raised issue of frozen discharge pipe at Middle Point coal port facility noted in the annual report. **Action Item RS will look at having pipe insulated to avoid similar problem in the future.**

The items raised in the Campbell River Environmental Committee's (CREC) letter of August 5 were discussed with JB.

Item 1 (see notes above)

Item 2 completed

Item 3 As a result of their investigation in to the Pond 4 dam failure the CO Service issued a warning letter to QCC. This letter included the requirement that QCC update their Environmental Procedures Manual. DS has provided the document to SG for updating. **Action Item QCC to submit updated Environmental Management Plan to MWLAP**

by May 31, 2005.

DS reported that QCC is in the process of upgrading the Pond 1 outlet structure (which is similar to the old pond 4 structure). They have assessed the pipe and will be installing a pipe liner to upgrade the integrity of the discharge pipe. **Action Item QCC to complete Pond 1 discharge pipe upgrade during the next period of low flows (Summer 2005).**

Item 6 HB noted that it was not the purpose of the public notice to report non-compliance events and that this was included in QCC's annual report which is made available to the public.

HB noted to JB that I was preparing a response to the city/CREC that would address the issues raised by the CREC and the district. **Action Item HB to provide letter to District/CREC regarding issues raised in letters of August 5 and September 18, 2004.**

Watershed specific sulphate criteria development.

Victoria has decided not to review the provincial sulphate criteria but is not opposed to development of a watershed specific criteria. This would need to be developed by QCC under the direction and guidance of MWLAP. I noted that John Deniseger of MWLAP has indicated prior to this meeting that he felt such an objective could be developed from a review of literature. There are already watershed specific criteria developed for the Quinsam watershed for other parameters. **Action Item: Under the direction of MWLAP QCC to develop watershed specific sulphate criteria for the Quinsam River watershed.**

JB suggested that the development of any watershed specific criteria that is developed be put before the local community for review and input.

Monitoring Program and Additional Recommendations

Continuation of existing monitoring regimes with the following changes:

Improve access to Long Lake seep to ensure capacity to sample year round.

Reduce frequency of test pad cell effluent monitoring from weekly to monthly.

Additional monitoring of the 3S high wall wash water as suggested by JF.

Development of Quinsam River watershed specific sulphate criteria by QCC under the guidance of MWLAP.

Annual Report to reflect changes as noted in action items above.

BRITISH COLUMBIA

VANCOUVER 2010

September 1, 2005

File: PE-07008

COPY

Stan Goodrich and Gord McLaughlin
Campbell River Environmental Committee
115 McCarthy Street
Campbell River BC V9W 5P8

Dear Gentlemen:

Thank you for meeting with myself and Dave Selent of Quinsam Coal on March 11, 2005, to review the 2004 Quinsam Coal Corp (QCC) Annual report and public notice of the Environmental and Technical Review Committee (ETRC), and your subsequent letter of April 28, 2005, regarding related issues.

At our meeting March 11, 2005, it was indicated that QCC would be developing a Quinsam River watershed specific criteria for sulphate. Subsequent to that meeting John Deniseger, our Environmental Impact Biologist, advised that at the spring 2005 meeting of Ministry of Environment (MOE) Environmental Impact Biologists, a request was made of our Victoria staff to complete a provincial review of the current receiving environment sulphate criteria established in 2000. Victoria is re-assessing of the sulphate information that is currently available to determine if a re-evaluation of the provincial suphate criteria is merited. As a result, the MOE requirement that QCC develop a watershed-specific criteria has been withdrawn.

During our meeting, you noted that the CREC did not support a statement made by one of its members that "Long Lake is dead". It is appreciated that the CREC does not condone this extreme and incorrect statement. The Ministry supports the CREC efforts to ensure the Quinsam River watershed is protected, and the Ministry will continue to take appropriate actions to ensure the Quinsam River water quality is maintained.

1) John Deniseger notes that the ongoing biological monitoring conducted by the MOE in the vicinity of the QCC mine site is not yet complete. Upon completion, a copy will be made available to the CREC and to the DFO Quinsam River hatchery staff. This will

. . . 2/

Ministry of Environment
Vancouver Island Region
Environmental Protection Division
Mailing Address:
2080A Labieux Rd
Nanaimo BC V9T 6J9
Telephone: 250 751-3100
Facsimile: 250 751-3103
Website: http://wlapwww.gov.bc.ca

satisfy the request made by DFO hatchery staff at the ETRC meeting. The MOE 2003 report on the existing Quinsam River watershed-specific water-quality criteria has been enclosed. When the 2004 report is complete it will also be made available to the CREC.

2) The Golder Associates Ltd. Biological Assessment Report recommended that the material deposited along the sides of the constructed channel be removed or graded to prevent introduction to the watercourse, that any finer material be stabilized to prevent re-suspension in the water column, and that damaged alder trees be replanted. QCC completed removal of the sediment and re-established the channel downstream of Pond 4 during the dam repair, and this was confirmed by a Golder Associates Ltd. Dam Construction report and subsequent inspection by MOE staff. Total suspended solids sampling results taken during and subsequent to the dam reconstruction at the point of discharge and at the sampling point downstream indicate no discharge of suspended solids above the permit limit or in excess of that typically recorded at the downstream sampling location prior to the spill (well below receiving environment water quality criteria). MOE staff will inspect the latest channel upgrades (alder planting) during the next site inspection.

3) Quinsam Coal has replanted alder trees in the area of the channel where some were damaged as a result of the spill and the subsequent repair work. It is expected that alders will also naturally re-establish in the area.

4) Enclosed is a copy of the official warning letter sent by the Conservation Officer Service to QCC as a result of the December 2003 spill. As a result of the spill investigation findings, QCC was directed to complete inspection of and, if necessary, upgrade of similar works at the outlet of Pond 1. QCC was also directed to update their Environmental Procedures Manual. Inspection of the Pond 1 outlet works has been completed and it was determined that while there was no immediate concern of leakage, due to the similarity of the works an upgrade would be completed. QCC has evaluated a number of upgrading options and a specialist in in-place pipe upgrading, the preferred option, will be visiting the site this month. The updated QCC Environmental Procedures Manual is to be submitted next week for ministry review.

5) The QCC Environmental Procedures Manual was not updated between May 17, 1999, and the spill in December 2003. As a result of the investigation into the spill, it was determined that QCC had not completed annual reviews of their Environmental Procedures Manual as required by their permit. It was also determined that inspections of the works had been inadequate. As a result, the MOE directed QCC to take the actions noted in 4) above.

. . . 3/

6) As noted previously, the mandate of the ETRC is to coordinate and review monitoring data related to the construction and operation of the mine. The ETRC is to conduct an annual review of the operational monitoring and prepare a public interpretive report. The local community is represented on the ETRC by the District of Campbell River and this is the appropriate avenue through which local community concerns can and have been raised. Subsequent to the ETRC annual review and issuance of the public report, a public meeting could be arranged should there be substantive outstanding concerns.

7) As mentioned above, the provincial receiving environment criteria for sulphate is currently under review. The staff involved in this review have been advised of your interest in reviewing and having opportunity to input to the development of the criteria. Once review of the criteria is ready, it will be provided for public comment.

8) As noted during our meeting March 11, 2005, the ministry does not have the ability to collect fees retroactively. If the CREC wishes to approach Quinsam Coal for a donation to assist in local salmonid enhancement work, your group is always open to pursue that option.

Thank you for your review of the QCC Annual Reports, the ETRC's meeting minutes and the Public Notice, and your continued interest in protecting the Quinsam River watershed.

Yours truly,

Hubert Bunce
Environmental Protection Officer
Environmental Protection
Vancouver Island Region

pc: The Honourable Barry Penner, Minister of Environment, Victoria
District of Campbell River Council, Campbell River
Clare Travena, MLA, North Island, Campbell River
Comox Strathcona Regional District, Courtenay
BC Pacific Salmon Forum, Nanaimo
Dave Selent Quinsam Coal Corporation, Campbell River
John Deniseger, Ministry of Environment, Nanaimo
Kim Bellefontaine, Ministry of Energy and Mines, Victoria
Mike Hagen, Environment Canada, Vancouver
Department of Fisheries and Oceans Quinsam River Hatchery, Campbell River
Environmental Coordinator, District of Campbell River, Campbell River

enclosure(s)

sulphate using iron.

There was agreement on the proposed monitoring program and parameter sampling outlined on pg. 5 of the Golder October 26, 2005 report for the "3 South Sulphate Treatment Cell".

DS and JF feel that site specific application of sulphate treatment systems being developed have potential to provide benefits in the future.

RS asked if it was possible to plug the seep that enters Long Lake. JF noted that he felt this would be a difficult to impossible task.

PM asked for the pulps from the kinetic test pads. **QCC will provide the pulps** They are noted in the Nov '05 Golder report "Review of Sulphate Treatment"

PM noted KB Kim Bellefontaine had requested a system of identifying and monitoring ARD hotspots, i.e. North pit sump, north adit, south tailings dam. DS noted that QCC is following up on this by completing weekly sampling of the 2N portal, the south tailings dyke pond and the 2N south Coarse refuse dump seep.

HB noted that Environmental Procedures Manual could be tied into the ETRC annual report. **HB will complete a review of the updated EP manual and report back to QCC by spring 06.**

The idea of a follow up public meeting to review the annual report and any concerns the the public may have was raised as a good idea. DS agreed that such a meeting with CREC DFO and the city similar to what has been done in the past is useful. **HB agreed to arrange a meeting early in the new year**.

JF provided an update on the Sulphate Pilot Treatment System and which systems had performed well and which had not and the possible reasons. He also gave a description of the system they have chosen to upgrade and the details of the scaled up version.

Watershed specific sulphate criteria development

HB Noted that MOE Provincial biologists met in the spring and agreed that there was a need to review the Provincial Water Quality criteria for sulphate, currently established at 100 mg/L. Previously the ministry had directed Quinsam Coal to complete an assessment of sulphate in the Quinsam River watershed and have a qualified professional develop a watershed specific sulphate criteria. As a result of this Provincial review the requirement that QCC develop a watershed specific criteria for sulphate has been withdrawn pending the outcome of the provincial review. The Quinsam River watershed is one of the watersheds being assessed as part of the Provincial review. Environmental Quality staff from MOE will be conducting additional sampling in the Quinsam R. watershed related to this assessment in the coming months.

Monitoring Program and Additional Recommendations

Continuation of existing monitoring regimes with the following changes:

Include monitoring of S3 high wall and pore water and pit water at depth.

Include monitoring program for new sulphate treatment cell as outlined in Golder Report "3 South Pit Sulphate Treatment Cell Construction" Oct 26, 2005

Representative Acid Base Account (ABA) sampling of rock when it is quarried from the mine site quarry located near the N. end of Long Lake. The rock is used around the mine site for road base and foundation purposes.

Work will be conducted by Ministry of Environment to determine a sulphate receiving environment criteria relative to conditions specific to the Quinsam River Watershed.

Annual Report to reflect changes as noted in action items above.

ditch have been stabilized by revegetation and do not add to the water loadings.

13... There is a need this year to service the settling ponds on site. There are five(5) that are covered by PE-7008. Three are below the wash plant, one is prior to the main settling pond #4 and the last is the main pond. B.C.M.C. proposes to pump the solids from each containment into the 2N pit area either through the wash plant reject disposal system or by pumping them into the proposed catchment ditch above the settling pond which leads directly into the 2N pit sump pond. A velocity berm will be established close to the water level in the pit to slow the water down and to allow the settling time needed to entrain the solids before they enter the pit pond. This work is planned for the drier weather. The equipment is very large and heavy and will be labor intensive until a method, system and routine can be developed.

14... The discharge from settling pond #4 traverses a natural course through a marsh and existing large biomass. It then enters a delta system and another marsh system before reaching and mixing with lake water. In 1992 the water demands of the wash plant are expected to exceed the anticipated discharge volumes. Proper water management planning can result in a zero discharge or a very minimal discharge during heavy rain and runoff events.

15... The Environmental Procedures Manual has been accepted by the Ministry of Environment and is in force. An awareness handbook summarizing the contents of the manual was requested by the Ministry. The Awareness handbook is to inform and educate new employees about the policies and procedures in force at the operation. It will also serve as a reference to existing employees in the event of emergencies, occurrences or query in the absence of immediate authority. The handbook has been compiled and submitted to the Ministry in 1989 and was approved in Mar. '92. It has been sent to the printers and is expected to be available for distribution by summer. A washplant update is forthcoming.

16... Potential Acid generation materials are identified by the infield "fizz" test and by the Analytical Services Laboratory in Vancouver. Results of the analysis are reported to the Ministry of Energy Mines and Petroleum Resources through the Reclamation permit (C-172) requirements. The most recent acid balance report in graphic form is attached to this report for reference entitled 'Net Neutralization Potential For Rejects'(see table #1). Course rejects are slightly acid generating based on the pyritic composition of the material. However the material is pulverized for laboratory analysis which destroys the natural state of the material and may distort the true reactions of the material. More recent tests done on the coarse rejects show that they become acid consuming over time if left exposed to the

1991 Annual Waste Management Report

A Year In Summary Second page

The Waste Management Branch has issued a waste permit PR-8938 which regulates the handling and disposal of washplant rejects. The South pit waste management permit is still to be issued. The Environmental Awareness Manual has just been approved after two years on the Ministries desk. It will be published shortly.

Based on the excellent performance of these past years B.C.M.C. requests that relief from the bonding be given consideration by the 'committee' during the forthcoming yearly meeting. A thorough review of the permit parameters should be done now that hard facts are available from operating experiences over the past several years. It has become very clear that the permit is obsolete in many facets and needs to be amended to better address the specific issues relative to environmental impacting, protection, thresh-hold limits, dilution rates and so on. The information given at the hearings and the data that was used to arrive at the parameter levels need to be readdressed with a view to realistically assigning parameters that reflect notice levels, warning levels and harmful levels. The current levels are extremely low and cannot be justified in the face of the accumulated data or on the basis that they were calculated upon and set prior to the availability of evidence. The Company will seek to reduce the frequency of sampling as well as to increase the limits of some of the parameters through negotiations, appeals or the amendment process. The costs are unwarranted and needless and in all fairness should be addressed without delay. B.C.M.C has an application before the Waste Management Branch for the exclusion of the fine rejects from the special handling requirements stated in PR-8938. The sampling conducted over the past year showed conclusively that the fine rejects are not acid producing and are in fact quite acid consuming. The object of the special handling requirements as outlined in the permit were to identify and control potential acid generating materials. This has been accomplished and B.C.M.C. seeks the release of the fine rejects from testing and special handling which are very costly and labor intensive. Provision for the reduction of bonding as well as the variation of permit criteria is provided for in PR-8938, section 6.7 and in PE-7008, appendix B-5, section T and U.

It is reasonable to conclude from inspections and observations and from the data as well as the amount of discharge to the environment that B.C.M.C. has had no impact on the environment during the 1991 reporting period. Due care and diligence has been exercised and the resulting water quality has been maintained at required standards and better. B.C.M.C. has strived to be proactive and cooperative,

REGIONAL DISTRICT of
Comox-Strathcona

From the office of the CHAIR OF THE BOARD

EN-G / 5280-01

February 17, 2006

The Honourable Barry Penner
Minister of Environment
PO Box 9047. STN PROV GOVT
Victoria BC V8W 9E2

Dear Minister Penner:

Re: Enforcement of environmental permit(s) issued to Quinsam Coal Corporation

The board of the Regional District of Comox-Strathcona at their January 30, 2006 meeting discussed the environmental permits issued to Quinsam Coal Corporation.

Due to on-going concerns surrounding the protection of the Campbell River watershed, we request that the ministry of environment continue to ensure the enforcement of the terms and conditions of the environmental permit(s) issued to the Quinsam Coal Corporation.

Yours truly,

Jim Abram
Chair of the Board

cc: C. Trevena, MLA (North Island)
C. Bell, MP (Vancouver Island, North)
Campbell River Environmental Committee

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BRITISH COLUMBIA

VANCOUVER 2010

Reference: 86459

JAN 1 1 2006

His Worship Mayor Roger McConnell
and Councillors
City of Campbell River
301 St. Ann's Rd
Campbell River BC V9W 4C7

Dear Mayor McConnell and Councillors:

I have been asked to follow-up on Minister Barry Penner's acknowledgement letter to your predecessor, Mayor Nash, dated December 9, 2005, regarding Quinsam Coal Corporation's (QCC) compliance with their *Environmental Management Act* discharge permits. In that letter, the City of Campbell River (the City) had requested public representation on the Environmental Technical Review Committee (ETRC), which reviews the operations and monitoring of the QCC's operations in the area of Middle Quinsam Lake, approximately 27 kilometers south west of Campbell River.

The Ministry of Environment (MOE) continues to review QCC's compliance with their permits, and the associated permit limits (it should be noted that the permit quoted, PE-17181, is for the company's Middle Point Coal Loading terminal, and not for the actual mine site, which is regulated by permit PE-07008). The City can be assured that the ministry will continue to require the permittee to comply with the permit limits, and undertake appropriate responses to environmental issues as they arise.

Public involvement on ETRC was established at the recommendation of the Public Inquiry Commission convened to conduct the Public Inquiry into the Quinsam Coal Project (1983). The Inquiry Commission noted that ERTC .. "be composed of technical representatives each from the federal government's Department of Fisheries and Oceans and the Environmental Protection Service; the provincial government's Ministry of Environment, and Ministry of Energy, Mines and Petroleum Resources, the District of Campbell River, and the company." Further, the purpose of ETRC was "coordinating and reviewing the construction and operational monitoring results", with the results of their review reported to the regional director of the Ministry of Environment. ETRC was also directed to prepare an annual review and make a report available to the public.

..../2

Ministry of Environment

Office of the
Assistant Deputy Minister
Environmental Protection Division

Mailing Address:
PO Box 9339 Stn Prov Govt
Victoria BC V8W 9M1
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Victoria BC

ETRC's intent is to provide technical recommendations to the regional director of MOE regarding the monitoring of activities at and around the mine, so that he can revise the operations monitoring requirements as allowed for under the province's applicable environmental legislation. This committee includes a technical representative from the City who has, in the past, brought forward the concerns of local community groups.

ETRC reports to the community by a public notice in the Campbell River newspaper. In addition, the minutes of the ETRC meeting are available to the public as is the company's annual monitoring report. As a result of this information, meetings have been held with interested members of the public, and invitation also provided to city staff. This current system enables an appropriate forum for public involvement and complies with the intent of the Public Inquiry Commission.

I would like to thank the City for your continued involvement in the ERTC, and your efforts to protect the Quinsam River watershed.

Yours truly,

Original
Signed by

Eric Partridge
Assistant Deputy
Environmental Protection Division

pc: Honourable Barry Penner, Minister of Environment
Stan Goodrich and Gord McLauglin, Campbell River Environmental Committee, Campbell River
Dave Selent, Director, Coal Preparation Plant, Quinsam Coal Corporation, Campbell River
Kim Bellefontaine, Ministry of Energy, Mines and Petroleum Resources
Mike Hagen, Environment Canada
Fisheries and Oceans Canada, Quinsam River Hatchery
Environmental Coordinator, City of Campbell River
Randy Alexander, Regional Manager, Ministry of Environment

Sediment Quality Guidelines (ISQG). Appendix Table 3 compares the 2003 results to the BC Sediment Guidelines.

In examining the 2003 data there are values above the BC guidelines for napathalene at 10 of the 12 sites sampled – highest at some Long Lake sites. Other PAH's that are above BC guideline values are for phenanthrene (three Long Lake sites) and benzo(a)pyrene (at one Long Lake site). Using the ISQG/PEL guidelines, naphthalene is exceeded at three Long Lake sites and four other PAH's exceed the guidelines – all at one site (Long Lake near the settling Pond entry).

The 2004 data (Appendix Table 4) show more exceedences (using the BC sediment guidelines as the criteria). Napthalene and phenanthrene exceed the guideline at 15 of the 19 sites sampled. High values are also found at many of the Long Lake sites for acenapthalene, (1 site), benzo(a)anthracene (2 sites), benzo(a)pyrene (7 sites), chrysene (one site) and flourene at one site in quite high concentration. Neither of the Middle Quinsam sites had any PAH values greater than detection limits.

It seems clear that the PAH concentrations in the sediments of Long Lake are likely a consequence of the mining activity as the lake shows much higher sediment PAH concentrations than Middle Quinsam or Upper Quinsam lakes.

(b) Metals

The second sediment component that was examined was metal concentrations in the sediment that might be elevated because of the mining activity. A suite of metals from the littoral zone were analysed and compared to BC Provincial guidelines and to data for uncontaminated Vancouver Island lakes. A table showing the samples is shown as Appendix Tables 5 and 6

For the 2003 samples, there were nine samples that were above the guidelines for three different metals. Of highest concern was elevated arsenic at one site in No Name Lake and two in Long Lake. One of the sites at Long Lake near where the settling pond enters, had a value of 224 ug/g and would be significant. The other samples above the guidelines were for iron (a sample from Upper Quinsam and a sample from No Name Lake). The other samples reported that exceeded the guidelines were four samples for manganese in three Long Lake sites and one site in Middle Quinsam Lake.

For the 2004 samples, the same three sediment metals were found to be high. Arsenic was higher than guidelines in all 19 sites sampled except for Middle Quinsam Lake. Iron was over the guidelines in 9 of the 17 sites and manganese was over guideline limits in 9 of the 19 sites. There were two sites where nickel was found to be over guidelines. In general the sites with high metal concentrations were the sites associated with Long Lake with only a few values over the guidelines for No Name Lake and no values over the guidelines for Middle Quinsam Lake.

In examining the sediment levels reported in this study and comparison to BC government guidelines, it is also useful to compare to what might be expected for lakes on Vancouver Island. In the summary table for uncontaminated sediment concentrations for Vancouver Island lakes, Rieberger (1992) listed the following means for a set of 83 Vancouver Island lakes (Table 3).

Appendix Table 3. Concentrations of PAH's in sediments for Quinsam area study lakes, September 2003. Highlighted values are above provincial sediment guidelines.

	Upper Quinsam Lake 1	Upper Quinsam Lake 2	No Name Lake inlet	No Name Lake outlet	Long Lake inlet	Long Lake near seep	Long Lake near seep replicate	Long Lake near SPC entry	Long Lake outlet	Long Lake outlet replicate	Middle Quinsam Lake inlet	Middle Quinsam Lake outlet	BC sediment quidelines for protection of aquatic life
total PAH's	<0.01	0.07	<0.01	0.21	0.22	0.09	0.07	4	0.99	1	0.1	0.223	
LPAH	<0.01	0.07	<0.01	0.21	0.22	0.09	0.07	3.2	0.99	1	0.1	0.23	
HPAH	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.82	<0.01	<0.01	<0.01	<0.01	
Acenaphthene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	<0.01	0.15
Acenaphthylene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Anthracene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.25	<0.01	<0.01	<0.01	<0.01	0.6
Benz(a)anthracene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	0.2
Benzo(a)pyrene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.11	<0.01	<0.01	<0.01	<0.01	0.06
Benzo(g,h,i)perylene	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Benzo(k)fluoranthene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Chrysene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.17	<0.01	<0.01	<0.01	<0.01	0.2
Dibenz(a,h)anthracene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Fluoranthene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.2	<0.01	<0.01	<0.01	<0.01	2
Fluorene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.15	<0.01	<0.01	<0.01	<0.01	0.2
Indeno(1,2,3C,D)pyrene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Naphthalene	<0.01	0.07	<0.01	0.21	0.22	0.09	0.07	1.7	0.67	0.69	0.1	0.23	0.01
Phenanthrene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.95	0.32	0.35	<0.01	<0.01	0.04
Pyrene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.22	<0.01	<0.01	<0.01	<0.01	

ISQG= interim sediment quality guideline
PEL= probable effects level
**no effect threshold/lowest effect level/severe effect level

Appendix Table 4. Polyaromatic hydrocarbon results for sediment sampling in Long, No Name, Middle Quinsam Lakes and in the drainage ditches of Quinsam Coal on September 7th, 8th and 9th of 2004.

Substance (ug/g)	No Name Lake Inlet	No Name Lake outlet	Long Lake near SPC entry	Long Lake near SPC entry	Long Lake across from boat launch near SP1 entry	Long Lake at outlet	Long Lake inlet	Long Lake near seep	Seep at Long Lake	Long Lake 100m d/s seep	Long Lake 200m d/s seep	Long Lake 50m u/s SPC entry
total PAH's	<0.01	<0.01	4.1	2.1	0.70	1.2	0.28	1.1	<0.01	<0.01	0.51	0.39
LPAH	<0.01	<0.01	3.1	1.6	0.70	1.2	0.28	0.81	<0.01	<0.01	0.51	0.39
HPAH	<0.01	<0.01	1.0	0.47	<0.01	<0.01	<0.01	0.25	<0.01	<0.01	<0.01	<0.01
Acenaphthene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Anthracene	<0.01	<0.01	0.29	0.15	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)anthracene	<0.01	<0.01	0.20	0.12	<0.01	<0.01	<0.01	0.08	<0.01	<0.01	<0.01	<0.01
Benzo(a)pyrene	<0.01	<0.01	0.11	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(g,h,i)perylene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(k)fluoranthene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene	<0.01	<0.01	0.17	0.11	<0.01	<0.01	<0.01	0.08	<0.01	<0.01	<0.01	<0.01
Dibenz(a,h)anthracene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Fluoranthene	<0.01	<0.01	0.21	0.12	<0.01	<0.01	<0.01	**<0.02****	<0.01	<0.01	<0.01	<0.01
Fluorene	<0.01	<0.01	**<0.02****	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3C,D)pyrene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Naphthalene	<0.01	<0.01	1.8	0.94	0.46	0.77	0.20	0.36	<0.01	<0.01	0.34	0.24
Phenanthrene	<0.01	<0.01	0.98	0.51	0.24	0.41	0.08	0.45	<0.01	<0.01	0.17	0.15
Pyrene	<0.01	<0.01	0.23	0.12	<0.01	<0.01	<0.01	0.09	<0.01	<0.01	<0.01	<0.01

Part of Appendix Table 3 continued on next page.

Appendix Table 4 continued

Substance (ug/g)	Middle Quinsam Lake inlet	Middle Quinsam Lake outlet	Drainage Ditch Sites: 4S pit d/s coal pad	u/s culvert # 1	d/s culvert # 1	d/s culvert # 1A	u/s meadow	QL settling pond #1	d/s settling pond #1	**BC sediment guidelines for protection of aquatic life**
total PAH's	<0.01	<0.01	1.0	3.1	4.7	3.9	2.5	2.6	15	
LPAH	<0.01	<0.01	0.73	2.3	3.5	2.9	1.9	1.8	11	
HPAH	<0.01	<0.01	0.29	0.73	1.2	0.95	0.64	0.77	4.4	
Acenaphthene	<0.01	<0.01	<0.01	0.07	0.09	0.08	<0.01	0.07	0.28	0.15
Acenaphthylene	<0.01	<0.01	<0.01	**<0.03****	**<0.03****	<0.01	<0.01	<0.01	**<0.22****	
Anthracene	<0.01	<0.01	0.07	0.19	0.24	0.26	0.16	0.21	1.4	0.6
Benzo(a)anthracene	<0.01	<0.01	0.06	0.12	0.18	0.17	0.12	0.14	0.73	0.2
Benzo(a)pyrene	<0.01	<0.01	0.03	0.07	0.10	0.10	0.06	0.09	0.38	0.06
Benzo(g,h,i)perylene	<0.02	<0.02	<0.02	0.06	0.10	<0.02	<0.02	<0.02	0.16	
Benzo(k)fluoranthene	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	0.07	
Chrysene	<0.01	<0.01	0.05	0.11	0.17	0.17	0.11	0.14	0.75	0.2
Dibenz(a,h)anthracene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	
Fluoranthene	<0.01	<0.01	0.06	0.14	0.21	0.20	0.13	0.15	0.91	2
Fluorene	<0.01	<0.01	0.04	**<0.06****	**<0.06****	**<0.04****	0.12	0.13		0.2
Indeno(1,2,3C,D)pyrene	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	0.13	
Naphthalene	<0.01	<0.01	0.35	1.4	2.2	1.7	1.0	0.74	5.6	0.01
Phenanthrene	<0.01	<0.01	0.27	0.67	0.99	0.89	0.59	0.65	3.8	0.04
Pyrene	<0.01	<0.01	0.06	0.15	0.23	0.20	0.14	0.17	0.81	

Highlighted values exceed the guideline values

Appendix Table 5. Metals in sediments for Quinsam area study lakes, September 2003. Highlighted values are above provincial sediment guidelines.

	Upper Quinsam Lake 1	Upper Quinsam Lake 2	No Name Lake inlet	No Name Lake outlet	Long Lake inlet	Long Lake near seep	Long Lake near seep replicate	Long Lake near SPC entry	Long Lake outlet	Long Lake outlet replicate	Middle Quinsam Lake inlet	Middle Quinsam Lake outlet	BC sediment quidelines for protection of aquatic life
Arsenic	3.7	3.2	34.7	11.7	32.7	6.2	5.3	224	16.2	14.8	9.5	9.9	5.9/17
Cadmium	0.23	0.14	0.35	0.53	0.44	0.17	0.14	0.34	0.34	0.33	0.3	0.44	0.6/3.5
Chromium	45	23	18	17	19	18	17	25	14	14	26	25	37/90
Copper	131	51.3	27.4	36.4	36.3	30.4	29.9	54.8	32.9	32.2	64.2	61.2	36/197
Iron	44800	15700	50800	18300	29300	15900	13700	38600	22500	23000	33500	27600	21200/43766
Lead	4.5	1.4	7.7	14.4	6.5	4.4	3.9	9.8	5.4	5.1	7.4	13.7	35/91
Manganese	556	252	831	519	263	238	214	2870	1340	1370	602	1130	460/1100
Nickel	37.8	15.4	10.6	11.4	14.1	12.2	11	25.7	17.8	18.1	14.9	17.3	16/75
Selenium	1.2	1.2	1	1.2	1.4	1.3	0.9	1.4	0.9	1.3	1.7	1.6	5
Silver	0.16	0.07	0.1	0.11	0.1	0.05	<0.05	0.11	0.08	0.08	0.12	0.11	
Zinc	76	32	57	59	66	42	37	88	68	67	53	80	123/315

Table 3. Comparison of metal values in Vancouver Island lakes, BC Guidelines and Quinsam area lakes.

Sediment metal	VI mean value	BC Guideline	highest Quinsam conc
Arsenic	44.9	17	253
Cadmium	1.16	3.5	0.44
Chromium	360	90	45
Copper	612	197	131
Iron	30690	43766	248000
Lead	39.3	91	12.2
Manganese	2307	1100	36700
Nickel	22.7	75	152
Selenium	13.9	5	1.7
Zinc	70.6	315	261

From this comparison it seems that a number of the uncontaminated lakes shown in Rieberger (1992) are higher than the BC sediment guidelines. This is because in some areas the natural mineralization is high and this is reflected in the lake sediments. There is no widespread metal contamination in the Quinsam area but there are enough high values in the Long Lake area to be of concern that aquatic life might be affected. The metal of greatest concern is arsenic.

3.2 Benthic invertebrate identification and analysis

Based on elevated sulphate concentrations in the receiving environment, the noted impacts to the phytoplankton community in Long Lake, the question arose as to whether there might be subsequent impacts occurring in other parts of the ecosystem. The sampling program for the sediments and the benthic invertebrates was designed to attempt to answer this question with respect to the potential effect of the Quinsam Coal operation on the aquatic communities of the adjacent lakes. Of the four lakes sampled, Long Lake was assumed to likely be most affected. Middle Quinsam Lake would be less affected, No Name Lake only insignificantly and Upper Quinsam Lake served as a control.

The raw data provided a listing of the taxa identified at each sampling location and the numbers of each taxa. The level of taxonomy differs with each group of organisms. For some groups of

The overall Quinsam lakes evaluation indicates that there are some environmental effects occuring. In the analysis of the PAH data and the metal data, it seems clear that the mining operation has had an effect on Long Lake and some of the tributaries and drainage ditches that flow into Long Lake. It would also appear that the benthic invertebrate community in localized areas in or near Long Lake has been affected. In the larger evaluation where the lakes themselves are compared there is no strong evidence that the overall characteristics of the benthic invertebrate communities between the lakes shows any significant differences.

It may be useful to examine other studies that have been done to evaluate this type of environmental problem. There are no known completely similar situations. A lake that may be the best point of reference for Long Lake, although the circumstances and geography are quite different, but there are some common characteristics, is Wabamun Lake in Alberta. The lake is effected by a coal powered electrical plant which has increased both metals and PAHs in the sediments. The sulphate concentration in the lake has also increased (Rasmussen 1982; Alberta Environment 2002, 2003). The contamination and changes in Wabamun (especially after the 2005 train derailment and spills into the lake) is different and more serious than the situation at Long Lake but certainly can be used as a relevant comparison if additional sampling is to be considered for Long Lake. Far more sampling and evaluation has been done for Wabamun Lake than for Long Lake.

The predominance of chironomids in all the lakes of the Quinsam system is likely a reflection of their normal dominant presence in undisturbed systems especially in coastal lakes. It has also been noted that chironomids have some natural protective mechanisms that might protect them from the effects of metals (Halpern et al 2002). It might be better to use some other approach for the evaluation of toxic effects caused by metals specifically. Wiederholm (1984a, b) and others have used rates of deformities as an indicator of toxins and this might be used as a future means of evaluation of the effects of the coal mining operation.

6.0 REFERENCES

Alberta Environment. 2002 A review of recent studies on Wabamun Lake http://environment.gov.ab.ca/info/library/6138.pdf

Alberta Environment. 2003 Significance of Sediment Quality on Aquatic Biota

Fisheries and Oceans
Pêches et Océans

Pacific Region
Quinsam River Hatchery
4217 Argonaut Road
Campbell River, B.C
V9H 1P3

January 30, 2003

Dear Mr. Goodrich:

Subject: Coho Colonisation numbers to the upper Quinsam Lakes and survival.
As requested, I have attached a copy of the 2002 release data from helicopter transplants of Quinsam River Coho fingerlings into the upper lake areas of the Quinsam River Watershed. As you know, this colonisation program has been part of the Quinsam Hatchery enhancement strategy since the 1970's, and takes advantage of a large area of prime rearing habitat for Coho juveniles that is not accessable to adults, because of impassable falls.

In regards to Long Lake, typically 15,000 to 25,000 Coho fingerlings are distributed into this area, which flows down to meet Middle Quinsam Lake, and then the Quinsam River. From many years of downstream trapping near the hatchery site, we have enumerated colonised fish as they migrate out to sea, and have assessed their survival. Also, in 1983, hatchery staff were involved in an overall watershed assessment project to gain background data on fish, water quality, and flows before the coal mine was started. In reviewing this report, it is clear that Long Lake is an important and productive over-winter rearing habitat for the Coho that were planted into the lake. (as determined by minnow trapping and downstream smolt trapping).

I continue to consider Long Lake as valuable rearing habitat for salmonids, and will use this area for Coho colonisation annually, providing that environmental conditions do not put the fish at risk.

Sincerely yours,

David Ewart
Acting Watershed Enhancement Manager
Oceans & Community Stewardship Program
Central Coast Area
Quinsam River Hatchery
Directeur par intérim de mise en valeur des bassins hydrographiques
Programme d'interdance des océans et des communautés
Écloserie de Quinsam River
Secteur côte centrale

Canada

Campbell River Environmental Committee

Post Office Box 25002
2016 South Island Highway
Campbell River, BC
V9W 8G6

Mr. Randy Alexander
Regional Environmental Protection Manager
Vancouver Island Region
Ministry of Environment
2080A Labieux Rd.
Nanaimo, B.C. V9T 6J9

July 13, 2006

Dear Mr. Alexander:

Thank you for sending me the report "An evaluation of the sediment quality and invertebrate benthic communities of Long and Middle Quinsam Lakes with regard to local coal mining activity prepared by Dr. Rick Nordin of the University of Victoria, dated March 2006, which I received on July 11, 2006.

As you are aware the report analyzed data taken by members of your staff in Sept. of 2003 and 2004. The data analyzed metals, polycylic aromatic hydrocarbons (PAH's) and the benthic macroinvertebrates from lake sites around the Quinsam coal mine. The report indicates that four metals: arsenic, iron, manganese and nickel exceeded provincial government guidelines at a number of sites with a specific concern regarding arsenic in Long Lake and No Name Lake. The report also indicates that polycylic aromatic hydro- carbons (PAH's) concentrations exceeded provincial guidelines for the protection of aquatic life " at a number of sites in Long Lake or the drainage ditches and settling ponds associated with Long Lake." In addition benthic invertebrate samples indicated " lower productivity and less diversity was present at some sites in Long Lake and sites draining to Long Lake, reflecting localized influence/contamination from the Quinsam mine tailings (effluent)". And from page 19 " In the analysis of the PAH data and the metal data, it seems clear that the mining operation has had an effect on Long Lake and some of the tributaries and drainage ditches that flow into Long Lake. It would also appear that the benthic invertebrate community in localized areas in or near Long Lake has been affected.

Although our group has not had a chance to review this report in detail, 3 questions immediately come to mind.

1. I notice that, although this data was taken in Sept. of 2003 and Sept. of 2004, there is no mention of it in the 2003, 2004 or 2005 Environmental Technical Review Committee meeting minutes or the subsequent 2004, 2005, or 2006 reports filed in our local newspapers under your name. Our people are particularly sensitive to toxic metal contamination of our rivers from mining operations because of experiences in the past. It appears that what may have happened is that, while you took the data in 2003 and 2004, you didn't address any of it until 2006. If that is not the case please tell us so and explain. If that is the case, please explain the delay.

2. Considering the above- mentioned quotation from page 19, what changes will your ministry be requiring of the mining operation to mitigate the effects documented?

3. Would these changes not have been better implemented in 2004 or 2005? Please respond to our questions in writing.

Sincerely,

Stan Goodrich
CREC Member

cc Media
Clare Trevena
Catherine Bell
Pacific Salmon Foundation
City of Campbell River
Regional District of Comox-Strathcona

BRITISH COLUMBIA

July 24, 2006

File: PE-07008

Campbell River Environmental Committee
PO Box 25002
2016 South Island Hwy
Campbell River BC V9W 8G6

ATTENTION: Mr. Goodrich

Dear Mr. Goodrich:

RE: Long and Middle Quinsam Lake - Sediment Quality and Benthic Impact Assessment

Thank you for your letter of July 13, 2006. In your letter you make reference to the work of the Environmental Technical Review Committee (ETRC) and the report "An Evaluation of the Sediment Quality and Invertebrate Benthic Communities of Long and Middle Quinsam Lakes with Regard to Local Coal Mining Activities", prepared by Dr. Rick Nordin from the University of Victoria in 2006.

Dr Nordin's report is the result of a multi-year Ministry of Environment (MOE) initiative evaluating sediments in four lakes in closest proximity to Quinsam Coal mine. This study was initiated in the fall of 2003, and sampling was completed in the fall of 2004. The raw 2004 analytical results were received by the MOE in 2005 and Dr. Nordin was subsequently retained to evaluate the data. Dr. Nordin submitted his draft report in March 2006, the findings of which were shared with the public, including the Campbell River Environment Committee (CREC) at the Quinsam Coal public meeting on May 10, 2006. The sequence of events is consistent with a prudent scientific approach designed to ensure that the conclusions of the work are sound and supportable.

Now that the study is complete, the MOE is engaging the company to review the findings, identify causes, and to develop follow-up actions required to ensure the discharge from the mining activities will not have adverse impacts on the local watershed.

.../2

Ministry of Environment
Vancouver Island Region
Environmental Protection Division
Mailing Address:
2080A Labieux Rd
Nanaimo BC V9T 6J9
Telephone: 250 751-3100
Facsimile: 250 751-3103
Website: www.gov.bc.ca/env

Ewart, David

From: Ryan,Andrea [PYR] [Andrea.Ryan@ec.gc.ca]
Sent: November 10, 2005 11:47 AM
To: EwartD@pac.dfo-mpo.gc.ca
Cc: Hagen,Mike [PYR]; Sylvestre,Stephanie [PYR]; rosie.barlak@gov.bc.ca
Subject: WQ and benthic data - Quinsam River

Hi Dave -

Included is some info from our water quality monitoring site on the Quinsam River (near the mouth - below the hatchery). Unfortunately Mike Hagen is unable to attend next week's meeting, so I'm forwarding you the information that I would have provided to him had he attended.

I've included graphs for calcium, sodium, strontium and conductance - all of which are still increasing at the site. I've also included a graph of sulphate - the good news being that it appears to have levelled off over the past few years (although it still remains roughly 4 times higher than background levels). The other variables mentioned do not exceed any water quality guidelines - many of them don't have any. The continually increasing trends seen for these variables however are of concern, although we don't know at this point what impacts(s) (if any) the changing water quality is having on aquatic life in the river.

The benthic surveys that we've carried out at our site over several years have all however indicated that the benthic population at this site is very far removed from what we would expect, and is classified as "severely stressed" in comparison with the reference condition. Specifically, there is an overabundance of chironomids and worms at the site - organisms which are pollution-tolerant. I've also attached more specific details on the benthic information and the reference condition approach, that Stephanie Sylvestre prepared. At this time we're unable to say whether it is the mine or some other more localized influence that's impacting the bugs. The additional samples we collected this year will hopefully help clarify this, but we won't have the results back on that for several months.

Anyhow, I hope this information is useful to you - feel free to give me a call if you have any additional questions or concerns.

<<Summary of Quinsam River Results 01 03 04.doc>> <<Quinsam graphs in word.doc>>

P.s. Rosie - thought you might be attending in John's place, so would want the info as well...

Andrea Ryan
Senior Water Quality Scientist
Environment Canada
Phone: (604)-664-4001
Fax: (604)-664-9126

Environment Canada Environnement Canada

COPY

Environment Canada
Environmental Protection Operations
201 – 401 Burrard Street,
Vancouver, BC V6C 3S5

June 28, 2006

4480-37/Q130

Stanley Goodrich
Julie Sigurdson
Campbell River Environmental Committee
PO Box 25002
South Island Highway
Campbell River, BC V9W 8G6

Dear Mr. Goodrich and Ms. Sigurdson:

Thank you for your letter of April 25, 2006. I apologize for the delay in responding. Stephanie Sylvestre is the project lead for the benthic invertebrate assessment program and the national Canadian Aquatic Biomonitoring Network (CABIN) program in BC. Together with Andrea Ryan, project lead for long-term water quality monitoring stations, they are currently analysing the 2005 Quinsam River water quality and benthic invertebrate samples. They will send a preliminary analysis to you by the end of the summer.

The Water Quality Monitoring Office of Environment Canada is investigating why results of the survey conducted at the Quinsam River near the mouth (BC08HD0004) indicated such a large departure from reference condition. As part of this investigation, Environment Canada plans to conduct additional sampling this coming fall to look at spatial changes in invertebrate communities and water quality along the Quinsam River. Water quality and invertebrate (CABIN) data from Quinsam River near the mouth (BC08HD0004) is available online at www.waterquality.ec.gc.ca.

Please e-mail me with questions or concerns at mike.hagen@ec.gc.ca. Please contact Stephanie Sylvestre directly (stephanie.sylvestre@ec.gc.ca) regarding the CABIN sampling in the lower Quinsam River.

Mike Hagen
Environmental Effects Scientist
Pollution Prevention and Assessment

cc Margaret Wright, DFO
Stephanie Sylvestre, EC
Andrea Ryan, EC
John A. Fraser, Pacific Salmon Commission

8.0 WATER QUALITY AND DISCHARGE RATE DATA GAPS

The following table summarizes the water quality and discharge rate data that were missing during this report period:

Monitoring Station	Parameter	Date
WD	TSS (daily)	May 31-June 4, November 28
	Bioassay	One bioassay result was missed due to a laboratory error
SPD	TSS (daily)	May 24, October 11&12, November 14 & 30
	Daily Maximum and Average Discharge Rate	May 26
WC	Nitrite/Nitrate Nitrogen	Third & last week of April and last week of May
WA, WB & LLO	Flow	Last week of October
LLO	Total Kjeldahl Nitrogen	Third week of August
Middle Point Barge Terminal	Oil & Grease	Second week of October

Daily TSS samples were missed from May 31 to June 4, 2005 and November 28, 2005 at monitoring station WD for decant flow greater than 0.054 m^3/s and on May 24, October 11 and 12, November 14 and November 30, 2005 at monitoring station SPD for decant flow greater than 0.046 m^3/s. The TSS samples were missed due to sampler error.

Monitoring station WD was missing a bioassay result during the report period due to a laboratory error and monitoring station LLO was missing total kjeldahl nitrogen in the third week of August due to a laboratory error.

Monitoring station WC was missing nitrite/nitrate nitrogen in the third and last week of April and the last week of May. Nitrite nitrogen is required every second week at WC when decant flows are greater than 0.054 m3/s at Settling Pond #4. The samples were missed due to sampler error.

2003/04

3. WATER QUALITY AND DISCHARGE RATE DATA GAPS

Tf following table summarizes the water quality and discharge rate data that was missing during this report period:

Monitoring tation	Parameter	Date
.ID	TSS (daily)	May 14
	Discharge Rate	May 20, December 14 to March 12, March 28
SPD	TSS (daily)	November 18, 19, 22-31, January 19, February 2, March 18-20
	Discharge Rate	November 17 – December 11
'NA, WB, LLO, MQL, LLM	Total Phosphate	3rd week of August
3S Pit	pH, Dissolved Iron	1st week of January
NNO	TSS	1st week of February
Middle Point Barge Terminal	TSS, pH, Oil and Grease	July 17, August 11, January 5 and 12
Davis Weather Monitoring Station	Precipitation	August 16 & 17, October 24 & 25, January 1 & 6

Discharge volumes were not recorded at monitoring station WD on May 20 due to a paper jam, om December 14 to December 21 due to the loss of the flow meter when the Settling Pond #4 culvert failed and from December 22 to March 12 due to the Settling Pond #4 dam repairs. Discharge volumes for March 28, 2004 were not recorded due to a flow meter malfunction. Discharge volumes at SPD were not recorded from November 17 to December 11 due to a malfunctioning flow meter. The meter was replaced with a new flow meter on December 12, 2003.

A TSS sample was missed on May 14th at monitoring station WD for decant flow greater than 0.054 m^3/s. The reason for the missing composite sample is unknown. Monitoring station SPD had missing TSS samples on November 18, 19 and 22-31 during the time when flow was not being monitored at Settling Pond #1. TSS samples were also missing at SPD on January 19,

2001/02

8.0 MISSING WATER QUALITY DATA

The following table summarizes the water quality data that was missing from all monitoring stations:

Monitoring Station	Parameter	Date
WD	TSS (hourly composite)	April 11, June 19 & 20, February 5 and March 24
	TSS (daily composite)	1st week of February
	pH	1st week of February
	Nitrate nitrogen, total and dissolved phosphate	3rd week of November and 1st week of February
SPD	Nitrate nitrogen, total and dissolved phosphate	3rd week of November and 2nd week of December
		2nd week of December
SPC	Nitrate nitrogen, dissolved phosphate	August
	Nitrate nitrogen, dissolved phosphate	October
3 S	PH	First week of February
WP	PH	Last week of January and first week of February

The missing analysis for monitoring station WD during the first week of February was missing as a result of a misplaced sample bottle by ALS laboratory. Unfortunately the error was noticed too late to collect another sample. Most of the other missing water quality analysis was additional analysis that was required as a result of high flow conditions at the pond decants. Quinsam Coal staff has since created a template for the required water quality analysis during high flow conditions that will be used throughout the year (except during no flow conditions) to minimize missing data.

8.0 MISSING WATER QUALITY DATA

The following table summarizes the water quality data that was missing from all monitoring stations:

Monitoring Station	Parameter	Date
WD	PH, Nitrate Nitrogen, Diss/Total phosphorous	Last week of December
	TSS (composite)	October 17, January 15, March 9, 19, 22 & 30.
3S Sump	pH	Last week of July and December
WA/WB/LLO	Conductivity, pH, TSS	Last week of December
WP	PH	Three weeks each during July to September and last week of Dec.
NNO	TSS	Last week of December

! MISSING DATA

ing the 1999/00 report period, there were some samples required by permit PE-7008 that e ɔt taken. The samples were missed unknowingly by the new environmental staff. The ɔlɛ..ı with the missing sampling has since been rectified. The following is a summary of the sing data from the north and south pit water management systems.

: following table outlines the missing data:

SUMMARY OF MISSING WATER QUALITY DATA

onitoring Station	WD	SPD	SPC	WC	WP	WA, WB & LLO	3 SOUT H PIT	NNO	LONG & MQ LAKE
	1ST week in Nov.	Weekly in May, June & Oct., 1st week in Nov.				Weekly in Oct., 1st week of Nov.		Weekly in Oct., 1st week of Nov.	All required samples for May 1999
RITE	Last week in Dec.	4th week in Dec.							
RA E	1st & last week in Dec.	3rd & 4th week in Dec.		Last week in Dec.					
MC IA RC EN	Last week in Dec.	4th week in Dec.							
	1st & last week in Dec.	3rd & 4th week in Dec.			1st week in Nov.	Weekly in Oct., 1st week of Nov.	Weekly in Oct., 1st week of Nov.		
S. OSPHOROUS	1st, 3rd & last week in Dec.	3rd & 4th week in Dec.	Last week in Feb.	Last week in Dec. & Feb.					
TA OS IOROUS	1st, 3rd & last week in Dec.	3rd & 4th week in Dec.							
NDUCTIVITY						Weekly in Oct., 1st week of Nov.			April to September
& GREASE	April, June and Nov.	April, June and Nov.							

13 HISTORICAL TRENDS

istorical trends for Pond #1 are presented in graphic form in Section 10. Both settling ponds e ɔpresented for the years they have been in operation. The acid indicator parameters and ır ıeters of greatest concern have been graphed. Included are pH, dissolved metals, TSS, ıtrients and sulphate. Historical trends in Long Lake are also presented in this section.

August 2, 2003

R 39

Government should keep better tabs on QCoal sulphate levels, say groups

By DAN MacLENNAN
North Islander Reporter

The Comox-Strathcona Regional District (CSRD) board of directors has joined with city council and the Campbell River Environmental Council (CREC) in calling on the provincial government to keep better tabs on Quinsam Coal's efforts to limit sulphate levels in the Quinsam River watershed.

The resolution comes at the urging of CREC, but Quinsam Coal officials say they're dealing properly with the problem.

The CSRD board called on the Ministry of Mines and Energy to maintain past monitoring levels. The board called on the Ministry of Water, Land and Air Protection to enforce recommendations of the Environmental Technical Review Committee. The board also called for the acting regional waste manager to make public all future annual reports on the Quinsam Coal project including references to permit violations and an accounting of specific costs and efforts taken by Quinsam Coal to mitigate the impacts to the environment.

Both CREC and the District of Campbell River have voiced similar concerns to the province, notably that sulphate levels from the mine continue to exceed provincial water quality guidelines.

"We feel now that both the municipal government and the regional district have sent a clear message to both the provincial government and Quinsam Coal that they want to see more accountability on the project," said CREC's Stan Goodrich. "It's now up to them to deliver it.

"We will be watching."

> ***"We feel now that both the municipal government and the regional district have sent a clear message to both the provincial government and Quinsam Coal that they want to see more accountability."***
>
> - Stan Goodrich, C.R. Environmental Council

Quinsam Coal discharges mine effluent into Middle Quinsam and Long lakes under a waste management permit from the Ministry of Water, Land and Air Protection (WLAP).

CREC says increases in sulphate and pH levels in the lakes, both attributed to the mine, are believed to be the cause of changes to the phytoplankton in the lakes.

Those changes could negatively impact the Campbell/Quinsam river system's fish bearing capacity because Long Lake is an important part of the Quinsam River Hatchery's coho colonization program and has been since the 1970s.

CREC is also concerned that the Ministry of Mines may discontinue monitoring in the face of provincial government cuts.

"A great number of environmental groups and individuals from Campbell River protested this mine in the early 1980s, fearing that it would impact on our fishery," CREC wrote in a letter to WLAP earlier this year. "The mine was then approved by the Provincial Government.

"For the provincial government to now remove this safeguard strikes us as extremely irresponsible."

Dave Selent, Quinsam Coal's director of environment, maintains the mine doesn't have much of an environmental impact.

"In terms of environmental impact, it's pretty minimal what we're doing here," he told the *North Islander*.

"We've met all the recommendations of the Environmental Technical Review Committee (ETRC) and we actually had a meeting with the regional district when they were considering that resolution. We made a little presentation to them about what we were doing on site and I think they were actually fairly impressed with the steps we've been taking to address the sulphate issue.

"The one real issue here of environmental impact is the sulphates and we're working our way through it. We've put in these groundwater monitoring wells.

"We've put in the sulphate test cell. We're working closely with the regulators, the Ministry of Water, Land and Air Protection, the Ministry of Mines, Environment Canada, the District of Campbell River and Fisheries and Oceans."

1. Adherence to Monitoring Schedule

HB noted that no 3S Pit Wall wash (to determine runoff quality) was completed as required in last year's recommendations. DS noted that JF has done a review of the historical data to define the ARD potential of this rock wall. Action Item: JF will provide a technical memo in regard to the ARD potential of the 3S Pit Wall.

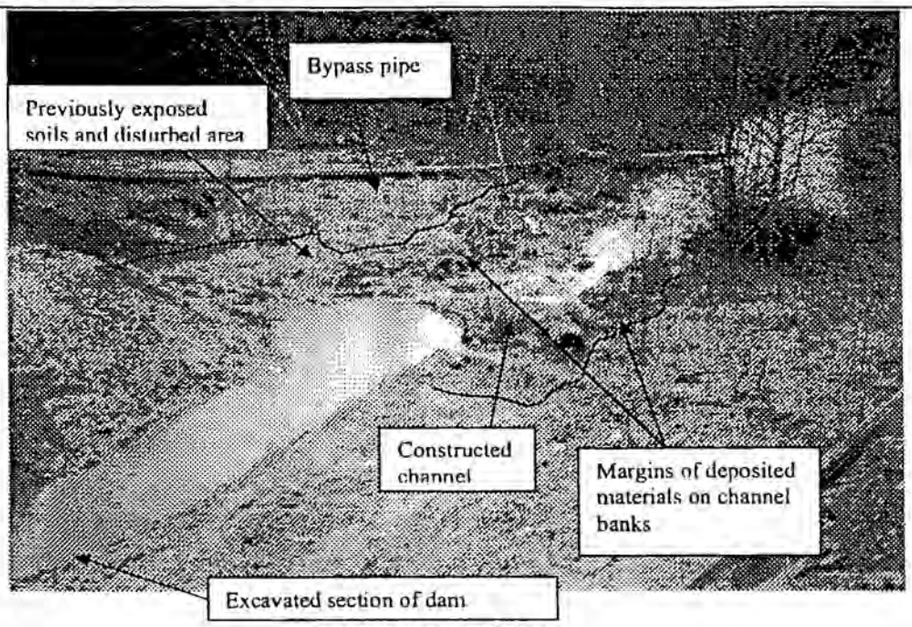
Minutes 2003

Minutes 2002

KB noted 3S pit showed a downward trend in alkalinity until March 2002 with a low of 28. There was also a corresponding low in pH of 7.3 which is significantly lower compared to other disturbed areas of the mine site. KB is concerned this could be an indicator of ARD onset, perhaps seasonal. KB feels pit wall fines may be a significant contributor. KB noted that alkalinity and pH are parameters that need to be watched carefully as possible indicators of ARD onset. (At last years meeting it was recommended that QCC assess the 3S Pit Wall (as well as 2S underground and 4S underground)for its ML/ARD potential as well as a source of sulphate generation. This should be completed).

Minutes 2001

QCC should focus on defining sulphate sources and limiting its production. QCC must develop and undertake a systematic approach to evaluating all potentially significant sources of sulphate in the south mine development area. This should include investigation of 2S underground, 3S pit walls, 4S underground, Long Lake seep etc. While no deadline for this program was defined at the meeting it is suggested such a plan be developed by March 31, 2002.



PHOTOGRAPH 1

Facing downstream of dam from atop dam crest.

PHOTOGRAPH 2

Close up of constructed channel and deposited fine materials in watercourse and coarser materials on channel banks.

Waste management official appears before council to answer questions about Quinsam Coal

By DAN MacLENNAN
North Islander Reporter

An appearance before city council by a waste management official has done little to build confidence in the province's regulation and reporting of Quinsam Coal's environmental practices.

Officials from the coal mine and from the Ministry of Water, and Land and Air Protection (MWLAP) attended the city's Committee of the Whole meeting last week. They'd been invited after members of the Campbell River Environmental Committee (CREC) addressed council, raising numerous concerns including rising sulphate levels coming from the mine; Quinsam Coal's compliance with guidelines and permit levels; and the ministry's public reporting of the company's compliance.

While the latest report from Quinsam Coal's environmental consultant lists 128 permit violations during the most recent monitoring period, CREC said, the regional waste manager mentioned only one in his annual summary report. Despite data showing sulphate levels continue to increase, the regional waste manager stated that levels were slightly lower. CREC said the ministry has also failed to enforce recommendations made to Quinsam Coal by the Environmental Technical Review Committee (ETRC).

Hubert Bunce, the MWLAP officer responsible for Quinsam Coal's mine discharge authorization permit, and chair of the ETRC, appeared before councillors on behalf of the Regional Waste Manager.

Bunce said the ministry and the company had a "healthy working relationship." He said the reporting process has improved over the years, but his interpretation of some of the data raised some concerns among councillors.

Sulphate levels in Long Lake, the receiving environment, traditionally in the range of 1 to 2 milligrams per litre (mg/l) before the mine came into being, have now exceeded the provincial government's guideline of 100 mg/l maximum for a number of years and appear to be continually on the increase.

In it's most recent summary report – published in local newspapers as required by law – the Waste Management Branch reported a decrease in sulphate levels. The branch admitted the error last month when asked by the *Courier-Islander* to explain the discrepancy.

"Are you going to correct the error in the paper?" Coun. Charlie Cornfield asked Bunce. "Is there an official statement coming out?"

"We haven't made a decision on that," Bunce responded.

Bunce repeated that the ministry didn't report some 128 violations of Quinsam Coal's waste permit because permit standards were under appeal.

As for the sulphate levels, he repeated the ministry's position that the guideline is under review. He said "the 100 mg/l level is a 'yellow light' so to speak."

Cornfield pointed out that the yellow light is actually 50 mg/l according to the guidelines.

"Your warning level is 50," he told Bunce. "The guideline that should not be exceeded at any time is 100 mg/l. That's your data."

He noted that it took the province more than 20 years to develop the guideline.

"My big concern in this whole thing is we get a group of constituents that come to us and say 'the report says sulphate is increasing. The publication in the paper says it's decreasing. The report show that there's been over limits of the permit 120-plus times, but the report in the paper says one," Cornfield said. "My concern is credibility in the source and confidence. It doesn't give me a lot of confidence that the government is doing that.

"Then when people say 'maybe it (the guideline) needs to be revised upward' I get awful suspicious."

CREC, the city, the regional district and the Tyee Club have all voiced concerns in the past with the ministry's reporting.

Quinsam Coal officials meanwhile, said the company is working hard to protect the surrounding environment.

"Quinsam Coal is committed to ensuring that the environment is kept in order and kept pristine," said mine manager Paul Krivokuca. "It's a process that we're working through to identify what the (sulphate) source is and what the best procedure is to use.

"When the procedure is identified, that best suits the issue, Quinsam will move forward to elevate its treatment cells or whatever the nature of that will be, to deal with the issue of sulphates.

"We also must ensure that when we make that determination and take that approach, that is has to be sound also."

PACIFIC SALMON FORUM
1 - 427 Fitzwilliam Street, Nanaimo, BC V9R 3A9
T: (250) 755-3036 F: (250) 755-3037
www.pacificsalmonforum.ca

R 43

COPY

29 June 2005

Mr. Hubert Bunce, Chairman
Environment Review Technical Committee
Ministry of Water, Land and Air Protection
2080A Labieux Road
Nanaimo, BC V9T 6J9

Dear Mr. Bunce:

The BC Pacific Salmon Forum was established by Premier Campbell on December 14, 2004. Our mandate is two fold: to try and resolve aquaculture salmon farms/wild salmon issues; and, to "protect and enhance the viability of wild salmon stocks and their economic, social and environmental benefits to British Columbia". I chair the Forum.

I am writing regarding the Quinsam Coal project and, especially, the concerns raised in the material sent to you by Mr. Stan Goodrich and Mr. Gordon McLaughlin (both officers of the Campbell River Environmental Committee [CREC]) by letter dated April 28, 2005.

In keeping with our mandate, we are requesting that you keep us informed of the status of the Quinsam Coal file including any response you have sent to the above noted letter, any meetings that have taken place or are proposed to discuss the issues raised by the CREC, and other information that is relevant.

We would be pleased to meet with you at your early convenience.

Thank you for your cooperation.

Sincerely,

John A. Fraser, Chair

cc: Stan Goodrich, CREC
Gordon McLaughlin, CREC
BC Pacific Salmon Forum Members

Claire Trevena MLA
North Island
908 Island Highway
Campbell River V9W 2C3
Phone: 250 287 5100

7th July 2005

Mr Hubert Bunce
Chairman ETRC
2080 A Labieux Road
Nanaimo V9T 6J9

Dear Mr Bunce,

I have been approached by the Campbell River Environmental Committee who, following a meeting with you, requested further information in a letter sent to you 28 April 2005.

I wondered whether you could provide the answers to the eight points raised in their letter.

Many thanks for your assistance.

Yours sincerely,

Claire Trevena, MLA
North Island

cc: Gordon McLaughlin, president CREC
Stan Goodrich, vice president CREC
Hon. Barry Penner, Minister of Environment

REGIONAL DISTRICT OF
Comox-Strathcona

Tuesday, June 28, 2005
Minutes of the meeting of the Committee of the Whole held on June 28, 2005, in the Board Room, Regional District Office, Courtenay, BC, commencing at 9:07 a.m.

MINUTES

Present:		
Chair:	J. Abram	Electoral Area 'J'
Directors:	N. Ahmed	City of Courtenay
	F. Bates	Village of Cumberland
	C. Cornfield	City of Campbell River
	B. Leigh	Electoral Area 'D'
	D. Lewis	Village of Gold River
	B. Matthews	City of Campbell River
	B. Minaker	Electoral Area 'C'
	S. Murray	Electoral Area 'A'
	T. Pater	Electoral Area 'G'
	C. Pederson	Village of Zeballos
	B. Price	Electoral Area 'B'
	P. Rambo	Electoral Area 'H'
	H. Sprout	Village of Sayward
	D. Strand	Town of Comox
	G. Sirk	Electoral Area 'I'
	S. Winchester	City of Courtenay
Alt Director:	M. Ashley	City of Campbell River
Absent:	S. McNeil	Village of Tahsis
	C. Quin	Electoral Area 'K'
Staff:	B. Dunlop	Manager of Financial Serivces
	G. Faris	GM, Operational Services
	M. Lapp	Financial Services Assistant
	B. Long	Chief Administrative Officer
	D. Oakman	GM, Corporate Services
	D. Sargent	Manager Community Planning Operations
	J. Warren	Manager of Legislative Services

DELEGATION

Campbell River Environmental Council (CREC)

Ian Goodrich, Vice President and Gordon McLaughlin of the Campbell River Environmental Council (CREC), were present to request support in forwarding letters to obtain information from the Ministry of Environment, regarding the Quinsam watershed and specific environmental concerns relating to the Quinsam Coal project.

Director Leigh entered the meeting at 9:15 a.m.

Matthews/Ahmed: THAT the information package provided by the delegation from the Campbell River Environmental Council (CREC) regarding environmental concerns with the Quinsam Coal project, be received.

DELEGATION

Campbell River Environmental Council (CREC)

Stan Goodrich, Vice President and Gordon McLaughlin of the Campbell River Environmental Council (CREC), were present to request support in their efforts to obtain information from the Ministry of Environment, regarding the Quinsam watershed and specific environmental concerns relating to Quinsam Coal project.

Director Leigh entered the meeting at 9:15 a.m.

Matthews/Ahmed: THAT the information package provided by the delegation from the Campbell River Environmental Council (CREC) regarding the environmental concerns with the Quinsam Coal project, be received.

CARRIED

Cornfield/Minaker: THAT the Regional District of Comox-Strathcona request that the Ministry of Environment respond to the questions posed by the Campbell River Environmental Council (CREC); AND FURTHER THAT Item No. 6 of CREC's request to the Ministry be modified to include that all meetings follow the guidelines of the Community Charter with respect to public access; AND FURTHER THAT the correspondence be copied to the North Island MLA's and Quinsam Coal.

CARRIED

The delegation left the meeting at 9:40 a.m.

sulphate using iron.

There was agreement on the proposed monitoring program and parameter sampling outlined on pg. 5 of the Golder October 26, 2005 report for the "3 South Sulphate Treatment Cell".

DS and JF feel that site specific application of sulphate treatment systems being developed have potential to provide benefits in the future.

RS asked if it was possible to plug the seep that enters Long Lake. JF noted that he felt this would be a difficult to impossible task.

PM asked for the pulps from the kinetic test pads. **QCC will provide the pulps** They are noted in the Nov '05 Golder report "Review of Sulphate Treatment"

PM noted KB Kim Bellefontaine had requested a system of identifying and monitoring ARD hotspots, i.e. North pit sump, north adit, south tailings dam. DS noted that QCC is following up on this by completing weekly sampling of the 2N portal, the south tailings dyke pond and the 2N south Coarse refuse dump seep.

HB noted that Environmental Procedures Manual could be tied into the ETRC annual report. **HB will complete a review of the updated EP manual and report back to QCC by spring 06.**

The idea of a follow up public meeting to review the annual report and any concerns the the public may have was raised as a good idea. DS agreed that such a meeting with CREC DFO and the city similar to what has been done in the past is useful. **HB agreed to arrange a meeting early in the new year.**

JF provided an update on the Sulphate Pilot Treatment System and which systems had performed well and which had not and the possible reasons. He also gave a description of the system they have chosen to upgrade and the details of the scaled up version.

Watershed specific sulphate criteria development

HB Noted that MOE Provincial biologists met in the spring and agreed that there was a need to review the Provincial Water Quality criteria for sulphate, currently established at 100 mg/L. Previously the ministry had directed Quinsam Coal to complete an assessment of sulphate in the Quinsam River watershed and have a qualified professional develop a watershed specific sulphate criteria. As a result of this Provincial review the requirement that QCC develop a watershed specific criteria for sulphate has been withdrawn pending the outcome of the provincial review. The Quinsam River watershed is one of the watersheds being assessed as part of the Provincial review. Environmental Quality staff from MOE will be conducting additional sampling in the Quinsam R. watershed related to this assessment in the coming months.

Monitoring Program and Additional Recommendations

Continuation of existing monitoring regimes with the following changes:

Include monitoring of S3 high wall and pore water and pit water at depth.

Include monitoring program for new sulphate treatment cell as outlined in Golder Report "3 South Pit Sulphate Treatment Cell Construction" Oct 26, 2005

Representative Acid Base Account (ABA) sampling of rock when it is quarried from the mine site quarry located near the N. end of Long Lake. The rock is used around the mine site for road base and foundation purposes.

Work will be conducted by Ministry of Environment to determine a sulphate receiving environment criteria relative to conditions specific to the Quinsam River Watershed.

Annual Report to reflect changes as noted in action items above

Draft Minutes of:

Quinsam Coal Public meeting of May 10, 2006 Follow up to ETRC meeting and Public Notice. (issues included in related April 25, 2006 letter from CREC to Randy Alexander also considered)

Attendees: Dave Ewert-DFO, Stan Goodrich-CREC, Noel Lacks-CREC, Don McIvor-CRED, Rick Senger-DFO, Kathy Campbell-City of CR, Dave Selent-QCC, Hubert Bunce-MOE, Deb Epps-MOE, Andjela Knezevic-Stevanovic-MOE

Action Items in Bold

1. HB noted that the issuance of the Environmental Tech Review Committee (ETRC) minutes and public notice were delayed by a combination of factors including the need to respond a number of enquiries to political representatives as a result of letters sent by CREC last November; that I was away for more than three weeks as my mother in law was dying; and that assistance I had hoped to get from our administrative support staff was not forthcoming.

NL asked how Env. Can and DFO were involved in the process. It was noted that they are both members of the ETRC.

HB noted that Env Can and the CSRD had been invited to this meeting. Env Can indicated they were unable to attend (Env Can) but would respond in writing to the CREC April 25, 2006 letter. The CSRD did not return my call.

2. Non compliance issue relating to 81 recorded flow exceedance events. GS noted concern about this non-compliance and its possible impact on the receiving environment. KC asked how seriously the mine took the issue of non compliance with the flow discharge permit limit?

DS noted that they took the issue seriously and it was important to note that 79 of those exceedances were of the average daily permit limit and only 2 were of the max. daily limit. DS also noted that the originally permitted discharge levels were significantly greater than the current permit limits. It was noted that the higher flows result from the larger area of the mine and are directly related to the higher inputs from precipitation therefore higher discharge flow occurs when there is naturally higher flows in the receiving environment

The alternatives relative to discharge flow rate are to try and contain more water on site and average the flow out over a longer period, or to request an increase to the maximum discharge flow rate. DS noted that the mine is probably leaning toward the later. The mine and MOE are currently assessing which alternative or combination of alternatives may be the most appropriate. KC asked if the flow exceedance issue was likely to be resolved in the next year. DS indicted that it would be subject to work by MOE on any necessary permit amendment application that may result.

GS noted a concern that permit limits seem to be changed to resolve non-compliance issues. HB explained that permit limits can reflect two different issues, a limit designed to minimize the impact of a particular discharge parameter on the receiving environment or a limit requested by the permit applicant that reflected their predicted ability to meet discharge requirement at the time of application based on the predicted activity of the operation. All aspects of the discharge permit limits are considered relative to their potential impact on the receiving environment but a permit limit does not necessarily indicate that it represents the maximum level of a particular parameter that the specific receiving environment may be able to assimilate. (conversely upon review of monitoring data it may be determined that a particular receiving environments may not be able to assimilate the permitted limits and amendment of the discharge may be required)

GS and DM noted that the Public Inquiry made a number of recommendations that were no longer being followed. HB noted that a number of conditions that were suspected to be issues at the time of the inquiry

THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS OF THE COMMISSION

The Commission, in its evaluation of the environmental issues associated with the Quinsam Coal Project, has reviewed and studied all of the evidence submitted at the hearing. It has combed through this evidence and summarized that which it considers to be the most important made by each of the participants. These summaries are recorded in the foregoing sections. Also, in its investigation, the Commission has studied a number of technical papers, principally in relationship to suspended solids and nutrients.

In addition to the reviews of the evidence presented at the hearing, and that contained in the technical literature, the Commission also visited the mine-site on two occasions, and investigated the physical properties of the area involved. The Commission also visited the Widco open-pit coal mine operations in Centralia, Washington, U.S.A., and studied its operations, reclamation program and environmental protection devices and installations.

1. GENERAL

The Quinsam River and its watershed is indeed a very sensitive area to potential environmental damage from the operations of the open-pit coal mine. The system and its watershed have the characteristics of a virtually undisturbed natural environment. The system also sustains a vigorous and valuable fishery, both in the river system itself and in the surrounding salt waters of the Campbell River area. The protection of this fishery and the protection of the pristine environment of the Quinsam system are extremely important to both the economic and recreational well-being of the people of Campbell River.

The people of this area, after having witnessed the degradation of the Campbell River system through the development of other mining operations, forest industry operations, and the hydro-electric installations, are

Province of
British Columbia

OFFICE OF THE COMMISSION
Quinsam Coal Inquiry
Room 218, 557 Superior Street
VICTORIA, B. C.
V8V 1X5

Honourable Anthony J. Brummet,
Minister of Environment,
Parliament Buildings,
Victoria, B. C.
V8V 1X4

Dear Mr. Brummet:

re: Quinsam Coal Public Inquiry

The Quinsam Coal Public Inquiry has now been completed and the report on the findings, conclusions and recommendations of your Commission is herewith submitted.

Essentially, the Commission has found that the Quinsam River and its watershed are very sensitive to environmental damage. Notwithstanding this fact, the Commission has also found that if proper care and attention are paid to the environmental aspects of the construction and operation of this mine, by both the Company and the Government control agencies, the mine can be brought into existence and be operated without doing appreciable damage to the surrounding environment or the Quinsam River fishery. The phrase "proper care and attention" applies to the management of the day-to-day operations of the mine, to the design of the control facilities to mitigate possible environmental damage, to the provision of adequate contingency measures for any emergency or unforeseen event, and to the supervision and surveillance program.

The Commission believes that the public hearing had a beneficial effect, not only in crystalizing all of the main issues of concern on the project, but on improving communications between all of the parties involved. The Commission also believes that continued positive communication is essential to the success of

- Excessive amounts of suspended solids in the mine effluent which could have deleterious effects on the fish and their spawning grounds.

- Discharge of nutrients (nitrogen and phosphorus) which could cause excessive algal growth in the waters of the Quinsam system, which in turn would be deleterious to water quality and fish production.

4) THE CONCLUSIONS AND RECOMMENDATIONS OF THE COMMISSION:

The conclusions and recommendations on the various environmental aspects of the project which the Commission was directed to investigate, are as follows:

a) General.

The Commission has concluded, after studying all of the evidence presented at the hearing,and all of the information available pertinent to the project, that the mine, and its ancillary facilities, can be constructed and operated, with appropriate mitigative measures, so that the impact to the environment, including the fishery, will be small in nature, provided the recommendations of the Commission are followed. There is no doubt, however, that there will be come changes to the ecosystem in the area, but the Commission firmly believes that these changes would be minimal, provided that adequate surveillance of the operations of the mine takes place and immediate corrective action be instigated in the event that a problem develops, unforeseen or otherwise.

b) The Mine Plan, Acid Generation & Heavy Metals.

Provided the mine plan is followed, no acid generation or heavy metal discharge should take place. If, for some reason, small quantities of acid are generated or heavy metals do leach into the mine effluent, there are mitigative or contingency measures which could be taken to prevent these substances from entering the Quinsam River system.

deal with potential noise and dust problems:

1. Instructions be issued to coal haul truck operators on the methods of operating trucks in a quiet manner, particularly for deceleration and braking. Truck maintenance should reflect this commitment by the Company.

2. Coal trucks to be washed and covered to eliminate the possibility of fugitive coal dust emissions along the haul route, thus reducing potential impacts on vegetation, wildlife and watercourses.

October 2, 1987

Mr. G. E. Oldham
Regional Waste Manager
2569 Kenworth Road
Nanaimo, British Columbia
V9T 4P7

Re: QUINSAM COAL HAULAGE ROUTE AND METHODS

Dear Mr. Oldham,

As you are aware one of the recommendations of the Commission, contained in the report of the Public Inquiry into the Quinsam Coal Project of, 1984, was, in part, that all coal trucks, "be washed and covered to eliminate the possibility of fugitive coal emissions along the haul route". (page 228) The haul route was to turn North from Highway 28, cross the bridge and follow the logging road north to where it connects with Highway 19, near Duncan Bay. Thus the coal trucks would not be going down Highwas 28 past Campbellton Elementary School and through the north end of Campbell River.

The Campbell River Environmental Council has received complaints that some of the Quinsam Coal trucks transporting coal from the mine site to Middle Bay have not been covered. We have also received complaints of coal trucks following Highway 28 South to the Junction of Highway 19 and then North across the green bridge along Highway 19 to Middle Bay.

In looking at Quinsam Coal's permit (PA 6936) dated, March 12, 1985, and signed by yourself, there does not appear to be a requirement that the coal trucks be covered. It also appears that the haul route is unspecified. As these are matters of some importance to the Envirnmental Council, could you please clarify these appearent inconsistences for us?

Sincerely,

Stanley Goodrich, Secretary

cc: Quinsam Coal
Minister of Environment and Parks
Colin Gabelman, MLA
Campbell River Upper Islander
Campbell River Mirror

Province of British Columbia

Ministry of Environment and Parks

Vancouver Island Region
Regional Headquarters
2569 Kenworth Road
Nanaimo
British Columbia
V9T 4P7
Phone: (604) 758-3951

R 51

November 23, 1987
File: PA-6963

Campbell River Environmental Council,
115 South McCarthy Street,
Campbell River, B. C.
V9W 5P8

Attn: Stanley Goodrich, Secretary

Dear Mr. Goodrich:

Re: Quinsam Coal Project

Thank you for your letter of October 2, 1987 in which you inquired about some aspects of the coal hauling operation associated with the Quinsam Coal project.

The Quinsam Coal inquiry addressed the proposed production and transportation of approximately 900,000 tonnes of coal per year. However, the actual coal mining activity to date has involved extraction of only 20,000 tonnes.

This coal, which was mainly intended for test burning, was distributed in relatively small quantities to various customers by trucks and barges on the mainland, and by trucks on the Island. Our periodic observation of the operation has indicated that there have been no problems with the dust generation along the haul route.

As a result of your letter, we have contacted Quinsam Coal, and have requested that the trucks be covered in accordance with the company's commitments made during the inquiry. It is our understanding that this request is now being complied with by all truck drivers.

With regard to the haul routes used by the company, please be advised that we do not normally specify the haul roads used in Waste Management permits. Rather, these concerns are more appropriately addressed by the Ministry of Transportation and Highways, and/or the municipality or district through which it passes.

If you require more information, or wish to discuss this matter further, please contact the undersigned at 758-3951 (Nanaimo).

Yours truly,

G. E. Oldham, P. Eng.
Regional Waste Manager

VP/mrb

R 52

copy

December 15, 1992.

Mr. E. W. Beresford, P. Eng., Chairman,
Vancouver Island Mine Development Review Committee,
1A, 3411 Shenton Road,
Nanaimo, B.C. V9T 2H1

FAX: 755-2474 re: Meeting: December 16/92

Dear Sir:

I understand that the Committee will meet tomorrow regarding the Quinsam 10-year underground mine plan.

I am most concerned regarding Items 2 and 3 on your agenda. I am personally aware of incidents concerning highway use by coal trucks causing extreme hazard for motorists using the Gold River Road, and the Island Highway both north to Middle Point, and south to Courtenay. I attach a letter from a local resident.

I recognize that the mining industry is important to the community, but the company has a strong obligation to adhere to safety standards when travelling an already congested highway. Since drivers are often under individual contract, both they and the company have a responsibility to other drivers on the road, in observing speed limits and all other safe driving measures. I intend to pursue this matter at the Comox-Strathcona Regional Board meeting, since more than one community is concerned. I suggest that it may be possible for Brinco to move coal trucks along the ERT right-of-way in co-operation with Fletcher Challenge when travelling south. The route to Middle Point was originally approved as an off-highway route, and should be adhered to by the drivers who represent Brinco.

Concerns have been expressed by many groups in Campbell River concerning coal dust and particles which have been found at the side of the road near sensitive streams, despite the fact that trucks are supposed to be covered. Again, I have personally observed the spillage which is unacceptable to our community, in view of environmental standards set during the Quinsam Coal hearings.

I trust these matters will be brought to the company's attention, and I look forward to hearing from you following the meeting.

Yours truly,

Mary L. Ashley,
Mayor.

R 53

trend at Settling Pond #4 and appears to be due to increased dilution during the higher precipitation months.

Dissolved arsenic and selenium concentrations have remained below detection limits since data collection began in 1994. There is no indication of increased concentration of these metals due to the increase in pH that has occurred at the mine site over time.

6.1.6 Water Quality Permit Limit Exceedances

All permitted parameters were below the permit limits during this report period.

6.1.7 Flow Volumes and Exceedances

The rate of discharge at WD peaked at 34,680 m^3/day on January 5, 2006 and flows exceeded the permitted maximum and average daily discharges on a number of days during this report period (Tables 3-1 & 3-2). There were a total of 6 exceedences of the permitted maximum daily flow of 27,648 m^3/day and 131 exceedances of the permitted average daily flow of 6,912 m^3/day. Average daily flow exceedances ranged between 6,955 m^3/day and 32,240 m^3/day and occurred in the months of April and May 2005 and November 2005 to March 2006. Maximum daily flow exceedances occurred in the months of January and February 2006.

The high flow volumes at WD were a result of the larger water volumes that are pumped from the 2 North underground mine during periods of high precipitation in the winter months. The mine needs to be kept dry to maintain mine operations and for the safety of the workers underground.

6.1.8 Bioassays (Settling Ponds #1 and #4)

Bioassay samples were collected from the Pond #1 and Pond #4 decants using 5-gallon plastic containers. Following sample collection, the samples were immediately shipped to ALS Environmental in Vancouver for analysis. Samples were collected in November and December 2005 and January and February 2006 in accordance with the requirements of PE-7008. Due to a laboratory error, the sample that was collected from WD, and submitted to the laboratory in November, was not analysed. Another sample was collected from WD in December, once the error was discovered. ALS conducted 96-hour pass/fail toxicity tests (LC_{50}) with rainbow trout

Toxicity tests should be a part of the routine operational monitoring program pursuant to waste management permits issued for the settling pond discharges.

Pond effluent should be monitored on a continuous basis to ensure that the pH is not less than 6.0, or greater than 8.0.

A nutrient monitoring regime should be developed for the settling ponds, Middle Quinsam Lake, Long Lake, and the Quinsam River, following evaluation of the baseline monitoring data and the final design of the nutrient control measures.

Routine visual inspections of all drainage ditches, settling ponds and equipment should be made on a regular basis by the Company Environmental Supervisor. Corrective action should be implemented immediately for any event or malfunction that may cause a degradation of settling pond effluent quality.

If subsequent to mine start-up, the water quality of the Quinsam River downstream of the mine-site is close to the critical level of the water quality objectives established for pH, suspended solids or other important parameters, then a continuous monitoring station should be established in the Quinsam River downstream of the mine-site to monitor the offending critical parameter.

d) Air Quality

The following should be monitored on a routine basis:

- Suspended particulate matter at the mine-site and Middle Bay.
- Wind speed at Middle Bay
- Stack discharges at the mine-site and Middle Bay.

4) MIDDLE BAY BARGE LOADING FACILITIES AND HAULAGE ROUTE

Facilities which are required to transport the coal from the proposed mine-site include; a truck transportation system, a barge loading facility and a barging system that will transport the coal to a British Columbia port for overseas shipment.

In 1978, a dock at Tyee Spit was preferred by the Company for coal storage and loadout facilities. This site was subsequently rejected because of government, local and environmental group concerns. An alternative site was selected at Middle Bay, approximately five km. north of the Tyee Spit, and nine km. north of Campbell River. Because ocean going vessels could not be accommodated at Middle Bay, it was necessary to construct a barging and trans-shipment facility.

The required marine and shore development at Middle Bay (5.8 ha) will consist of a covered truck dump, a 7,500 tonne covered coal stockpile and barge loading facilities to handle approximately 18,000 tonnes of coal per week.

A number of alternative haul routes from the mine site were studied. The Company selected an on-highway route 30.9 km. in length as the preferred route. The Department of Highways reviewed the alternatives and concurred that the selected route was the only feasible alternative. It follows the Argonaut road from the mine site to Highway 28, east along Highway 28 and then north across the bridge over the Campbell River to a logging road. The route then follows the logging road north to Highway 19 and along Highway 19 to Middle Bay. A short access road is required from Highway 19 to the barge loading facility.

Middle Bay

The Middle Bay area has strong tidal currents, a scoured foreshore, and sparse eelgrass beds confined to the shoreline which provides limited habitat for the holding

City of Campbell River
From the Office of the Mayor

File No: 0250-20/CREC

July 18th, 2005

Ministry of Environment
2080 Labieux Road
Nanaimo BC V9T 6J9

Attention: ***Hubert Bunce, Chair***
Quinsam Coal Environmental Technical Review Committee
Environmental Protection

Dear Mr. Bunce:

Re: Quinsam Coal Corporation

At its July 11th, 2005 meeting, Council received a delegation from the Executive of the Campbell River Environmental Committee (CREC) explaining that they have been unable to receive a response from you to their enquiries on the Environmental Technical Review of the Quinsam Coal Project.

Council requests that the Ministry of Environment ensure that a response is provided which clearly details the progress made by Quinsam Coal and the Ministry to address the questions posed by the Campbell River Environmental Committee.

Your early response to the April 28th, 2005 request from the Campbell River Environmental Committee would be greatly appreciated.

Yours truly,

Mr. Lynn D. Nash
MAYOR

Copies to: *Quinsam Coal Corporation*
Honourable Barry Penner – Minister of Environment
Ms. Claire Trevena, MLA
Campbell River Environmental Committee

K:\Mayor and Council\Conf Mayor\letters\Min Env re Quinsam Coal.doc

301 St. Ann's Road, Campbell River, B.C. V9W 4C7 Phone (250) 286-5700 Fax (250) 286-5760

BRITISH COLUMBIA

VANCOUVER 2010

Reference: 86459

JAN 1 1 2006

His Worship Mayor Roger McConnell
and Councillors
City of Campbell River
301 St. Ann's Rd
Campbell River BC V9W 4C7

Dear Mayor McConnell and Councillors:

I have been asked to follow-up on Minister Barry Penner's acknowledgement letter to your predecessor, Mayor Nash, dated December 9, 2005, regarding Quinsam Coal Corporation's (QCC) compliance with their *Environmental Management Act* discharge permits. In that letter, the City of Campbell River (the City) had requested public representation on the Environmental Technical Review Committee (ETRC), which reviews the operations and monitoring of the QCC's operations in the area of Middle Quinsam Lake, approximately 27 kilometers south west of Campbell River.

The Ministry of Environment (MOE) continues to review QCC's compliance with their permits, and the associated permit limits (it should be noted that the permit quoted, PE-17181, is for the company's Middle Point Coal Loading terminal, and not for the actual mine site, which is regulated by permit PE-07008). The City can be assured that the ministry will continue to require the permittee to comply with the permit limits, and undertake appropriate responses to environmental issues as they arise.

Public involvement on ETRC was established at the recommendation of the Public Inquiry Commission convened to conduct the Public Inquiry into the Quinsam Coal Project (1983). The Inquiry Commission noted that ERTC .. "be composed of technical representatives each from the federal government's Department of Fisheries and Oceans and the Environmental Protection Service; the provincial government's Ministry of Environment, and Ministry of Energy, Mines and Petroleum Resources, the District of Campbell River, and the company." Further, the purpose of ETRC was "coordinating and reviewing the construction and operational monitoring results", with the results of their review reported to the regional director of the Ministry of Environment. ETRC was also directed to prepare an annual review and make a report available to the public.

..../2

Ministry of Environment
Office of the
Assistant Deputy Minister
Environmental Protection Division
Mailing Address:
PO Box 9339 Stn Prov Govt
Victoria BC V8W 9M1
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5th Floor, 2975 Jutland Road
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