

ALBERTA
ENVIRONMENTAL APPEALS BOARD

Report and Recommendations

Date of Hearing – November 5, 2004
Date of Report and Recommendations – January 6, 2005

IN THE MATTER OF sections 91, 92, 94, 95 and 99 of the *Environmental Protection and Enhancement Act*, R.S.A. 2000, c. E-12, and section 115 of the *Water Act*, R.S.A. 2000, c. W-3;

-and-

IN THE MATTER OF appeals filed by Mike Northcott with respect to *Water Act* Licence Nos. 00192603-00-00 and 00206791-00-00 and *Environmental Protection and Enhancement Act* Approval No. 76893-00-01 issued to Lafarge Canada Inc. by the Director, Northern Region, Regional Services, Alberta Environment.

Cite as: *Northcott v. Director, Northern Region, Regional Services, Alberta Environment re: Lafarge Canada Inc.* (6 January 2005), Appeal Nos. 04-009, 04-011 and 04-012-R (A.E.A.B.).

HEARING BEFORE:

Mr. Ron V. Peiluck, Panel Chair,
Dr. Alan J. Kennedy, Board Member, and
Mr. Al Schulz, Board Member.

APPEARANCES:

Appellant: Mr. Mike Northcott, represented by Mr. Richard Secord, Ackroyd Piasta Roth & Day.

Director: Mr. Tom Slater, Director, Northern Region, Regional Services, Alberta Environment, represented by Mr. William McDonald and Mr. Mark Greene, Alberta Justice.

Approval Holder: Lafarge Canada Inc., represented by Ms. Cherisse Killick-Dzenick, Reynolds, Mirth, Richards & Farmer LLP.

Intervenor: Onoway River Valley Conservation Association, represented by Mr. Ian Skinner.
(via written submission only)

Board Staff: Ms. Valerie Higgins, Registrar of Appeals, and Mr. Gilbert Van Nes, General Counsel and Settlement Officer.

WITNESSES:

Appellant: Mr. Mike Northcott.

Director: Mr. Tom Slater, Director, Northern Region, Regional Services, Alberta Environment, Mr. Rodney Jones, Approval Coordinator, Alberta Environment, and Mr. Steve Wallace, Hydrogeologist, Alberta Environment.

Approval Holder: Mr. Mitch Schaufler and Mr. Brendan Vickery, Lafarge Canada Inc., Mr. Gordon McClymont, Westwater Environmental Ltd., and Mr. William Gowdy, Hemmera Envirochem.

EXECUTIVE SUMMARY

Alberta Environment issued two *Water Act* Licences and an *Environmental Protection and Enhancement Act* Amending Approval to Lafarge Canada Inc. (Lafarge) for a sand and gravel operation (the Wash Plant), near Calihoo, Alberta. The Board received Notices of Appeal from Mr. Mike Northcott appealing the Licences and the Amending Approval, and held a hearing.

At the hearing, Mr. Northcott expressed concern about his water well. However, the evidence before the Board indicated no connection between the Wash Plant and his well. The Wash Plant's water source is principally surface water and to some extent groundwater from a sand and gravel formation. Mr. Northcott's well is located on the other side of the creek, hydrologically up gradient by about one mile, with its water source being a shale bedrock formation.

Mr. Northcott also expressed concern with the design of the Wash Plant. He wanted the on-stream dam and impoundment removed and the creek returned to a "natural" condition. The Board concluded the design of the Wash Plant is not before the Board. It is an existing facility, licenced in 1957. Even if the Board had recommended canceling the new Licences (which it did not), it would do nothing to address these concerns and it would not return the creek to a "natural" condition. The environmental impacts are not appreciably different with or without the new Licences. The Wash Plant uses the same water repeatedly; the new Licences are not for new water, but merely permission to use the same water over again a few more times. Now that the Wash Plant has been properly regulated and monitored with the new Licences and new Amending Approval, the Board expects the environmental concerns, including those of Mr. Northcott, will be better addressed.

Mr. Northcott also raised concerns regarding the wording of the Licences and argued for additional monitoring and reporting conditions. The Board accepted a number of Mr. Northcott's arguments on this point. Therefore, the Board recommended that the Licences and Amending Approval be confirmed, subject to a number of variations. The Board recommended that a number of conditions be reworded and a number of monitoring and reporting conditions be added. In particular, the Board recommended requiring Lafarge to prepare and submit a Summary Water Balance Report annually. This report should help Alberta Environment ensure that the Wash Plant remains in compliance with its Licences and should assist Lafarge in addressing the concerns of Mr. Northcott and the local community.

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I. BACKGROUND

[1] On April 30, 2004, the Director, Northern Region, Regional Services, Alberta Environment (the "Director"), issued Licence Nos. 00192603-00-00 and 00206791-00-00 (the "Licences") under the *Water Act*, R.S.A. 2000, c. W-3, and Amending Approval No. 76893-00-01 (the "Approval") under the *Environmental Protection and Enhancement Act*, R.S.A. 2000, c. E-12 ("EPEA") to Lafarge Canada Inc. (the "Approval Holder") in relation to a sand and gravel operation, commonly known as the Onoway Wash Plant (the "Wash Plant"), near Calihoo, Alberta. The Wash Plant has existed since the mid-1950s and was originally authorized by way of a water licence issued in 1957 (the "1957 Licence"), which it still holds today.¹ The Wash Plant is located next to and uses water from Kilini Creek, a tributary of the Sturgeon River, which is in the North Saskatchewan River Basin.

[2] Licence No. 00192603-00-00 ("Licence 192603") authorizes the diversion of up to 80,175 cubic metres of water annually from Pit 92 ("Pit 92"), located in SW 31-53-01-W5M, to Kilini Creek for the purpose of recharging the Wash Plant's settling ponds. Licence No. 00206791-00-00 ("Licence 206791") authorizes the diversion of up to 1,764,000 cubic meters of water annually from Kilini Creek, through works located in W 06-54-01-W5M, for the purpose of aggregate washing, and also authorizes the diversion of water from Pollock Pond ("Pollock Pond"), located in SW 7-54-01-W5M, for the purpose of maintaining instream flows in Kilini Creek.

[3] The Approval, an amendment to an existing approval that was initiated by the Director, imposes a number of additional monitoring and reporting conditions on the Wash Plant. The Approval amends existing Approval No. 76893-00-00, which allows for the opening up, operation, and reclamation of a sand and gravel pit on W 7-54-1-W5M, 11-54-2-W5M, W 12-54-2-W5M, SE 12-54-2-W5M, W 1-54-2-W5M, N 2-54-2-W5M, SE 2-54-2-W5M, N 3-54-2-

¹ The 1957 Licence (No. 3318) was issued as an interim licence on May 7, 1957, it was updated and reissued as an interim licence on February 6, 1989, and issued as licence under the *Water Resources Act*, R.S.A. 1980, c. W-5, on March 5, 1990. The 1957 Licence authorizes the diversion of 1,400 acre-feet (1,726,875 cubic metres) annually from Kilini Creek, and permits the "consumptive use" of 280 acre-feet (345,375 cubic metres). It also allows for annual losses of 10 acre-feet (12,335 cubic metres) and requires return flows to Kilini Creek of 1,110 acre-feet (1,369,165 cubic metres). (See: Director's submission, dated October 20, 2004 at Tab 2.) Since

W5M, and SE 10-54-2-W5M, and the operation of a sand and gravel wash plant and infrastructure located on W 6-54-1-W5M.

[4] On May 28, 2004, the Environmental Appeals Board (the “Board”) received three Notices of Appeal from Mr. Mike Northcott (the “Appellant”), appealing the Licences and Approval. The Appellant also requested a stay of the Licences and Approval pending the appeals.

[5] On June 1, 2004, the Board wrote to the Appellant, the Approval Holder, and the Director (collectively the “Parties”) acknowledging receipt of the Notices of Appeal and notifying the Approval Holder and the Director of the appeals. The Board requested the Director provide the Board with a copy of the records (the “Record”) relating to these appeals² and that the Appellant provide written comments regarding the request for a stay.³

[6] According to standard practice, the Board wrote to the Natural Resources Conservation Board and the Alberta Energy and Utilities Board asking whether this matter had been the subject of a hearing or review under their respective legislation. Both boards responded in the negative.

[7] On August 3, 2004, the Board wrote to the Parties informing them the Board had reviewed the written submissions in relation to the stay, and the Board decided to deny the request for a stay and to proceed directly to a hearing of these appeals.

approximately 1971, the 1957 Licence has also authorized an on-stream dam and impoundment. (See: Appellant’s submission, dated October 25, 2004.)

² On June 23, 2004, the Board received a copy of the Record from the Director, and on July 5, 2004, a copy was forwarded to the Appellant and Approval Holder.

³ Specifically, the Board asked the Appellant to answer the following questions:

- “1. What are the serious concerns of Mr. Northcott that should be heard by the Board?
2. Would Mr. Northcott suffer irreparable harm if the Stay is refused?
3. Would Mr. Northcott suffer greater harm if the Stay was refused pending a decision of the Board, than Lafarge Canada Inc. would suffer from the granting of a Stay?
4. Would the overall public interest warrant a Stay?
5. Is Mr. Northcott directly affected by Alberta Environment’s decision to issue *Water Act* Licence No. 192603-00-00, *Water Act* Licence No 00206794-00-00 and EPEA Amending Approval No. 76893-00-01 to Lafarge Canada Inc. This question is asked because the Board can only grant a Stay where it is requested by someone who is directly affected.”

[8] In response to the Board's Notice of Hearing advertisement, the Board received intervenor requests from the Onoway River Valley Conservation Association (the "ORVCA" or the "Intervenor") and Mr. Robert Brian Ford. Based on the submissions provided by the Parties, the Board decided not to accept Mr. Ford's request for intervention, as he did not provide the Board with sufficient information as to his interest in the appeals. The Board permitted the ORVCA to participate in the Hearing via written submission only and stated they would be permitted to discuss only certain issues identified in their intervenor request.⁴ The Board understands the Appellant is an active member of the ORVCA.

[9] Between October 20 and 26, 2004, the Board received the submissions from the Parties and the ORVCA. The Hearing was held on November 5, 2004, in Edmonton, Alberta.

II. SUBMISSIONS

A. Appellant

[10] The Appellant stated he has resided adjacent to the Wash Plant since 1987 and has owned his property since 1988. (The Appellant lives southeast of the Wash Plant, on the opposite side of Kilini Creek.) The Appellant requested that the Licences be cancelled or, in the alternative, amended and the Approval be varied.

1. General Concerns

[11] He explained he has a groundwater well on his land that was drilled in 1971, and it was completed to a depth of 154 feet with a water production rate of seven gallons a minute. The Appellant stated his well is hydraulically connected to the surrounding aquifers, which are negatively impacted by the use of the Licences.

[12] He argued the use of the Licences affects the water table by reducing the quality and quantity of surface water and groundwater in the area and interfering with the recharge

⁴ See: Board's letter of October 19, 2004, where the Board stated the issues the Intervenor would be allowed to address were: the loss of flow downstream past the dam on Kilini Creek; settling pond discharge into creek bed/fish habitat/public lands; the predicted hydrological changes to the area of 820 hectares more or less that is to be

capabilities of Kilini Creek and Bogstad Lake (a lake on the Kilini Creek system, south-east of the Wash Plant) through natural spring feeding and surface water run-off. He argued the lowering of the water table affects the static level, flow, and quality of his water well.

[13] The Appellant explained he uses his water well for domestic purposes, including organic vegetable gardening. He stated he is totally dependent on his water well to serve his water requirements, as he is not connected to a municipal water supply.

[14] The Appellant stated contour maps of the Kilini Creek area illustrate how the ground elevation at the Wash Plant approximated the depth of his water well. The Appellant argued that since the extent of the sand and gravel formation in the area was unknown, it could extend very close to his well, and if this was the case, surface water could percolate through the shale bedrock more easily than suggested by the Approval Holder and Director. This, he submitted, might help to explain how surface water from the Wash Plant could flow towards his water well and negatively affect it.

[15] The Appellant stated he has noticed the quality and quantity of his groundwater has declined since 1987, and the decline accelerated when the previous operator, TBG Contracting Ltd. ("TBG"), began the "illegal" water diversion out of Pit 92 in the 1990s. The Appellant stated a pump test was done on his well in November 2003, and the static level of his well was five feet lower and the water production rate was two gallons per minute, five gallons per minute less than the original report.

[16] According to the Appellant, it was the cumulative effects of the activities being carried out at the Wash Plant over a number of years that were responsible for the reduction in the quantity of water in his well. He rejected a suggestion made by the Approval Holder that an increased demand for water by the neighbouring community of Patricia Hills might be responsible for much of the lowering of the water table in the bedrock shale from which his well is sourced.

[17] The Appellant submitted the "strange and chaotic" environment created by the Approval Holder because of its non-compliance with the 1957 Licence has negatively affected,

strip mined below the water table; the major aquifer that provides source water to many domestic users; change to the hydrologic cycle/weather patterns; and cumulative affects within the Sturgeon River drainage basin as a whole.

and continues to negatively affect, his family's enjoyment of the area. He stated his family's opportunities for recreational canoeing on Kilini Creek and Bogstad Lake are neither as frequent nor as satisfactory as previous trips.

[18] The Appellant stated he has fished in Kilini Creek and in Bogstad Lake with his family since 1988, and he has noticed the fishery has declined since TBG began the "illegal" water diversion out of Pit 92.

[19] The Appellant referred to the recommendations in the report prepared by a consultant for the Approval Holder entitled "*Fish and Fish Habitat Assessment and Environmental Effects Assessment*" (the "Fisheries Report").⁵ In the Appellant's view, instream reclamation is the key mitigation tool required to create an aquatic environment in Kilini Creek that is conducive to providing for fish movement. The Appellant suggested that by not requiring the Approval Holder to undertake instream reclamation, the Director has not taken sufficient steps to protect the fish or their habitat.

[20] The Appellant provided the Board with a brief history of the water withdrawal and the construction of the on-stream dam and impoundment on Kilini Creek. The Appellant recommended the removal of the on-stream dam and impoundment on Kilini Creek. According to the Appellant, if a closed system was set up for the diversion of the 1,726,875 cubic metres of water on W 6-54-1-W5M, the Approval Holder could stop its diversion activities on Kilini Creek, and there would be no need for the on-stream dam and impoundment. He submitted the creation of such a closed system would allow Kilini Creek to return to its natural state, where fish could travel up and down the watercourse, and this would improve the Appellant's and his family's enjoyment of recreational pursuits along Kilini Creek.

[21] The Appellant stated that in 2001, he, as well as other concerned landowners, raised questions about the Wash Plant, particularly the pumping of water out of Pit 92 into Kilini Creek. The Appellant stated he requested Alberta Environment to provide the current water diversion authorizations for sections 6 and 31, but no authorization was ever produced for

⁵ See: Director's Record at Tab 20, *Fish and Fish Habitat Assessment and Environmental Effects Assessment, Kilini Creek* (NW 06-054-01-W5M) at the *Lafarge Wash Plant Final Report*, by EnvironMak Inc., dated January 8, 2004.

section 31. He stated he was informed this area was "...considered a 'low priority designation'."⁶

2. Pit 92 Diversion

[22] The Appellant stated that during a site visit in 2001, he witnessed two pumps pumping water from Pit 92 into a channel leading into Kilini Creek in section 31. He stated that there was the potential for contamination from a generator to enter Pit 92 and Kilini Creek. He also stated there was an improper installation of culverts under a roadway on section 31. He explained the culverts were installed above the creek bed level, forcing Kilini Creek to back up into Pit 92, an unreclaimed pit.

[23] The Appellant stated the pumping from Pit 92 resulted in a "drawdown" of the water level, and the information upon which the consultant for the Approval Holder relied on with respect to this drawdown was flawed. The Appellant stated the consultant did not conduct any on-site inspections but rather relied upon data supplied to him by the Approval Holder that was gathered at a time of the year when the Wash Plant was not operating. The Appellant stated he personally observed a drawdown of between two and three metres.

[24] The Appellant stated Alberta Environment advised him that TBG and the Approval Holder "...felt they had received an implied verbal authorization to divert and use water from the open Pit 92 in SW 31 adjacent to Kilini Creek."⁷

[25] The Appellant also referred to a letter he received from the Minister of Environment dated January 8, 2002. The Appellant explained "...the Minister stated that no operating gravel pits currently discharge water into the Sturgeon River..."⁸ He stated Pit 92 had been identified as a tributary to Kilini Creek in Licence 192603. Therefore, according to the Appellant, the Approval Holder is discharging water from an operating gravel pit to the Sturgeon River through Kilini Creek, contrary to the policy set out in the Minister's letter.

⁶ Appellant's submission, dated October 25, 2004, at paragraph 24.

⁷ Appellant's submission, dated October 25, 2004, at paragraph 28.

⁸ Appellant's submission, dated October 25, 2004, at paragraph 29.

[26] The Appellant stated Pit 92 is not a natural source of water for Kilini Creek. He explained the mining of Pit 92 exposed the water table and created a pond. He stated water gets into Pit 92 in two ways, by groundwater recharging it from the surrounding aquifers and by surface water being forced into Pit 92 as a result of the illegally or improperly installed culverts on the access road in section 31. The Appellant stated the "...unnatural practice of mixing groundwater and surface water in Pit 92 is a practice that is no longer allowed in other areas of the Sturgeon watershed..." because of the potential for contamination of the aquifer.⁹

[27] The Appellant referred to a memo sent to Alberta Environment¹⁰ in which it stated metal concentrations exceeding guidelines were observed at a number of monitoring wells and in Kilini Creek. The Appellant stated there was a potential for heavy metals, such as aluminum, copper, and selenium, as well as other unknown metals that are recycled at the Wash Plant to find their way into the aquifers. The Appellant suggested this could explain the presence of heavy metals in his drinking water in concentrations higher than the levels determined to be acceptable by the Canadian Drinking Water Standards. The Appellant was concerned that under the Licences, the potential for contaminating the surrounding water supply would continue.

[28] The Appellant argued the issuance of Licence 192603 allowed a non-compliant activity to continue, and it is not appropriate to reward a company in non-compliance with a new licence to continue the non-compliance. In the Appellant's view, instead of issuing the Licences, the Director should have taken disciplinary and further enforcement action against the Approval Holder based on previous non-compliance issues.

[29] The Appellant submitted that even though Licence 192603 allows the Approval Holder to divert up to 80,175 cubic metres of water annually from Pit 92, the Approval Holder has not made use of this water supply. The Appellant stated the Approval Holder has not diverted water from Pit 92 for the last three years. The Appellant referred to the Director's authority to cancel licences in instances where they are not used and the Director is satisfied there is no valid reason to sustain the licence. The Appellant stated the Approval Holder did not hesitate to engage in diversion activities when it had no authority to do so, yet it appears reluctant to do so once it has been granted authority to take water from Pit 92.

⁹ Appellant's submission, dated October 25, 2004, at paragraph 42.

[30] The Appellant submitted the present circumstances fit the Director's criteria to justify the cancellation of a licence. In his view, the "illegal" diversion of water by the Approval Holder before being issued the Licences further justifies the cancellation of Licence 192603. The Appellant argued the withdrawal of water from Pit 92 and the uses to which it is put in the Wash Plant would negatively affect his well. The Appellant concluded there is no reason for the Director to sustain Licence 192603.

3. Kilini Creek Diversion

[31] The Appellant stated the Approval Holder admitted it was not in compliance with the 1957 Licence that allowed the withdrawal of 1,400 acre feet (1,726,875 cubic metres) annually from Kilini Creek. He stated that, according to the Approval Holder's April 30, 2003 report,¹¹ TBG diverted 1,958 acre feet (2,415,157 cubic metres) in 1998, 2,441 acre feet (3,010,929 cubic metres) in 1999, and 3,071 acre feet (3,788,023 cubic metres) in 2000, and the Approval Holder diverted 2,909 acre feet (3,588,199 cubic metres) in 2002. The Appellant argued no explanation has been provided as to why the amounts diverted exceeded the licenced limit.

[32] The Appellant stated Condition 3 of Licence 20679 indicates the annual consumptive use is zero cubic metres, but the Approval Holder's documents indicate an annual consumptive use of up to 67,815 cubic metres. Therefore, according to the Appellant, the Approval Holder is in breach of Condition 3. The Appellant argued the Approval Holder is not returning 1,443,000 cubic metres of water to Kilini Creek, even though Condition 3 states this amount as the return flow to Kilini Creek. He stated the water is going to the impoundment, and for many months of the year, there is no flow over the control gate of the dam in Kilini Creek. The Appellant stated when there is flow it is not measured. The Appellant stated that even though water gauges had at one time been placed in Kilini Creek at regular intervals, the activities of local beavers had caused some of the gauges to be lost or rendered inoperable. He submitted the natural flow of Kilini Creek has been harmed and this should not be permitted.

¹⁰ See: Appellant's submission, Tab 2004, memo from Heather von Hauf to Steve Wallace.

¹¹ Director's Record at Tab 15, *Groundwater Investigation, Onoway Wash Plant, Lafarge Canada, Inc., Final Report*, prepared by Westwater Environmental Ltd., dated April 30, 2003.

The Appellant argued Kilini Creek ought to be returned to its natural state. He suggested the best way to achieve this is by creating a wash plant that has a closed system with respect to water.

[33] The Appellant expressed concern over the loss of water that is “trapped” in the products recovered from the Wash Plant when products are hauled away from the Approval Holder’s site. (When the products of this operation are washed, not all of the water is recovered and the products are sold with some percentage of water in them.) The Appellant was particularly concerned about the loss of water in the “black sand” that is taken away from the Wash Plant by a third party contractor, as the “black sand” usually contains a high percentage of “trapped” water.¹² Upon reviewing the Licences, the Appellant noted the Licences do not authorize third parties to remove water from the Wash Plant, and therefore, any removal of black sand and other products containing water is an unauthorized activity. He submitted the Approval Holder did not account for the amount of water lost because of the removal of product from the Wash Plant. The Appellant concluded the hauling away of “trapped” water and the Approval Holder’s failure to account for the loss of this water violates the purpose and intent of the *Water Act*. The Appellant submitted this is evidence of the Approval Holder’s non-compliance with the terms and conditions of its Licences.

[34] The Appellant argued the Director did not properly consider the cumulative effect of the licenced activities. The Appellant was of the view the Licences are written to operate independently, rather than in conjunction with each other. The Appellant was concerned the requirement in Licence 206791 to return 80,175 cubic metres of water to Kilini Creek was not cross-referenced in Licence 192603. He suggested the failure to link the two Licences might provide an opportunity for the Approval Holder to relieve itself of its obligation to return the 80,175 cubic metres of water to Kilini Creek. Consequently, he submitted this might be remedied if the Licences were linked together.

[35] The Appellant argued Licence 206791 was not conditioned proportionally to the instream flows in Kilini Creek nor the level of the surrounding water table. He stated he is concerned about a temporary or permanent loss of water levels in Kilini Creek. He submitted the

¹² “Black sand” is a byproduct of the Wash Plant operation and is sold to recover precious metals.

Approval Holder should provide real time monitoring of the flows, volumes, and levels in Kilini Creek and bi-monthly monitoring of the level of the surrounding water table.

[36] The Appellant stated Licence 206791 allows for the unnatural mixing of groundwater and surface water in Pollock Pond that is then discharged into Kilini Creek. He stated this is a practice that is no longer allowed in other areas of the Sturgeon River watershed because of the increased potential for contamination of the aquifer if groundwater and surface water is mixed.

[37] The Appellant submitted Licence 206791 should be amended in order to allow for remediation of the fish habitat in Kilini Creek. He submitted this could be achieved through mandatory scheduled monitoring of Kilini Creek by a qualified aquatic environment specialist instead of “at the request of the Director.”

[38] The Appellant stated groundwater from land west of Pollock Pond is being removed and is being transported through drainage ditches into the pit at Pollock Pond and eventually into Kilini Creek. He argued this is illegal and contrary to the *Water Act*.

[39] The Appellant stated Condition 9(b) of Licence 206791 needs to identify the specifications of the “cumulative meter” or the specifications of “other device.” He stated Conditions 9(d), 10, and 11 of Licence 206791 are inadequate, and the Approval Holder should be obligated to provide the Director with data on a monthly basis. The Appellant also stated Condition 12 needs to be reworded by taking out the words “at the Director’s request.” He submitted Condition 13 of Licence 206791 should be reworded to make it clear that Condition 12 applies, unless superceded by Condition 4.¹³

¹³ The referenced conditions in Licence 206791 state:

- “9. During diversion, the licensee shall: ...
- (b) equip the return flow sites with a cumulative meter or other device that records the quantity of water returned to Kilini Creek from the settling pond, ...
 - (d) provide to the Director the results of the recorded data in (c) as and when requested by the Director in writing.
10. Throughout the diversion period, the licensee shall measure water levels at:
- (a) the Kilini Creek diversion site,
 - (b) the ‘Pollock pond’ diversion site during the diversion from Pollock pond only,
 - (c) Station 7, or another site downstream of the impoundment as authorized in writing by the Director,

[40] Further, the Appellant stated Conditions 2.3 and 4.6.1 of the Approval are inadequate, and Pollock Pond should be included in Table 2.3-A and Condition 4.6.1. He submitted the Approval should require the Approval Holder to utilize closed system tailing and settling ponds.¹⁴

4. Summary

[41] The Appellant argued the Director failed to adequately consider what he ought to have considered in exercising his discretion to issue the Licences and the Approval, particularly "...existing, potential or cumulative effects of the diversion of water on the aquatic environment; the existing, potential or cumulative hydraulic, hydrological and hydrogeological effects and the existing, potential or cumulative effects on household users."¹⁵

[42] The Appellant submitted that canceling or varying Licence 192603 is justified, as licencing a non-compliant activity is not in accord with the role of comprehensive and responsive action in administering the *Water Act*.

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- (d) Station 4.9, or another site upstream of the impoundment as authorized in writing by the Director
 - (e) GW monitoring wells P-3, P-5, P-8, MW-01, MW-02, MW-05, MW-06, and
 - (f) any other site specified in writing by the Director.
11. The licensee shall record the information in
- (a) Condition 10 (a) – (d) on a weekly basis and
 - (b) Condition 10(e) on a monthly basis,
- starting one week prior to the diversion and ending one week after the diversion and provide the information to the Director when requested.
12. The licensee shall ensure that a qualified aquatic environment specialist will, at the Director's request, determine the flow required to be maintained downstream of the impoundment as adequate for critical fisheries habitat until such time as the Director may establish a water conservation objective under condition 4.
13. The licensee shall maintain flows downstream of the impoundment at the levels required by condition 12 or 4, whichever applies."

¹⁴ Condition 4.6.1 of the Approval states:

"The approval holder shall implement the Water Quality Monitoring Program for the plant referred to in 'Water Quality Monitoring at the Lafarge Wash Plant (EPEA 76893-00-00) W1/2 06-054-01W5M, April 16, 2004', unless otherwise authorized in writing by the Director."

¹⁵ Appellant's submission, dated October 25, 2004, at paragraph 69.

[43] The Appellant submitted that canceling or varying Licence 206791 is justified, as the Director needs to identify the flows and volumes in Kilini Creek in order to allocate water wisely, and the Licences were not conditioned proportionally to the stream flows of Kilini Creek.

[44] The Appellant argued the Director's decisions were neither prudent nor cautious. The Appellant stated he attempted to provide advice, "...including historical information and grass roots knowledge..." regarding water management planning and decision-making, but the Director failed to properly consider his advice.

[45] The Appellant submitted that as a matter of policy, Alberta Environment views the area where he lives as a low priority area in terms of water management. The Appellant stated it was indicated to him the Sturgeon River basin, in which Kilini Creek is located, was considered to be a low priority area in terms of water management concerns. The Appellant stated he did not understand how Alberta Environment could continue to treat water resources as a low priority issue. The Appellant suggested that by treating it as a low priority area, the Director demonstrated he was not overly concerned with promoting the wise use of water or protecting the environment in the area of the Wash Plant. He argued the Director ought to treat the Kilini Creek area with greater respect and to stop treating it as a low priority area.

B. Intervenor

[46] The Intervenor submitted the Approval Holder has not operated its activities at the Wash Plant in an environmentally responsible manner. The Intervenor submitted that previous and continuing non-compliance will create an irreversible negative impact on the environment. The ORVCA argued it has been proven in the Wabamun area that continuing the status quo created a serious negative impact that cannot be reversed.

[47] It submitted the Director had not reviewed the applications for the Licences adequately or thoroughly. The Intervenor stated the development proposed in 1971 did not indicate a dam on Kilini Creek. The ORVCA argued all of the changes to the instream flow had not been taken into account.¹⁶ The Intervenor stated the discharge from the settling and tailings

¹⁶ The ORVCA referred to examples of changes to the Kilini Creek system that have resulted in changes to instream flows, including: the removal of the beaver dams causing increased flows; removal of groundwater from Pit 92 and introducing it into Kilini Creek causing an "unnatural" mixing of surface water and groundwater; pit

ponds add sediment to Kilini Creek, and turbidity levels are higher downstream in the containment area and creek, altering the fish habitat. The ORVCA stated there are no identified instream flow needs established for the Sturgeon River watershed. The ORVCA submitted there are no procedures for addressing cumulative effects. Finally, it further submitted that applications for licences should include historical information as well as an environmental impact assessment.¹⁷

[48] The Intervenor argued that "...[s]trip mining, reclamation below the water table and diverting pit water removes the groundwater storage capacity and permanently impairs this high flowing aquifer that provides water to many domestic users."¹⁸ The ORVCA argued removing the groundwater storage will increase the exposure of the aquifer to contaminants.

[49] The Intervenor submitted the present processes do not promote the protection and enhancement of the hydrologic connection between the vegetative layers and the aquifers in order to maintain local, intermediate, and regional hydrology. The ORVCA stated the loss of groundwater storage capacity impairs the hydrologic connection between recharge and discharge areas in the drainage basin that compensates for the natural fluctuation in water during drought and flood conditions. The Intervenor argued the reduction of groundwater storage capacity will negatively impact the environment today and for future generations, and the cumulative environmental effects on sustainability must be identified at the earliest stages of planning and development.

[50] The Intervenor argued there is insufficient data for assessing the potential hydrologic effects on the drainage basin. The ORVCA stated the water bodies hydraulically connected locally and regionally must be included in the study area. The ORVCA submitted the "...present data confirms an adverse affect after the fact, using the words 'should have no effect' is not conclusive enough to instill confidence that these operations are being properly researched prior to licensing."¹⁹

water from Pollock Pond being used to increase downstream flows; and the dam stopping fish movement in Kilini Creek between Bogstad Lake and downstream areas.

¹⁷ See: Intervenor's submission, dated October 25, 2004, at page 5.

¹⁸ Intervenor's submission, dated October 25, 2004, at page 2.

¹⁹ Intervenor's submission, dated October 25, 2004, at page 4.

[51] The Intervenor argued the *Water Act* and EPEA must include environmental protection and consequences for non-compliance, and environmental sustainability should be the guiding influence upon any decision to issue a license or approval, and not possible short term economic gains that may result from development.²⁰ The ORVCA argued removing groundwater storage capacity is not sustainable development when a value is not attached to it.

C. Approval Holder

[52] The Approval Holder explained it acquired the Wash Plant from TBG on January 1, 2001, because of a merger and acquisition agreement. It stated the operation had a water licence for the purpose of aggregate washing, which had been issued in 1957 under the *Water Resources Act*, R.S.A. 1980, c. W-5, authorizing the gross diversion and use of up to 1,400 acre-feet of water (the 1957 Licence).

[53] The Approval Holder stated that in 2001, it became aware of the ORVCA's inquiries regarding the operations of the Wash Plant and ORVCA's concerns about the water diversions from Kilini Creek under the 1957 Licence.

[54] The Approval Holder stated that in carrying out its due diligence review for the merger and acquisition agreement, it "...did not find any written record within the TBG documents of an Alberta Environment inspection or investigation concerning potential non-compliance for the water diversion and [the 1957 Licence] associated with the Onoway Wash Plant."²¹

[55] The Approval Holder stated that in 2002 it was advised of further ORVCA inquiries to Alberta Environment, and in response, Alberta Environment directed the Approval Holder to perform pumping tests to verify the rate of diversion and confirm the volume of water diversions, losses, and returns.

[56] The Approval Holder stated it recognizes the importance of water within the Province and takes its responsibility to treat water as a valuable resource seriously. The Approval Holder stated it has undertaken a water management plan that includes monitoring, and

²⁰ See: Intervenor's submission, dated October 25, 2004 at page 5.

²¹ Approval Holder's submission, dated October 26, 2004, at paragraph 4.

it has implemented improvements to its operational activities in order to reduce its use of water. The Approval Holder stated it now monitors groundwater and surface water quantity and quality, water intake and discharge, and sediment and turbidity. The Approval Holder explained it hired outside consultants having expertise in hydrology, geology, and engineering to do a number of scientific studies relating to water and water management issues at the Wash Plant, and in all three studies, water flow was measured with a high degree of precision.²²

[57] The Approval Holder stated it

“...advised Alberta Environment that its measurements from the pumping tests for the Onoway [W]ash [P]lant indicated variable and increased diversion rates which affected annual estimates for consumptive use, losses and returns, resulting in potential non-compliance situations under the terms and conditions of the [1957 Licence].”²³

[58] The Approval Holder explained it submitted two *Water Act* applications to address its findings, one to authorize the diversion of an additional volume of water for aggregate washing, and the second for an additional water source, specifically to divert an additional volume of water for aggregate washing, which would only be used as required and under certain conditions when filling the settling pond system at the start of the operating season. The Approval Holder explained it provided the ORVCA with a direct mailing to advise them of the public notices for the *Water Act* applications.

[59] The Approval Holder argued it took sufficient steps to ensure it complied with the *Water Act* by submitting the applications for the Licences in question, and it accepted the Director’s decision to initiate an amendment of the Approval.

[60] The Approval Holder stated the Director received 137 letters concerning its applications, and the Director advised the Approval Holder that 45 of the letters contained valid Statements of Concern and the filers were potentially directly affected. The Approval Holder stated the Director directed it to investigate and respond to the Statement of Concern filers. The

²² See: Director’s Record at Tab 20, *Fish & Fish Habitat Assessment and Environmental Effects Assessment, Kilini Creek (NW 06-054-01-W5M) at the Lafarge Wash Plant Final Report*, prepared by EnvironMak Inc., dated January 8, 2004; Director’s Record at Tab 15, *Groundwater Investigation, Onoway Wash Plant, Lafarge Canada, Inc., Final Report*, prepared by Westwater Environmental Ltd., dated April 30, 2003; and Director’s Record at Tab 16, *Year End Water Use Return – 2003, Lafarge Wash Plant, W 6-54-1-W5M, Final Report*, prepared by Hemmera Envirochem Inc., dated March 2004.

Approval Holder submitted the majority of the concerns were resolved satisfactorily, as only the Appellant decided to appeal the issuance of the Licences and the Approval.

[61] The Approval Holder submitted the operation of the Wash Plant does not affect the Appellant or his well. The Approval Holder stated the consultants determined the water source for the Appellant's well was separate from that of the Wash Plant, and since the Appellant's well was at a higher elevation than the Wash Plant, it was not possible for any surface water that supplies the Wash Plant area to flow to the water source of the Appellant's well.

[62] The Approval Holder stated it was issued a temporary diversion licence for the 2003 operating season to supplement the diversion, consumptive use, and losses and return flows under the 1957 Licence, and under the terms and conditions, it was required to conduct further studies in support of the *Water Act* applications.

[63] The Approval Holder stated it views itself as a responsible corporate citizen that has worked actively to address the concerns of citizens in the area. The Approval Holder stated it searched for strategies it might implement in order to improve its relations with area residents. The Approval Holder explained that, in 2003, it started a public consultation process for the local residents concerning the studies it was performing under the temporary licence and in support of its applications. It stated it held information sessions and an open house, and all individuals who submitted letters expressing concerns and local residents were invited to attend to discuss and review the studies taking place. The Approval Holder explained it compiled a summary of the issues raised by the Statement of Concern filers and how it was addressing the issues. The Approval Holder stated it decided to form a Public Advisory Committee, and it set up a toll free telephone number so citizens could express their concerns with respect to the Wash Plant. (At the Hearing, the Approval Holder indicated that to date, no one has made use of the toll free telephone number.)

[64] The Approval Holder explained that, based on its findings in its initial studies, it amended its applications, changing the estimates for consumptive use and increasing the

estimated amount of return flows, and including the diversion of water from Pollock Pond, when and as required, to maintain minimum downstream flows in Kilini Creek.²⁴

[65] The Approval Holder stated the Director issued the Licences and amended its EPEA approval to provide for terms and conditions regarding sampling and monitoring of water quality for groundwater and surface water around the vicinity of the Wash Plant.

[66] The Approval Holder explained it does not operate the Wash Plant year round, only from April through October. In view of this, the Approval Holder submitted that monthly reporting would distort the overall picture because of the varying results of measurements in any given month. It submitted that reporting to the Director on an annual basis was reasonable because it would more accurately reflect its water usage.

[67] The Approval Holder argued "...any issues concerning past compliance for the [1957 Licence], especially the time period before Lafarge had acquired the [1957 Licence], are not subject to the decisions to issue..."²⁵ the Licences and Approval. It argued it has undertaken every reasonable effort to ensure the 1957 Licence is in compliance by submitting the applications and the supporting information for the Licences, and by observing the terms and conditions of the temporary licence.

[68] The Approval Holder argued the terms and conditions in the Licences and Approval took into account the stream flows in Kilini Creek, the available water supply, and the potential impacts of water withdrawal among licenced users. It submitted the terms and conditions in the Licences and Approval also took into account the Kilini Creek watershed and surrounding groundwater levels.

[69] In response to the Appellant's concern regarding the cumulative effects of all the associated activities and the need for a full environmental assessment, the Approval Holder stated the "...environmental aspects, potential environmental impacts and mitigation measures associated with the operation of an aggregate wash plant are well known and established."²⁶

²⁴ See: Approval Holder's submission, dated October 26, 2004, at paragraph 20.

²⁵ Approval Holder's submission, dated October 26, 2004, at paragraph 28.

²⁶ Approval Holder's submission, dated October 26, 2004, at paragraph 28.

[70] The Approval Holder explained it had presented detailed reports²⁷ to the Director showing how the use of water at the Wash Plant has been conducted efficiently and with minimal impact on the surrounding area. It explained the reports covered issues relating to water quality, water quantity, and aquatic habitat. The Approval Holder argued the consultants' reports submitted in support of the *Water Act* applications demonstrate the Approval Holder's reasonable efforts to come into compliance. It stated these reports took into account the stream flows of Kilini Creek and surrounding groundwater levels. It stated the reports established a historical baseline for its activities and operations, and they took into account the cumulative effects of existing activities and operations near the operation and the Kilini Creek diversion.

[71] The Approval Holder submitted the Director considered a large volume of science-based information presented in support of the Approval Holder's applications, and the Director's decision to issue the Licences for 10 years was correct.

[72] The Approval Holder stated the conditions that are attached to the Licences reflect the concerns raised in the Statements of Concern, such as monitoring. It further noted the Director has the authority to make changes to the conditions in both Licences.²⁸

²⁷ See: Director's Record at Tab 20, *Fish & Fish Habitat Assessment and Environmental Effects Assessment, Kilini Creek (NW 06-054-01-W5M) at the Lafarge Wash Plant Final Report*, prepared by EnvironMak Inc., dated January 8, 2004; Director's Record at Tab 15, *Groundwater Investigation, Onoway Wash Plant, Lafarge Canada, Inc., Final Report*, prepared by Westwater Environmental Ltd., dated April 30, 2003; and Director's Record at Tab 16, *Year End Water Use Return – 2003, Lafarge Wash Plant, W 6-54-1-W5M, Final Report*, prepared by Hemmera Envirochem Inc., dated March 2004.

²⁸ The Approval Holder referred to the following conditions in Licence 192603:

- “3. The Director reserves the right to establish water conservation objectives upon 12 months written notice to the licensee....
5. This licence is based on knowledge available at the time of issue, and therefore the Director reserves the right to amend the
 - (a) monitoring systems and the annual water monitoring information,
 - (b) rate of water diversion and quantity of water allocated and
 - (c) offstream storage or alternative sources of water supply,anytime there is information indicating unreasonable interference due to the operation of the project on
 - (d) the source of water supply,
 - (e) other water users,
 - (f) instream objectives, and
 - (g) the aquatic environmentwhich cannot, in the opinion of the Director, be satisfactorily remedied....

[73] The Approval Holder rejected the Appellant's claim that future generations will be negatively impacted. The Approval Holder considered these concerns speculative in nature, and it would be improper for the Director to vary existing conditions or attach new ones to the Licences in response to vague assertions as to what may happen in the future. The Approval Holder submitted any variation of the conditions of the Licences is best based upon scientific data relevant to the current time.

[74] The Approval Holder referred to the Board's previous decision, *Capstone*,²⁹ stating the case underlined the need to balance protection of the environment with economic growth. The Approval Holder stated this balance is recognized in the provisions of both the *Water Act* and EPEA. The Approval Holder submitted this balance has been addressed, particularly considering the conditions included in the Licences and the Approval. For this

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8. To protect the aquatic environment, the licensee shall reduce the rate of water diversion or cease diverting when so ordered by the Director or other authorized officer of the department in writing....
 - 12.(2) The Director may make a decision to suspend or cancel this licence if the licensee fails to satisfy the Director of the investigation and mitigative measures relating to alleged interference."

The Conditions referred to in Licence 206291 include:

- "4. This licence is based on knowledge available at the time of issue, and therefore the Director reserves the right to amend for
 - (a) the rate of water diversion and quantity of water allocated,
 - (b) monitoring systems and the annual water monitoring information, and/or
 - (c) the need for any offstream storage or alternative sources of water supply, anytime there is information indicating unreasonable interference due to the operation of the project on
 - (d) the source of water supply
 - (e) other water users
 - (f) instream objectives, and/or
 - (g) the aquatic environmentwhich cannot, in the opinion of the Director, be satisfactorily remedied.
5. The Director reserves the right to establish water conservation objectives upon 12 months written notice to the licensee....
7. To protect the aquatic environment, the licensee shall reduce the rate of water diversion or cease diverting when so ordered by the Director or other authorized officer of the department in writing....
17. (2) The Director may make a decision to suspend or cancel this licence if the licensee fails to satisfy the Director of the investigation and mitigative measures relating to alleged interference."

²⁹ *Mountain View Regional Water Services Commission et al. v. Director, Central Region, Regional Services, Alberta Environment re: Capstone Energy* (26 April 2004), Appeal Nos. 03-116 and 03-118-121-R (A.E.A.B.).

reason, the Approval Holder concluded the conditions were appropriate for both the operations and Kilini Creek.

[75] The Approval Holder stated the terms and conditions of Licence 192603 identified Pit 92 as a tributary of Kilini Creek. It submitted the mixing of groundwater and surface water does occur naturally and is referred to as the hydrologic cycle.

[76] The Approval Holder submitted the Director had sufficient information from the applications and the reporting requirements of the temporary licence to make an informed decision when issuing the Licences and the Approval. The Approval Holder requested the Board dismiss the appeals.

D. Director

[77] The Director explained the Wash Plant is an existing industrial operation and has an existing approval and water licence. He explained there are existing authorizations for the construction of certain structures such as the dam and impoundment area, as well as for operations to be carried out at the Wash Plant. The Director explained the Wash Plant had a water licence for industrial purposes issued in 1957 under the *Water Resources Act*, R.S.A. 1980, c. W-5, authorizing the gross diversion and use of up to 1,400 acre-feet of water (the 1957 Licence).

[78] The Director noted the Appellant had requested certain facilities, such as the dam, being authorized under the existing authorizations, be dismantled. According to the Director, the Appellant wants the original authorizations set aside. The Director submitted that setting aside the original authorizations is not the subject of the present matter in front of the Board; rather, it is the Licences permitting a further allocation of water.

[79] The Director stated the ORVCA advised him in 2001 that it believed the Wash Plant was diverting water in excess of the 1957 Licence, and in response, the Director instructed the Approval Holder to perform a pumping test to verify the rate and quantity of water being diverted. According to the Director, the Approval Holder advised him its measurements of the amount of water used exceeded the quantity and rate of diversion in the existing 1957 Licence. The Director stated the Approval Holder submitted applications for additional water for

industrial aggregate washing and an additional source of water for the settling ponds make-up supply. He stated notification of the applications was provided directly to ORVCA.

[80] The Director stated he received 137 letters of concern, and he accepted 45 of these letters as valid Statements of Concern.

[81] The Director stated the Approval Holder held a number of information sessions and an open house for Statement of Concern filers and members of the public. He explained the Approval Holder summarized each Statement of Concern and reported how the concerns were addressed in the operation and in the investigation undertaken in preparing the applications for the Licences. The Director stated the Approval Holder was in the process of forming a Public Advisory Committee.

[82] The Director explained he issued a temporary diversion licence to the Approval Holder to allow it to operate during the summer of 2003. He stated a condition of the temporary diversion licence required the Approval Holder to submit reports to support the applications for the Licences and to monitor surface water and groundwater.

[83] The Director stated the Approval Holder ultimately amended its applications to reduce the diversion amount and the rate of water requested, and to include the diversion of water from Pollock Pond to maintain flows in Kilini Creek.

[84] The Director stated he reviewed the applications and issued the Licences and initiated an amendment to the EPEA approval to add additional water quality monitoring requirements in order to satisfy himself as to the quality of water that was being placed in Kilini Creek. He determined there would be no adverse impacts to groundwater or surface water based on the information provided.

[85] The Director noted Licence 207691 makes a further allocation of water and Licence 192603 permits the intermittent release of water to Kilini Creek when required. He stated the issuing of these Licences was a pro-active measure in order to allow the Approval Holder to operate efficiently.

[86] In response to the Appellant's concern regarding the Approval Holder's non-compliance, the Director stated he fully considered the factual background relating to the

issuance of the Licences and Approval, and his primary concern was to “...ensure that the operation of the [W]ash [P]lant is properly authorized.”³⁰

[87] The Director explained the consultants’ reports that he received from the Approval Holder, as well as his own review, indicated the bedrock below the Wash Plant is impermeable.³¹ He stated the return water flows into holding and settling ponds and then directly into Kilini Creek, and the water does not penetrate into the bedrock. Therefore, according to the Director, there is no connection between the surface water flows from the Wash Plant and the aquifers in the bedrock from which the Appellant draws his water.

[88] The Director stated he considered the available water supply and the impacts of the withdrawal on other water users, and he conditioned the Licences in response to the recommendations of the Fisheries Report.³²

[89] The Director rejected the Appellant’s argument that the Director should be more responsive in implementing measures to remediate the fish habitat. He stated that while fish are part of the aquatic environment, the Director recognizes that remediation efforts are the subject of a multidisciplinary review and involves input from multiple levels of government. The Director stated he must respect the role of the department of fisheries and not overstep the limits of his authority.

[90] The Director further rejected the Appellant’s argument that fish habitat remediation could, in part, be achieved by removing the dam. The Director submitted the removal of the dam is not a matter before the Board.

[91] The Director stated he failed to understand why he should be obligated to require a fish passage for no reason other than the Appellant’s statement that he likes to fish and he hopes his children will also like to fish in Kilini Creek sometime in the future.

³⁰ Director’s submission, dated October 20, 2004, at paragraph 25.

³¹ See: Director’s Record at Tab 20, *Fish & Fish Habitat Assessment and Environmental Effects Assessment, Kilini Creek (NW 06-054-01-W5M) at the Lafarge Wash Plant Final Report*, prepared by EnvironMak Inc., dated January 8, 2004; Director’s Record at Tab 15, *Groundwater Investigation, Onoway Wash Plant, Lafarge Canada, Inc., Final Report*, prepared by Westwater Environmental Ltd., dated April 30, 2003; and Director’s Record at Tab 16, *Year End Water Use Return – 2003, Lafarge Wash Plant, W 6-54-1-W5M, Final Report*, prepared by Hemmera Envirochem Inc., dated March 2004.

³² See: Director’s Record at Tab 20.

[92] The Director explained a formal environmental impact assessment was not necessary for this activity, as the environmental impacts associated with the withdrawal of water in the manner proposed by the Approval Holder are well known. He stated the Licences were requesting authorization for the operation of the Wash Plant as it presently exists, and therefore, no additional adverse impacts that are not already known are anticipated.

[93] In response to the Appellant's request for Pollock Pond to be monitored, the Director stated the matter had been addressed in the consultants' reports.³³ He stated the water released from the Wash Plant is channeled to holding and settling ponds before it is released to Kilini Creek upstream from the diversion point. Water from Pollock Pond is filtered through a wetland before being discharged into Kilini Creek downstream of the diversion point to supplement instream flows. The Director submitted that, in view of this, it is not necessary to impose further requirements with respect to monitoring.

[94] The Director rejected the argument of the Appellant that Licence 206791 should be cancelled. He explained Licence 206791 looks at the need to react to environmental conditions as they are found in the spring when the Approval Holder commences its operations.

[95] The Director stated that even though he has the authority to review licences and approvals in order to ensure they meet the aims and purposes of the applicable legislation, in his experience, his authority to review has never been utilized to cancel a licence or an approval. He explained he did not believe it was necessary to cancel licences that might help to achieve overall efficiencies at some point. To do so, he suggested, would not help him to meet the goals of the *Water Act*, namely to ensure the wise use of water and the protection and enhancement of the environment. For this reason, the Director submitted the Licences should not be cancelled.

[96] In response to the Appellant's claim that the Licences authorize the mixing of groundwater and surface water, the Director stated the Licences authorize the diversion and use of water from Kilini Creek, which involves a mixture of both groundwater and surface water.

³³ See: Director's Record at Tab 20, *Fish & Fish Habitat Assessment and Environmental Effects Assessment, Kilini Creek (NW 06-054-01-W5M) at the Lafarge Wash Plant Final Report*, prepared by EnvironMak Inc., dated January 8, 2004; Director's Record at Tab 15, *Groundwater Investigation, Onoway Wash Plant, Lafarge Canada, Inc., Final Report*, prepared by Westwater Environmental Ltd., dated April 30, 2003; and Director's Record at Tab 16, *Year End Water Use Return – 2003, Lafarge Wash Plant, W 6-54-1-W5M, Final Report*, prepared by Hemmera Envirochem Inc., dated March 2004.

[97] With respect to the Appellant's doubts as to whether the Approval Holder complied with its consumptive use requirements, the Director explained the reference to the zero consumption allocation in Licence 192603 does not mean the Approval Holder is prohibited from consuming any of the water it diverts. Rather, the Director explained the reference should be interpreted in the context of Licence 192603 being an amendment to an existing licence (the 1957 Licence). He stated Licence 192603 permits the Approval Holder to divert an additional quantity of water over and above what the original 1957 Licence permits. The Director continued, stating the original 1957 Licence includes the amount of water the Approval Holder is entitled to "consume" for the Wash Plant (280 acre-feet or 345,375 cubic metres). He stated the Approval Holder is not entitled under the new Licences to consume any additional water. He concluded by stating the Approval Holder is responsible to account for all of the water it uses.

[98] The Director rejected the Appellant's argument that there is a need to create a closed system with respect to water at the Wash Plant. He explained there is a circular or closed system already operating at the Wash Plant, and in effect, under the existing circular operation, the same molecules of water end up being diverted a number of times.

[99] The Director stated that, based on the detailed analysis of the groundwater in the vicinity of the Wash Plant, there is no evidence the operation was having a negative impact on groundwater resources, and as the Licences authorize water use based on the current operation, no additional impacts are anticipated.

[100] The Director rejected the Appellant's argument that the Director approved the removal of water through products. The Director acknowledged some of the return water leaves the Wash Plant trapped in gravel, wash-products, and even black sand, but he does not authorize or approve its removal. Rather, the Director stated it is the responsibility of the Approval Holder to account for the removal of water through products as part of the 280 acre-feet allowed in the 1957 Licence.

[101] The Director submitted the Appellant had not met the burden of proof required to establish his case before the Board. In the Director's view, the Appellant did not offer sufficient information to sustain his allegations. The Director submitted for the Appellant simply to say that he loves to fish and may have caught a fish in Kilini Creek is not sufficient information for

the Board to decide what impact the Wash Plant has upon the fishery. He concluded the Appellant had difficulty in demonstrating what effects the Wash Plant had upon him and what relief was required.

[102] The Director requested the appeals be dismissed and the Board find the Licences were issued correctly and the additional monitoring requirements in the Approval were reasonable.

III. DISCUSSION AND ANALYSIS

A. Introduction

[103] These appeals deal with three new authorizations (two water Licences and an EPEA Approval) that have been issued to a sand and gravel operation that has existed since the mid-1950s. The operation includes pits where sand and gravel is extracted and a facility for the washing of these materials. The operation is located on the west side of Kilini Creek, which is a tributary of the Sturgeon River, in the North Saskatchewan River Basin. Kilini Creek serves as the water supply for the operation and provides for the “on-stream” storage of water by way of a dam and impoundment directly on the creek. Water is taken from the impoundment into the facility, where it is used for washing materials and then the water is returned to Kilini Creek, upstream of the impoundment, such that the same water is used over and over again in the washing facility. The operation was initially authorized by a 1957 Licence, with the on-stream dam and impoundment being authorized in the early 1970s.³⁴

[104] The operation also uses two other water bodies. The first is an “end pit lake,” a former sand and gravel pit that has filled with water, known as Pit 92, now considered a tributary of Kilini Creek. Pit 92 is located to the south and downstream of the washing facility and is used to supplement flows in Kilini Creek in years where there is not enough natural flow in the creek

³⁴ The 1957 Licence authorizes the diversion of 1,400 acre-feet (1,726,875 cubic metres) annually from Kilini Creek, and permits the “consumptive use” of 280 acre-feet (345,375 cubic metres). It also allows for an annual loss of 10 acre-feet (12,335 cubic metres) and an estimated return flow to Kilini Creek of 1,110 acre-feet (1,369,165 cubic metres). The Board notes that not all of the water taken from Kilini Creek is returned to the creek. Some of the water is lost because of the washing of the sand and gravel, but this is accounted for in the 1957 Licence as a “consumptive use.” The dam and impoundment have been authorized since at least 1971.

to supply the needs of the operation. The second is also an “end pit lake,” known as Pollock Pond, which is located to the north and upstream of the washing facility and is used to maintain instream flows in Kilini Creek.³⁵ There is a third water body to the south of the operation and to the south of Pit 92, known as Bogstad Lake. Bogstad Lake is part of the Kilini Creek system, but it is not used as part of the operation.

[105] The Appellant lives approximately one mile to the south east of the Wash Plant, on the other side of Kilini Creek, and is concerned about the overall environmental impacts of the operation. He is particularly concerned with the impacts of the operation on his water supply, which is a groundwater well, and on the condition of Kilini Creek and various water bodies associated with it. His concerns date back to at least 1987, when he moved into the area. The Appellant has had ongoing discussions about his concerns with Alberta Environment, the previous operator, and the current operator, Lafarge Canada Inc. (the Approval Holder), since it took over the operation in January 2001. The three new authorizations currently under appeal are the result of discussions that took place between the Appellant and the Approval Holder, where the Appellant brought concerns regarding a series of potential non-compliance issues to the attention of the Approval Holder and Alberta Environment.

[106] At the request of Alberta Environment, the Approval Holder undertook an investigation of its water use and confirmed there were a number of non-compliances. The non-compliance issues appear to predate the Approval Holder’s takeover of the operation and appear not to have been apparent during the Approval Holder’s due diligence review undertaken before taking over the Wash Plant. In response to this discovery, the Approval Holder took steps to bring the Wash Plant into compliance, including making several applications to Alberta Environment for the Licences that are currently under appeal. The applications effectively requested Alberta Environment’s permission to continue operations in the manner in which they had been carried out in the past, but with the appropriate regulatory authorizations. The applications also took into consideration a number of improvements the Approval Holder had been able to make to the operation to reduce its overall use of water and to improve the quality of the water it returns to Kilini Creek. During the course of his review, the Director determined an

³⁵ Instream flow is the amount of water, flow rate, or water level that is required in a river or other body of water to sustain the aquatic environment.

amendment to the Wash Plant's existing EPEA approval was also necessary to provide for additional monitoring and reporting. As a result, the Director initiated an amendment to the existing approval, which resulted in the Approval that is currently under appeal.

[107] The main non-compliances the Approval Holder discovered were that the Wash Plant was using more water from Kilini Creek than was allocated under the 1957 Licence, and the Wash Plant was taking supplemental water from Pit 92 without an appropriate licence. As a result, the Approval Holder applied for and received two new water Licences. The first new licence, Licence 206791, authorizes the diversion of 1,764,000 cubic metres of water annually from Kilini Creek for use in the Wash Plant. This water is in addition to the 1,400 acre-feet (1,726,875 cubic metres) that is authorized by the 1957 Licence, bringing the total amount of water allocated to the facility to 3,490,875 cubic meters annually. ("Consumptive use"³⁶ is allowed under the 1957 Licence, but no consumptive use of water is allowed under Licence 206791.) The second new licence, Licence 192603, authorizes the Approval Holder to divert up to an additional 80,175 cubic metres of water annually from Pit 92 when required, should the amount of water naturally flowing in Kilini Creek be insufficient to meet its allocations under the 1957 Licence and Licence 206791.

[108] In response to discussions with the Director, the Approval Holder amended its applications for the new water Licences to allow it to take water from Pollock Pond to supplement the instream flows in Kilini Creek, downstream of the dam and impoundment. The Director granted this request, adding provisions to Licence 206791 to address concerns regarding instream flows in Kilini Creek and authorizing the use of water from Pollock Pond for this purpose.

[109] In considering the appeals that are before it, it is important to note the only matters the Board can deal with are the three authorizations under appeal – Licence 192603, Licence 206791, and EPEA Approval 76893-00-01. The Board's jurisdiction is limited to making recommendations to the Minister of Environment to confirm, reverse, or vary these

³⁶ The consumptive use of water is where water is not returned to the local environment from where it is taken, usually by return flow, evaporation, or loss (spillage) on site.

authorizations.³⁷ The past operations of the Wash Plant, the 1957 Licence, the on-stream dam and impoundment, and the original EPEA Approval are not before the Board.

B. Overview of the Appeals

[110] In his appeals, the Appellant has raised a number of concerns regarding the operation of the Wash Plant, and the Board will examine these concerns in detail. However, in broad terms, the matters raised by the Appellant can be summarized as three basic issues.

1. Water Supply

[111] First, the Appellant is concerned about the impact the Wash Plant is having on the quality and quantity of his water supply, which is a groundwater well. He believes there is a connection between the Wash Plant and the reduced availability of groundwater and the possible contamination of his water supply.

[112] The Appellant has presented no evidence to suggest there is a connection between his water supply and the Wash Plant or the Licences that are under appeal. The evidence provided by the Approval Holder and the Director clearly indicates there is no connection, and as a result, the Board is of the view the Wash Plant and the Licences that are under appeal will not affect the Appellant's water supply. Basically, the Wash Plant is located on the west side of Kilini Creek and has as its water source surface water and some groundwater from a sand and gravel formation. However, the Appellant is located on the east side of Kilini Creek,

³⁷ See: Sections 99(1) and 100(1) of the *Environmental Protection and Enhancement Act*. Section 99(1) provides:

“In the case of a notice of appeal referred to in section 91(1)(a) to (m) of this Act or in section 115(1)(a) to (i), (k), (m) to (p) and (r) of the *Water Act*, the Board shall within 30 days after the completion of the hearing of the appeal submit a report to the Minister, including its recommendations and the representations or a summary of the representations that were made to it.”

Section 100(1) provides:

“On receiving the report of the Board, the Minister may, by order,

- (a) confirm, reverse or vary the decision appealed and make any decision that the person whose decision was appealed could make,
- (b) make any direction that the Minister considers appropriate as to the forfeiture or return of any security provided under section 97(3)(b), and

hydrologically up gradient of Kilini Creek, and has as his water source a shale bedrock formation.

2. Existing Facilities

[113] The Appellant's second concern is that he does not like the current design of the Wash Plant, which has an on-stream dam and impoundment. He is concerned about the environmental impacts of this design, particularly with respect to water quality and quantity, fisheries, and recreational opportunities. He wants the Wash Plant redesigned to remove the on-stream dam and impoundment and return Kilini Creek to a "natural" condition. He also believes the operation has been in non-compliance for some time (which is likely correct), and the Approval Holder should be "punished" for this non-compliance instead of being "rewarded" with the new Licences and Approval.

[114] The Board understands the concerns the Appellant has raised, but with respect, the current design of the Wash Plant is not before the Board. Even if the Board was to recommend the Licences under appeal be cancelled (which the Board is not), it would do nothing to address the concerns of the Appellant with respect to the current design of the Wash Plant and would not result in Kilini Creek being returned to a "natural" condition. The Wash Plant is an existing facility that has been licenced since 1957, and it is not the purpose of these appeals to redesign an existing facility. Further, the Appellant's complaints about the Wash Plant being in non-compliance and how the Approval Holder should be "punished" instead of "rewarded" with new Licences are inappropriate for the purpose of these appeals.

[115] While the Board would have preferred that the Approval Holder had discovered these non-compliances prior to or upon taking over the operation, the Board is of the view, in the circumstances of this case, the approach the Approval Holder took upon discovering the non-compliances was appropriate. The Approval Holder reviewed the operation and took steps to bring the operation into compliance, such that the use of water that had already been occurring for some time is now properly regulated and is taken into account in the allocation system established by the *Water Act*. The Board agrees with the Director that the environmental impacts

of the operation on the Appellant are not appreciably different with or without the new Licences, and as such, the decision to grant the new Licences was appropriate. This is mainly because of the design of the Wash Plant, where the same water is used over and over again, such that the additional allocation of water in Licence 206791 is not *per se* new water, but rather is merely permission to use the same water over and over again a few more times. In fact, now that the operation has been properly regulated and is being properly monitored with the new Licences and new Approval, the Board expects the environmental concerns, including those of the Appellant, will be better addressed.

3. Licences and Approval Conditions

[116] Finally, the Appellant has raised a number of concerns regarding the wording of the Licences, as in his view the wording is unclear. While he would prefer for the water Licences to be cancelled, in the alternative, he argued a number of the conditions in the Licences need to be revised and additional monitoring and reporting conditions need to be included.

[117] On this point, the Board agrees with the Appellant. A number of the conditions included in the Licences and Approval are unclear and, as a result, subject to various interpretations. Therefore, the Board will make a number of recommendations to improve the clarity of the Licences and Approval, which will hopefully benefit all of the Parties to these appeals. The Board is also of the view that a number of additional monitoring and reporting conditions should be added to the Licences and the Approval, and the Board will make recommendations in this regard.

[118] In particular, the Board will recommend changes to make it clear the 80,175 cubic metres of water authorized in Licence 192603 is to be added to Kilini Creek when natural flows do not make it possible for the Approval Holder to take its allocation of water under the 1957 Licence and Licence 206791. The Board will also recommend changes to make it clear the 80,175 cubic metres from Licence 192603 is not an allocation in addition to the other water that has been allocated. (The total amount of water the Approval Holder can divert into the Wash

Plant is specified in the 1957 Licence and Licence 206791 only, which totals 3,490,875 cubic meters annually, and does not include the 80,175 cubic metres under Licence 192603.)

[119] Further, the Board will make a recommendation to add a condition to the Approval requiring the Approval Holder to prepare and submit a “Summary Water Balance Report” (the “Summary Water Balance Report”) to the Director on an annual basis, and to make a copy of this Summary Water Balance Report available to the public on request. In the Board’s view, this Summary Water Balance Report will assist the Director in ensuring the operation remains in compliance and will assist in addressing the concerns of the neighbours of the Wash Plant.

4. Summary

[120] Having regard to all of the concerns raised by the Appellant, and the submissions of all of the Parties, the Board will be recommending that the Licences and Approval be confirmed, subject to a number of variations. As indicated, the Board will be recommending a number of new conditions to provide for additional monitoring and reporting. The Board will also be recommending that a number of existing conditions be rewritten to improve the clarity of the Licences and Approval for the benefit of all of the Parties.

C. Specific Concerns

[121] As stated, the Appellant has raised a number of specific concerns, some of which overlap to a degree. These concerns are: (1) the common source of water supply, (2) water quantity, (3) water quality, (4) diminished use and enjoyment, (5) non-compliance, (6) low priority designation, (7) drawdown of Pit 92, (8) consumptive use, (9) instream flows, (10) closed system and removal of the dam, (11) remediation of fish habitat, (12) monitoring of Pollock Pond, (13) licences and approval conditions, (14) community relations, and (15) environmental impact assessment. The Board will address each of these concerns in turn.

1. Common Source of Water Supply

[122] The Appellant argued the Wash Plant has negatively affected his groundwater well because they share a common source of supply. The Appellant has provided no credible evidence to support this position, and has therefore failed to meet his burden of proof. The evidence provided by the Approval Holder and the Director points to there being no connection between the sources of water used by the Approval Holder and the source of water used by the Appellant.

[123] The water supply in the area is characterized by two regional water systems that flow through two different geological formations. The upper layer is a sand and gravel formation, which has both shallow groundwater aquifers and surface water. The lower layer is a shale bedrock formation, which is supplied by deep groundwater aquifers.

[124] The Appellant's water well is located approximately one mile to the south east of the Wash Plant in an area of higher elevation than Kilini Creek. Kilini Creek is located in a sand and gravel formation, and the bed of Kilini Creek is generally the lowest elevation in the area.

[125] A cross-section analysis reveals the Appellant's groundwater well has been drilled through three geological formations. Closest to the land surface is a clay formation, and below that is a sand and gravel formation. At and near the bottom of the Appellant's groundwater well is the shale bedrock formation. The Appellant's well is completed in this formation, and it is the aquifer in this formation that is the Appellant's water source.

[126] The Appellant argued the elevation measured at the depth of his well corresponds to the elevation of Kilini Creek. He submitted that information contained in the Approval Holder's report entitled: "*Groundwater Investigation, Onoway Wash Plant, Lafarge Canada, Inc., Final Report*,"³⁸ which placed the bottom of the Appellant's well at an elevation approximately 50 feet higher than Kilini Creek, was not correct.³⁹ He referred to the cross-examination of Mr. Gordon McClymont (the Approval Holder's hydrogeologist), where Mr. McClymont stated that no determination had been made on the location of the boundaries of the

³⁸ See: Director's Record at Tab 15, *Groundwater Investigation, Onoway Wash Plant, Lafarge Canada, Inc., Final Report*, prepared by Westwater Environmental Ltd., dated April 30, 2003 ("Groundwater Investigation Report").

sand and gravel formation. In the Appellant's view, this demonstrated a possibility that the sand and gravel formation extended continuously from Kilini Creek to his well. According to the Appellant, if this is so, it is possible the groundwater supplying the Wash Plant operations can make its way to the supply area of his well through the sand and gravel formation.

[127] The Approval Holder responded that its information was correct in respect to its analysis of the surface elevation and geological formation. The Approval Holder argued it was not physically possible for surface water in Kilini Creek to flow 50 feet uphill to the Appellant's well. To do so would defy the law of gravity. The Approval Holder submitted it had correctly identified the bottom of the Appellant's groundwater well as being situated in the bedrock formation, meaning the Appellant draws his water from the bedrock water source rather than a shallow groundwater source.

[128] In the alternative, the Appellant submitted that contaminated water from the Wash Plant flows into the shallow groundwater found in the upper formation and eventually percolates down into the bedrock aquifer and his water source. Both the Approval Holder and Director refuted this. They argued the shale bedrock formation is, for all practical purposes, impermeable, and it is impossible for surface water to percolate down through the shale formation and into the bedrock aquifer. The Approval Holder concluded that the two aquifer systems were separate and there was no common source of water supplying the Wash Plant operations and the Appellant's well.

[129] The Board accepts the evidence presented by the Approval Holder and the Director, as the Appellant has not provided any evidence that contradicts their evidence. Based on the cross-section data, it is clear to the Board the Appellant's source of water supply is a bedrock aquifer, whereas the source of water supply for the Approval Holder's operation is the surface water and shallow groundwater found in the upper sand and gravel formation. The lateral extent of the sand and gravel formation, regardless of where its boundaries are determined to be, has nothing to do with the Appellant's groundwater well. Further, the Board accepts the evidence of the Approval Holder and the Director that the bedrock formation is, for all practical purposes, impermeable to water percolating down from the sand and gravel formation. Even if

³⁹ See: Approval Holder's submission, dated October 26, 2004, Exhibit 4B, Cross-section B – B'.

this were not the case, the general flow of water in the sand and gravel formation is to the lowest point in the region, which is Kilini Creek, and as a result, for the water from the Wash Plant to reach the Appellant's well, it would have to flow against this gradient.

2. Water Quantity

[130] The Appellant submitted the Wash Plant has caused the water level in his well to drop. He provided evidence that the static level has dropped five feet (approximately two metres) since he purchased his property in 1988. The Appellant also stated the rate of water production has dropped by five gallons per minute, from seven gallons per minute in 1971 when the well was drilled to two gallons per minute as observed in a November 2003 pump test.

[131] The Appellant suggested the drop in the water level is correlated to low or intermittent flows in Kilini Creek. The Approval Holder rejected this argument. It referred to the evidence of Mr. McClymont at the Hearing, where he stated the Appellant's water well was sourced by a bedrock aquifer, instead of the surface water that supplies the Approval Holder, and there could be no correlation as suggested by the Appellant.

[132] The Approval Holder suggested that perhaps the water level in the Appellant's well had dropped for other reasons. The Approval Holder pointed out the Appellant lives approximately one mile west from a rural residential community, known as Patricia Hills, which was built in the 1990s. In the Approval Holder's view, it is likely the various water wells associated with the Patricia Hills community is the cause of the drop of water levels and production rates in the Appellant's groundwater well.

[133] The Board acknowledges the Appellant sustained a drop in the water level of his well. The Board specifically rejects the line of questioning and argument by the other Parties that suggested the Appellant's concerns were not valid because he is not the holder of a professional qualification in engineering, hydrology, geology, or a related discipline. In the Board's view, any person living within reasonable proximity of the project may have a valid concern about reduced water levels over a period of years. In the Board's view, the Appellant's observations and concerns about the drop in water level and production rates from his groundwater well are understandable.

[134] However, that being said, the Appellant has not offered any evidence to establish a causal connection between the Approval Holder's operations, whether it be the diversion to the Wash Plant or the diversion from Pit 92, and the lowering of the water level and production rates in his well. While his observations are valid, and the Board accepts they are occurring, these observations do not demonstrate any type of causal connection. The Appellant has not demonstrated a negative effect on his well by the Wash Plant and, therefore, has not discharged his burden of proof. As previously discussed, based on the geology, the Board does not believe there is a direct connection between the Appellant's groundwater well and the Wash Plant operations.

[135] The Board finds there is no clear explanation as to what has caused the water levels and production rates in the Appellant's well to drop. However, the Board believes it is more than likely a combination of factors unrelated to the Wash Plant. For example, problems might be caused in part by the natural process of deterioration which normally occurs in an aging well. The Appellant's well is considered to be a comparatively old well, having been built in 1971. The manner of its completion is unknown to the Board. There could be, as the Approval Holder suggests, a crack or cracks in the well casing which can cause water to leak out of the well, reducing the water level and rate of production. (The *Water (Ministerial) Regulation*, Alta. Reg. 205/98, includes a requirement with respect to the completion of water wells to prohibit the cross-connection of hydrogeological layers.)⁴⁰ It may also be the screen inlets at the bottom of the Appellant's well have become clogged or there could be formation damage, all of which can impede the passage of water. This would reduce the water level and rate of production in an active water well. There is limited evidence regarding the service record of the well, and a combination of these factors is commonly the cause of reduced water levels and rates of production in older wells. The Board also accepts the argument that the collective demands on the water supply by residents of the nearby Patricia Hills development over the years may have contributed to the reduction of the water table levels. (The Board notes such domestic users

⁴⁰ Section 47(g)(i) provides:

"The driller of a water well must ensure that the water well meets the following requirements:...

- (g) in the case of a diversion of groundwater from a water well that must be licensed, the water well must be
- (i) constructed in a manner that does not result in multiple aquifer completions..."

would have an equal right to the supply of water as the Appellant.) Furthermore, the Board acknowledges the situation might have been worsened by the dry climatic conditions in recent years.

[136] The Appellant has also expressed concern that the taking of water under the Licences "...interferes with the recharge capability of Kilini Creek and Kilini/Bogstad Lake through natural spring feeding and surface water run off."⁴¹ The Board does not accept this argument. The Appellant has presented no evidence to support his argument. Further, as will be discussed under "Consumptive Use," the total consumptive use for the Wash Plant is 280 acre-feet (345,375 cubic metres). The remainder of the water taken under the Licences and the 1957 Licence, with the exception of the water that is lost to evaporation, will remain in the watershed in either return flow to Kilini Creek or as water lost to the immediate surroundings of the Wash Plant.

3. Water Quality

[137] The Appellant presented evidence that water samples taken from his well demonstrated increased concentrations of heavy metals such as iron, manganese, and possibly zinc.⁴² He argued this was caused by contamination from the Wash Plant finding its way into his groundwater well.

[138] As discussed above, the Board has concluded the Wash Plant and the Appellant's groundwater well have two separate sources of supply. There is no evidence before the Board to indicate the Wash Plant will have an affect on the Appellant's well, and the Board therefore rejects the Appellant's argument that the increased presence of heavy metals has been caused by the Approval Holder's operations.

[139] This notwithstanding, the presence of heavy metals in drinking water is a concern. In reviewing the Certificate of Chemical Analysis⁴³ provided by the Appellant, the Board notes

⁴¹ Appellant's submission, dated October 25, 2004, paragraph 5.

⁴² See: Appellant's submission, dated October 25, 2004, Tab 2001, University of Calgary, Centre for Toxicology, Certificate of Chemical Analysis, dated August 30, 2001.

⁴³ Appellant's submission, dated October 25, 2004, Tab 2001, University of Calgary, Centre for Toxicology, Certificate of Chemical Analysis, dated August 30, 2001.

the elements that exceed the 1996 Canadian Drinking Water Guidelines are iron, manganese, and possibly zinc. In each case, the criterion that is exceeded is an “aesthetic objective.”

[140] The Board notes the Approval contains requirements for the Approval Holder to monitor and analyze industrial wastewater, surface water, and groundwater for a wide range of elements, including iron, manganese, and zinc. This information is provided to the Director and is available to the public. Subject to the amendments the Board will recommend, the Board is satisfied the Approval contains appropriate conditions to monitor for heavy metals, and the Director has the ability to address any potential concerns that might arise.

[141] In addition, the Board encourages the Appellant to continue monitoring his well on a regular basis and, where appropriate, bring any additional findings to the attention of the Director.

4. Diminished Use and Enjoyment

[142] The Appellant asserted the negative environmental impact caused by the Wash Plant undermines his quality of life. He suggested the Director’s lack of vigilance with respect to non-compliance, as well as his treatment of Kilini Creek as a low priority area, both of which will be discussed later in this Report and Recommendations, were contributing factors to the creation of a “strange and chaotic” environment in the area of his residence.

[143] The Appellant stated that because of the creation of this “strange and chaotic” environment, he had noticed a deterioration of the area since he purchased his property in 1987. He and his family had previously enjoyed fishing in Kilini Creek and Bogstad Lake. He said that lately he was not able to catch as many fish as he used to. The Appellant stated he and his family also liked to canoe, but the opportunities to do so were limited by the low flow and intermittent flows in Kilini Creek. Likewise, the reeds in the aquatic environment, which he collected and used for weaving, were not as plentiful and were of a lower quality than they had been in the past.

[144] Both the Approval Holder and Director argued the statements of the Appellant were anecdotal in nature and lacked scientific evidence that might demonstrate a correlation between the Wash Plant and the Appellant’s diminished use and enjoyment of the area. The

Approval Holder stated it had, in fact, taken steps to implement changes to its operation in order to improve the aquatic environment in the area of Kilini Creek. As an example of this, the Approval Holder pointed to the Fisheries Report,⁴⁴ the recommendations of which the Director had in fact accepted.

[145] The Board notes the Wash Plant has been in operation on this site for almost 50 years, including 30 years before the Appellant bought his property. At the time the Appellant purchased the property, he would have certainly known of the Wash Plant, since he lived there for two years before he bought the property.

[146] The Board further notes the Appellant was the only person who filed an appeal in response to the issuance of the Licences and Approval. If the impacts of the Wash Plant operations were as “strange and chaotic” as the Appellant suggests, then the Board expects that other neighbours would have also filed an appeal.

[147] The Board agrees the Appellant has not offered any hard evidence or scientific data to support his arguments. Rather, the Appellant made general comments about such matters as not catching as many fish as he used to. No meaningful context was provided in order to enable the Board to put the Appellant’s comments into perspective. For example, the Appellant failed to establish over what period the changes of which he complained occurred, what exactly the changes were, how they were quantified, and what his own pattern of use was. When compared against the scientific data presented by the Director and Approval Holder, the Appellant’s case is lacking in substantiation.

[148] The Board rejects the suggestion by the Appellant that the creation of what he termed as a “strange and chaotic” environment was caused because of the government’s failure to effectively monitor the Wash Plant and deal with non-compliance issues. While it would have been preferable for the non-compliance issues to have been discovered earlier, given the existing design of the Wash Plant, the Board is of the view the new Licences and new Approval do not increase the overall impact of the operation. In the circumstances of this case, this fact does not

⁴⁴ See: Director’s Record at Tab 20, *Fish & Fish Habitat Assessment and Environmental Effects Assessment, Kilini Creek (NW 06-054-01-W5M) at the Lafarge Wash Plant Final Report*, prepared by EnvironMak Inc., dated January 8, 2004.

change regardless of whether the Approval Holder's use of the additional water was properly licenced or not.

5. Non-Compliance

[149] The Appellant objected to the issuance of the Licences and Approval on the basis the operation had been in non-compliance. The Appellant believed that on this ground alone, the Approval Holder should be denied the Licences and Approval.

[150] As discussed, upon reviewing its operation on the instructions of Alberta Environment, the Approval Holder discovered it was diverting more water from Kilini Creek than was authorized under its 1957 Licence for use in the Wash Plant, and that it was diverting water from Pit 92 without the appropriate licence.

[151] The Approval Holder acknowledged these non-compliances and indicated it has only been operating the Wash Plant since 2001, having taken the operation over from the Wash Plant's previous owners and operators, TBG. The Approval Holder indicated that at the time it took over the operation, there was no indication in the records of the previous operator that the operation was in non-compliance. Further, the Approval Holder presented evidence that after it discovered there was non-compliance with the terms of the 1957 Licence, it brought the matter to the attention of the Director and took immediate steps to rectify the situation by making application for the Licences. It also requested and operated under a temporary diversion licence for one operating season. It appears the non-compliances predate the Approval Holder's take-over of the operation. As stated, while the Board would have preferred these non-compliances had come to the attention of the Approval Holder sooner, in the circumstances of this case, the Board commends the Approval Holder for the pro-active measures taken in order to bring its operations into compliance.

[152] The Appellant asked the Board to hold the Approval Holder responsible for the non-compliance issues of previous owners of the Wash Plant on the basis the Approval Holder took over the operation with "full knowledge of the non-compliance issues." He argued the Approval Holder's subsequent application for the Licences was no more than an attempt to seek approval to continue to operate the Wash Plant in the same way it had been operated in the past.

The Appellant argued that as a result, the Director should have been more critical in reviewing the applications for the Licences. Further, the Appellant objected to the Director's decision to issue the Licences without imposing some sort of disciplinary measure upon the Approval Holder for the past non-compliance.

[153] The Director responded, stating that in issuing licences, his role is not to concern himself with the previous history of an operation, but rather to respond to the situation presented at the time of the application. He stated that when the Approval Holder brought the issues of non-compliance to his attention, he responded in a timely manner and directed the Approval Holder to deal with them. He stated he conditioned the Licences by requiring the Approval Holder to submit an annual report on the operation of the Wash Plant, which would provide him with enough information to determine whether the Approval Holder was complying with the various regulatory requirements.

[154] The Board rejects the argument of the Appellant that it should hold the Approval Holder responsible for past non-compliances. It appears to the Board the Appellant's concerns relate to the previous operator. In pursuing this argument, the Appellant is seeking to advance a wide-ranging number of complaints he has had over the years and blame them on the current Approval Holder. In the circumstances of this case, the steps that have been taken to address the non-compliances have been appropriate. The Wash Plant is now properly regulated and properly monitored, and disciplinary action now would serve no useful purpose.

6. Low Priority Area

[155] The Appellant argued the Director did not take the non-compliance issues that were occurring at the Wash Plant seriously, because he treated Kilini Creek as a "low priority area." He based this statement on a conversation he had with Mr. Ed Hoyes of Alberta Environment. The Board understands that at the time of this conversation, Mr. Hoyes was the Director in the area and would have made licencing decisions like the ones currently under appeal. The Appellant stated Mr. Hoyes told him the whole Sturgeon River basin, and therefore the Appellant's concerns at Kilini Creek, was considered a "low priority area." The Appellant tried to tie this statement to the issue of non-compliance, implying that Alberta Environment is not properly carrying out its water management functions.

[156] The Board is of the view the Appellant likely took Mr. Hoyes' remarks regarding the treatment of Kilini Creek as a "low priority area" out of context. The Board believes the low priority comment was likely made in relation to the water management planning process that is currently underway throughout the province, and that it had nothing to do with the issue of non-compliance.

[157] The Board is aware that Alberta Environment is currently undertaking a province-wide water management planning process. Part of this process called for the determination of instream flow needs for all of the rivers in the Province. This is clearly a daunting and very resource intensive task. The Board understands this process is currently underway in the southern regions of the Province, where water shortages are most severe. Once work in the southern regions of the Province is complete, the process will then generally move north as Alberta Environment's resources permit. The Board believes Mr. Hoyes' comments referred to this water planning process. Mr. Hoyes' statement, that the Sturgeon River basin was a low priority, was a comparison to the more immediate need for water planning in southern Alberta and the resource allocation decisions in that regard made by Alberta Environment.

[158] The Board appreciates that the Appellant would like to see this planning process completed for the Sturgeon River system as soon as possible, as it may address some of his concerns. However, such resource allocation decisions are policy decisions that are not properly before the Board. This notwithstanding, the Board is of the view that Alberta Environment's decision to begin this planning process in the south and generally move northward is a prudent decision, consistent with the broader environmental concerns facing the Province.

7. Drawdown of Pit 92

[159] The Appellant argued the practices of the Approval Holder with respect to the drawdown of Pit 92 also demonstrates non-compliance, as it previously did not hold a licence authorizing it to take water from Pit 92. The term "drawdown" refers to a drop in the water level. In the course of the Wash Plant operation, a drawdown of water occurs in Pit 92 when the Approval Holder periodically pumps water from Pit 92 into Kilini Creek to supplement the flow in the Kilini Creek in order to obtain its water allocation.

[160] The Appellant submitted the water levels in Pit 92 were unnaturally low. He submitted the drawdown effect could also be caused by water leaking from the bottom of Pit 92. However, the Appellant did not offer any evidence to support this claim.

[161] The Appellant argued that when the water level of Pit 92 is low, water flows into it from Kilini Creek and fills up Pit 92. According to the Appellant, this filling of Pit 92 significantly reduces the amount of water available in Kilini Creek, creating little or no flow in the creek. The Appellant would like to eliminate the withdrawals of water from Pit 92 so that it remains full and does not take away from the flows in Kilini Creek. The Appellant suggested that by storing the water that would otherwise flow into Pit 92 in the dam and impoundment, any overflow would go into Kilini Creek, improving the condition of the creek.

[162] The Appellant also took issue with the height of the culverts installed under an access road adjacent to Pit 92. He suggested that if the culverts were set at a lower height, the depth of Pit 92 might be reduced, as would the overall volume of water contained in it. In turn, this would “free up” the water to remain in Kilini Creek.

[163] Finally, the Appellant objected to the drawdown of Pit 92 because it had the potential to cause a withdrawal of water from the groundwater in the area. According to the Appellant, when Pit 92 experiences a drawdown, it is recharged not only by water flow from Kilini Creek, but also by inflows from the groundwater in the area because the pit has exposed the water table. The Appellant is concerned this is causing a depletion of the groundwater in the area, and he objects to the “unnatural mixing” of groundwater and surface water.

[164] The Board rejects the Appellant’s arguments. First, the Board acknowledges the previous diversions from Pit 92 were not properly authorized, and as such, the Approval Holder was in non-compliance with the 1957 Licence. As we have discussed, the Board does not believe, in the circumstances of this case, that this is a relevant consideration. Licence 192603 brings the use of Pit 92 into compliance, and now this activity is properly regulated and monitored.

[165] Second, the design of Pit 92, such that it diverts water from Kilini Creek, the installation of the culverts, and the idea this water is not stored in the impoundment and therefore not available as additional overflow at the dam, are not before the Board. These are existing

design features with a long record of operation, and the Licences under appeal do nothing to change this historical perspective.

[166] Third, Licence 192603 only allows the Approval Holder to take water from Pit 92 in low flow conditions *in order to supplement flows* in Kilini Creek. It is true that when this diversion takes place, flows in the creek between the inlet and outlet of Pit 92 may be further reduced. However, the Board is of the view that, given the existing design features of the Wash Plant, the overall effect of Licence 192603 on the creek will be positive. Pit 92 provides for water storage in the Kilini Creek system, and the diversion of this water into the creek from this storage area during low flow conditions will provide for at least some flow in the creek. It is also true that this stored water will eventually have to be replaced. However, this will likely happen during periods of higher flow, such as during spring run off, and as a result, the impact of recharging the water stored in Pit 92 will be transitory.

[167] Finally, the Board accepts that the recharge of the water stored in Pit 92 may come from groundwater as well as from Kilini Creek. However, this recharge, regardless of its source, will not affect the Appellant or his water supply. The Board does not view this “mixing” of groundwater and surface water as unnatural. The mixing of groundwater and surface water is a *natural* part of the hydrological cycle. Virtually all surface water systems are interconnected with groundwater systems in some way. In this case, Kilini Creek is located in a sand and gravel formation that has both surface water and groundwater features. There is a natural mixing between these two sources of water, with the tendency in the immediate area of the creek to be groundwater migrating to the surface and becoming part of the surface water system.

[168] With respect to the diversion of water from Pit 92, the Appellant also argued this diversion is inconsistent with the letter that he received from the Minister dated January 8, 2002 stating that “...no operating gravel pits currently discharge water into the Sturgeon River.”⁴⁵ The Board does not accept this argument. Pit 92 is not an operating gravel pit. Pit 92 appears to the Board to be an end pit lake, and according to Licence 192603, it is a tributary of Kilini Creek.

⁴⁵ Appellant’s submission, dated October 25, 2004, at paragraph 29.

8. Consumptive Use

[169] The consumptive use of water is where water is not returned to the local environment from where it is taken. Under the 1957 Licence, the Approval Holder is allowed to divert 1,400 acre-feet (1,726,875 cubic metres) annually from Kilini Creek. Of this amount, the Approval Holder is allowed to consume or use 280 acre-feet (345,375 cubic metres) and lose 10 acre-feet (12,335 cubic metres), usually in the form of evaporation and spillage. Therefore, the Approval Holder is required to return 1,110 acre-feet (1,369,165 cubic metres) to Kilini Creek. (280 acre-feet + 10 acre-feet + 1,110 acre-feet = 1,400 acre-feet.)

[170] Under Licence 206791, the Approval Holder is allowed to divert 1,764,000 cubic metres annually from Kilini Creek. Of this amount, the Approval Holder is not allowed to consumptively use any portion: the consumptive use set in the licence is zero. He is required to return the entire allocation to the local environment, with 74,000 cubic metres being lost to evaporation, 247,000 cubic metres being lost to spillage (interflow subsurface return), and a return flow directly to the creek of 1,443,000 cubic metres. (0 cubic metres + 74,000 cubic metres + 247,000 cubic metres + 1,443,000 cubic metres = 1,764,000 cubic metres.)

[171] The Appellant submitted the Approval Holder was consuming more than its allocated share of water. Moreover, he argued this consumptive use had not been properly accounted for. The Appellant argued the water lost because it is “trapped” in the sand and gravel products when they are washed, and then taken off site when they are sold, is not properly being considered in determining the amount of water the Approval Holder is consuming, given that the permitted consumptive use under Licence 206791 is zero. Further, the Appellant drew attention to the Approval Holder’s practice of having third party independent contractors haul “black sand” away from the Wash Plant. The black sand, from which precious metals are extracted, also contains amounts of water. Again, the Appellant argued this water is not properly being considered in determining the amount of water the Approval Holder is consuming, given the permitted consumptive use under Licence 206791 is zero. The Appellant also argued the water that is being lost in the black sand and being sold to a third party constitutes an unauthorized use of water.

[172] The Appellant offered his estimate of how much water was lost to the removal of black sand. This was calculated by estimating the amount of product that was hauled away by the third party independent contractors. The Appellant submitted the removal of the black sand constituted consumptive use over and above the zero amount allocated in Licence 206791.

[173] The Director argued the 1957 Licence that had originally been issued to authorize the Wash Plant to operate, contained the operation's consumptive use allocation. He acknowledged this situation may have caused some confusion, but one had to look to the 1957 Licence in order to determine the annual consumptive use that had been allocated. The Director explained the reference to zero allocation for consumptive use in Licence 206791 means the Approval Holder is not entitled to consumptively use any more water than the 280 acre-feet allocated in the 1957 Licence. As a result, all of the consumptive use attributed to the trapping of water in the sand and gravel products, as well as the water trapped in the black sand, has to be accounted for within the 280 acre-feet allocated for consumptive use in the 1957 Licence.

[174] Further, with respect to the removal of water within the black sand by third party independent contractors, the Director explained that licences do not deal with such issues. He stated the removal of black sand was treated as a consumptive use under the 1957 Licence, and the onus was on the Approval Holder, not third party contractors, to account for it. Since the water is accounted for in the Approval Holder's 1957 Licence, the third party contractor does not require a licence and there is no illegal diversion of water.

[175] The Board accepts the Director's explanation. While no consumptive use is allowed under Licence 206971, a consumptive use of 280 acre-feet (345,375 cubic metres) is allowed under the 1957 Licence, and it appears to the Board the Approval Holder is accounting for the water trapped in the sand and gravel products, including the black sand, within this consumptive amount. The Board finds no basis for the Appellant's concern that a consumptive use is not being accounted for or that it is occurring in violation of Licence 206971.

[176] The Board notes the Appellant attempted to quantify water loss through product as a consumptive use by calculating the amount of product leaving the Wash Plant site. This does not seem to be a reasonable approach. Normally one would expect water inputs and outputs to be used to estimate the consumptive use of water. The Board notes all of the Parties expressed

some concerns about confusion around the interaction of the various licences, and in particular determining the consumptive use of the Wash Plant. The Board believes this is, in part, because the Wash Plant now holds three water licences, and it is difficult to get a complete understanding of how these licences interact with each other. Each of the water licences requires annual reporting, but there is currently no requirement that all of this information be summarized with respect to the Wash Plant as a whole.

[177] The Board also notes the laudable desire of the Approval Holder to improve communications with its neighbours. The Board has decided to make a recommendation to assist the Parties in addressing this apparent confusion, to assist the Approval Holder in communicating better, and to assist the Director in ensuring the Wash Plant is in compliance with its various water licences, by requiring the Approval Holder to prepare an annual Summary Water Balance Report. This report, which will be recommended as a condition of the Approval, is to be provided to the Director on an annual basis, and it is also to be provided to the Appellant and members of the public upon request. The report does not have to be lengthy. However, it should be descriptive and show the sources of the water used and all of the inputs and outputs to the Approval Holder's operation, all of the consumptive uses, the flows in Kilini Creek above and below the operation, and the water discharged from Pollock Pond. The consumptive uses should include an estimate of the amount of water lost in the sand and gravel products, including the black sand, in general terms so as not to disclose confidential commercial information. What is important is that the Director is provided with sufficient information so that he can ensure the Wash Plant complies with its licences. The Board is also hopeful this report will provide the Appellant and members of the public with the information they are looking for to better understand the operations and the Wash Plant. Therefore, the Board will recommend the following condition be added to the Approval:

"The approval holder shall prepare an Annual Summary Water Balance Report which shall describe and provide estimated volumes for all the uses of water by the approval holder's operation, including:

- (a) a description and estimated volume of all the water taken into the approval holder's operation;
- (b) a description and estimated volume of all the water released from the approval holder's operation;

- (c) a description and estimated volume of all the water consumed by the approval holder's operation, including the amount of water lost in the sand and gravel products, and the black sand removed from the operation, in general terms so as not to disclose confidential commercial information;
- (d) a description and estimated volume flowing in Kilini Creek at various points starting and including at ½ mile above the inlet to Pit 92 from Kilini Creek, and ending and including at ½ mile below the discharge from Pollock Pond into Kilini Creek;
- (e) a description and estimated volume of water diverted from Pit 92;
- (f) a description and estimated volume of water diverted from Pollock Pond; and
- (g) any additional information required by the Director as specified in writing."

9. Instream Flows

[178] Instream flow is the amount of water, flow rate, or water level that is required in a river or other body of water to sustain the aquatic environment. As the Board has discussed, Alberta Environment is currently undertaking a planning process that will eventually lead to the determination of an appropriate instream flow for all river systems, including Kilini Creek. However, at the current time, there is currently no scientifically determined instream flow requirement for Kilini Creek.

[179] The Appellant argued more should have been done to protect instream flows in Kilini Creek. First, the Appellant argued the Approval Holder's Licences should be conditioned such that diversions from Kilini Creek should not be permitted unless there is a minimum instream flow in the creek. Second, the Appellant is concerned about intermittent flows in Kilini Creek, where from time to time, there are long stretches where there is either a low flow or no flow at all. The Appellant wants the operations of the Wash Plant modified to address this concern. The Appellant attributes these intermittent flows to the diversion of water by the Approval Holder and to the presence of the dam on the creek. Finally, the Appellant is concerned about ineffective monitoring of the instream flows in Kilini Creek. The Appellant argued efforts to monitor in-stream flows were being undermined by non-functioning gauges at various points in Kilini Creek. He stated the problem was most prevalent in the area around the dam, where beavers had rendered a number of gauges inoperable.

[180] The Board accepts that, but for additional monitoring and improved wording of a number of conditions, Licence 206791 adequately addresses the issues of instream flows. As currently written, Licence 206791 requires sufficient water flow be maintained in the creek to protect “critical fisheries habitat” below the dam and impoundment, and it provides a mechanism for the Director to impose an instream flow requirement at a later date.⁴⁶

[181] Given the current design of the Wash Plant operation, the Board does not believe that, at this time, an instream flow requirement is of value above the dam and impoundment. The Approval Holder is licenced to withdraw water from the impoundment, rather than an undeveloped area of Kilini Creek. Adding an instream flow requirement above the impoundment, while the dam and impoundment exist, has little meaning. As the Director has described, but for the comparatively small amount of water that is removed from the system as a consumptive use, the water in the impoundment is effectively used over and over again within the Wash Plant: it is taken into the plant, used, released, and then taken back into the plant again.

[182] Adding an instream flow requirement below the dam and impoundment, on the other hand, does make sense, and this is provided for in Licence 206791, with Pollock Pond being the source of water used to supplement instream flows as needed. The Board agrees with the Appellant, however, that the conditions included in Licence 206791 protecting instream flow could be subject to interpretation, and the Board will recommend changes to improve the wording of these provisions.

[183] With respect to intermittent flows in the creek, the Board is of the view they occur because of three factors. The first is due to natural climatic conditions and surficial geologic conditions, where there is simply not enough water in Kilini Creek. Obviously, there is nothing the Board can do to address this concern. Second, intermittent flows in the creek are caused in part by the presence of the dam and impoundment. These are existing design features of the Wash Plant and, therefore, are not before the Board. Third, intermittent flows in the creek are also caused by the presence of Pit 92 and withdrawals from this Pit. As the Board has already discussed, the current design of Pit 92 is not before the Board and using this as a supplemental

⁴⁶ See: Condition 12 of Licence 206791 provides that: “The licensee shall ... determine the flow required to be maintained downstream of the impoundment as adequate for critical fisheries habitat until such time as the Director may establish a water conservation objective under condition 4.”

water source when normal flows are too low will have an overall positive effect on the creek, with the recharge of Pit 92 being transitory in nature.

[184] The Board agrees with the Appellant that incomplete monitoring information, and particularly non-functional gauges at various points along the creek, is hampering the proper management of the instream flows in Kilini Creek. The Board recommends the Approval Holder develop and implement a program to provide for more gauge maintenance and more complete monitoring of the instream flows in the immediate area of its Wash Plant operation. This program should cover the area from ½ mile south of the water intake for Pit 92 to ½ mile north of the outlet of Pollock Pond into Kilini Creek. The information collected from this monitoring system program must be reported to the Director on an annual basis. The Board also believes the Director should undertake a review of the monitoring of instream flows in Kilini Creek, both upstream and downstream, of the Wash Plant and, as resources allow, take any corrective actions the Director considers necessary. The Board will therefore recommend the following condition be added to Licence 206791:

- “(a) The licensee shall prepare a report to the satisfaction of the Director, detailing a program to provide for instream flow monitoring of Kilini Creek, and provide this report to the Director by May 1, 2005, for his review and approval.
- (b) The program shall cover the portion of Kilini Creek from ½ mile south of the water intake for Pit 92 to ½ mile north of the diversion site from Pollock Pond into Kilini Creek, and such additional portions of Kilini Creek as specified by the Director in writing.
- (c) The report will include an implementation plan, a schedule of implementation having a completion date of no later than March 1, 2006, and list of the instream flow information that will be collected under the program.
- (d) The program may include the repair of existing instream flow monitoring gauges and the installation of new instream flow monitoring gauges.
- (e) Upon receiving the approval of the Director, the licensee will implement the program in accordance with the implementation plan and schedule of implementation included in the report.
- (f) The licensee shall report the instream flow information collected under the program as part of the Annual Water Monitoring report provided for in conditions 14 and 15.”

10. Closed System and Removal of the Dam

[185] The Appellant called for the Wash Plant to be modified to operate on a closed system of water use, with the storage of water being off-stream. In a closed system, the same water that is withdrawn is returned to its source and used over and over again. The Appellant characterizes the current design of the Wash Plant as an open system, since the impoundment is open to the creek. As proposed by the Appellant, the development of a closed system would require the construction of a large holding pond independent of the creek to replace the impoundment, and the dismantling of the dam and impoundment.

[186] The Director submitted that for all practical purposes, the Wash Plant operates as a closed system. The Director argued that since the diversion of water is from the impoundment and not directly from Kilini Creek, the same molecules of water are circulated through the Wash Plant numerous times and are used over and over again.

[187] The Board accepts the characterization of the Wash Plant as described by the Director. While the Wash Plant is not technically a closed system, in that it is open to the environment, the current design is for all practical purposes a closed system. The Board notes that many of the Appellant's complaints stem from his dissatisfaction with the original design of the Wash Plant, which dates back to 1951. The original design of the Wash Plant was acceptable for the design standards of the day. However, under the context of the Licences and the Approval that are under appeal, it would not be appropriate to require the Approval Holder to make the type of modifications the Appellant is requesting.

[188] If this were a brand new application (known as a greenfield application),⁴⁷ the Board anticipates the application would not include an onstream dam and impoundment, but would include off-stream storage facilities instead. However, this is not an application for a new facility, and the Board cannot speculate on how it would handle an application with an onstream impoundment area based on today's standards. Further, if the Approval Holder had made an application to do a major upgrade and expansion of the Wash Plant, then it may have been

⁴⁷ A greenfield development is a brand new development that occurs on land that has not previously been disturbed for industrial uses. See: William A. Tilleman, Q.C., *The Dictionary of Environmental Law and Science*, 2d ed. (Edmonton: Environmental Law Centre, 2005).

appropriate to consider the type of modifications the Appellant requested. However, neither of those situations is occurring at this time.

[189] What the Board has before it is an existing Wash Plant that was first licenced in 1957 and that has effectively asked to be allowed to continue operating generally in the same manner as it has for many years, with a number of improvements. In the Board's view, the environmental impacts of the Wash Plant are not appreciably different with or without the new Licences. In fact, now that the operation has been properly regulated and is being properly monitored with the new Licences and new Approval, the Board expects the environmental concerns, including those of the Appellant, will be better addressed.

[190] In this context, it would be inappropriate to require the Approval Holder to make major modifications to the design of the Wash Plant. The types of changes made by the Approval Holder are to be encouraged to promote the protection of the environment. To accept the arguments of the Appellant, and require the Approval Holder to make significant changes to the design of its operation in response to the type of applications filed here, would discourage such applications and would not promote protection of the environment.

[191] The Board has reached the same conclusion, for the same reasons, with respect to the Appellant's request that the dam be removed. First, the dam is not properly before the Board, and second, requiring the Approval Holder to remove the dam at this time would not be appropriate.

[192] As the Board will discuss shortly, with respect to the concern regarding "Remediation of Fish Habitat," there may come a time when it will be necessary to remove the dam. This may occur in the context of closing down the Wash Plant at the end of its life cycle, carrying out a major upgrade or expansion, responding to some sort of policy or legislation change, or responding to some other circumstance; but it is not now. In the context that is before the Board, it would be inappropriate to require the Approval Holder to remove the dam at this time.

11. Remediation of Fish Habitat

[193] The Appellant stated the intermittent flow of water and the dam on Kilini Creek prevents fish movement in either direction. This concerned him because he enjoys fishing in Kilini Creek and Bogstad Lake, and the blocking of fish movement limits his ability to catch fish. The Appellant suggested that if a fish ladder was installed in the dam, fish would be given the ability to move up and down Kilini Creek.

[194] In the Board's view, the Appellant's evidence with respect to fisheries issues left many questions unanswered. The Board understands his concern with respect to the dam, but as we have stated, the existing design of the dam is not before the Board. This includes the installation of a fish ladder, which as a potential design feature of the dam, is not a matter that is properly before the Board in the appeal of these Licences.

[195] Beyond this, the Board does not have any evidence before it that puts the Appellant's allegations about the decline in fish and fish habitat into perspective. For example, as discussed with respect to "Diminished Use and Enjoyment," the Appellant failed to establish over what period the changes of which he complained occurred, what exactly the changes were, how they were quantified, and what his own pattern of use was. When compared against the scientific data presented by the Director and Approval Holder, the Appellant's case is lacking in substantiation.

[196] The Appellant also called upon the Director to implement the recommendations included in the Fisheries Report.⁴⁸ The Approval Holder submitted this report as part of its application for the Licences. The report identified the most significant environmental effects of the Wash Plant to include:

- (a) reduced water quality as a result of sediment in the wash water that is returned to the creek;
- (b) the alteration of fish habitat at some locations as a result of this sediment;
- (c) reduction in downstream peak flows; and

⁴⁸ Director's Record at Tab 20, *Fish & Fish Habitat Assessment and Environmental Effects Assessment, Kilini Creek (NW 06-054-01-W5M) at the Lafarge Wash Plant Final Report*, prepared by EnvironMak Inc., dated January 8, 2004.

- (d) the blockage of fish passage.⁴⁹

The key mitigation actions recommended in the Fisheries Report include:

- (a) development of a plan to reduce sediment in the wash water that is returned to the creek;
- (b) development of an operations plan that will maintain peak spring flows;
- (c) examination of the need for a fish habitat compensation plan to address possible fish habitat losses in some locations (although the report indicated that this is not required at this time);
- (d) development of an operational plan for the control structure at the outlet of Pit 92; and
- (e) development of an instream reclamation plan that allows for fish passage and the maintenance of the reservoir.⁵⁰

[197] The Fisheries Report considered mitigation strategies in order "...[t]o address the potential effects that may occur on the aquatic ecosystem of Kilini Creek as a result of the aggregate mining and wash operations."⁵¹ These mitigation strategies include:

- (a) the minimum flows for downstream fish and fish habitats should be established;
- (b) continue inspection of the fish screen during operations on a weekly basis; and
- (c) conduct fish checks and salvage operations as may be necessary.⁵²

[198] With respect to the eventual reclamation plan, which is said to likely occur in approximately ten years, the Fisheries Report stated:

- (a) the fish passage situation should be improved by constructing a new channel that would meet fish passage needs while at the same time retaining the current reservoir as a deep pool fish cover;

⁴⁹ See: Director's Record at Tab 20, *Fish & Fish Habitat Assessment and Environmental Effects Assessment, Kilini Creek (NW 06-054-01-W5M) at the Lafarge Wash Plant Final Report*, prepared by EnvironMak Inc., dated January 8, 2004, at page 69.

⁵⁰ See: Director's Record at Tab 20, *Fish & Fish Habitat Assessment and Environmental Effects Assessment, Kilini Creek (NW 06-054-01-W5M) at the Lafarge Wash Plant Final Report*, prepared by EnvironMak Inc., dated January 8, 2004, at page 69.

⁵¹ See: Director's Record at Tab 20, *Fish & Fish Habitat Assessment and Environmental Effects Assessment, Kilini Creek (NW 06-054-01-W5M) at the Lafarge Wash Plant Final Report*, prepared by EnvironMak Inc., dated January 8, 2004, at page 64.

⁵² See: Director's Record at Tab 20, *Fish & Fish Habitat Assessment and Environmental Effects Assessment, Kilini Creek (NW 06-054-01-W5M) at the Lafarge Wash Plant Final Report*, prepared by EnvironMak Inc., dated January 8, 2004, at pages 64 to 66.

- (b) the reclamation plan should be developed with environmental considerations being a priority.
- (c) the current Kilini Creek valley and watershed is special and unique from an environmental perspective and those values should be maintained and extended during reclamation.⁵³

The report further recommended that monitoring and evaluation be included as part of the remediation actions. The report stated: "Considering the specific nature of the operational activities on this floodplain of Kilini Creek, the monitoring and evaluation should be focused on the water quality, fish habitat alteration and fish presence in the water intake area."⁵⁴ The Fisheries Report recommended the monitoring include:

- (a) assessment of the suspended sediment, turbidity and settled sediment periodically during the water withdrawal and wash water return operations schedule;
- (b) assessment and evaluation of the fish habitat changes due to sedimentation;
- (c) assessment of flows downstream during withdrawal periods; and
- (d) assessment of fish presence and mortalities associated with water pumping operations.⁵⁵

[199] The Director stated he accepted all of the recommendations in the Fisheries Report⁵⁶ and implemented them into the conditions of the Licences. The Board believes the Fisheries Report is an adequate assessment of the fisheries issues related to this operation, and the Board accepts the Director's evidence that he has incorporated the relevant recommendations into the Licences. Subject to some improved wording that the Board will recommend, the Board is of the view the Director has adequately addressed the fisheries issue in the context of these

⁵³ See: Director's Record at Tab 20, *Fish & Fish Habitat Assessment and Environmental Effects Assessment, Kilini Creek (NW 06-054-01-W5M) at the Lafarge Wash Plant Final Report*, prepared by EnvironMak Inc., dated January 8, 2004, at pages 64 to 66.

⁵⁴ See: Director's Record at Tab 20, *Fish & Fish Habitat Assessment and Environmental Effects Assessment, Kilini Creek (NW 06-054-01-W5M) at the Lafarge Wash Plant Final Report*, prepared by EnvironMak Inc., dated January 8, 2004, at pages 64.

⁵⁵ See: Director's Record at Tab 20, *Fish & Fish Habitat Assessment and Environmental Effects Assessment, Kilini Creek (NW 06-054-01-W5M) at the Lafarge Wash Plant Final Report*, prepared by EnvironMak Inc., dated January 8, 2004, at pages 64 to 68.

⁵⁶ See: Director's Record at Tab 20, *Fish & Fish Habitat Assessment and Environmental Effects Assessment, Kilini Creek (NW 06-054-01-W5M) at the Lafarge Wash Plant Final Report*, prepared by EnvironMak Inc., dated January 8, 2004.

Licences and Approval. The recommendations the Board has made respecting improved monitoring of instream flows will also be of assistance with respect to fisheries issues.

[200] The Appellant appears to be arguing that all of the recommendations in the Fisheries Report, including those related to reclamation, be implemented now. The Wash Plant is currently active, and therefore it would be inappropriate to require the Approval Holder to implement the reclamation related recommendations at this time. The Fisheries Report clearly indicates that it is expected the Wash Plant will begin reclamation in approximately ten years. It would be appropriate for the Director to review the Fisheries Report at that time and determine which of the recommendations included in the report are appropriate. When it comes time for the Wash Plant to be reclaimed, it is likely a new EPEA approval will be required, as well as approvals under the *Water Act*. The Appellant will have the opportunities afforded to him under these acts to provide his input, and conceivably, if he does not agree with the Director's decisions at that time, he may also have a right to appeal to this Board again.

12. Monitoring of Pollock Pond

[201] Pollock Pond is located to the north of the Wash Plant and is used to supplement water flows in Kilini Creek downstream of the dam and impoundment. According to the Appellant, the Wash Plant negatively affects Pollock Pond. The Appellant argued the water in Pollock Pond includes surface runoff from the vicinity of the Wash Plant that has the potential to be contaminated. In particular, the Appellant argued Pollock Pond should be included in Table 2.3-A and Condition 4.6.1 of the Approval.⁵⁷ However, the Appellant has not provided the Board with sufficient evidence to support his arguments.

[202] The Board notes that Pollock Pond is not technically included in the water cycle of the Wash Plant. The Director stated the water from Pollock Pond is filtered through a wetland before it is discharged into Kilini Creek, downstream of the dam and impoundment to

⁵⁷ Condition 4.6.1 of the Approval states:

“The approval holder shall implement the Water Quality Monitoring Program for the plant referred to in ‘Water Quality Monitoring at the Lafarge Wash Plant (EPEA 76893-00-00) W1/2 06-054-01W5M, April 16, 2004’, unless otherwise authorized in writing by the Director.”

supplement instream flows. The Director submitted that, in view of this, it is not necessary to impose further requirements with respect to monitoring.

[203] Although the Board would have liked more evidence on this point, given that Pollock Pond is being used to supplement the water flow in Kilini Creek with the express purpose of protecting “critical fisheries habitat,”⁵⁸ out of an abundance of caution, some form of short term monitoring should be carried out. Therefore, the Board will recommend that a water quality monitoring program be established at the discharge point from Pollock Pond into Kilini Creek for a short period. The Board does not believe including this requirement in Condition 4.6.1 of the Approval, as the Appellant has suggested, is necessary. Rather, the Board will recommend a stand-alone provision with respect to Pollock Pond. This information will assist the Director in ensuring the water discharged from Pollock Pond is not negatively affecting Kilini Creek. The Board will be recommending the following condition be added to Licence 206791:

- “(a) The licensee shall prepare a report to the satisfaction of the Director, detailing a program to monitor the water quality of the water being discharged from Pollock Pond to Kilini Creek at the point where the water enters Kilini Creek, and provide this report to the Director by May 1, 2005, for his review and approval.
- (b) The program shall include monitoring of the water in accordance with the analytical requirements detailed in Table 2.3-A of *Environmental Protection and Enhancement Act* Approval No. 76893-00-01 and any other requirements as specified by the Director in writing.
- (c) The program shall operate continuously for 24 months, and such additional period of time as the Director may specify in writing.
- (d) The report will include an implementation plan, a schedule of implementation having a start date of no later than March 1, 2006, and a list of the information that will be collected under the program.
- (e) Upon receiving the Director’s approval of the report, the licensee will implement the program in accordance with the implementation plan and schedule of implementation included in the report.
- (f) The licensee shall report flow information collected under the program as part of the Annual Water Monitoring report provided for in conditions 14 and 15.”

⁵⁸ See: Condition 12 of Licence 206791, which provides: “The licensee shall ... determine the flow required to be maintained downstream of the impoundment as adequate for critical fisheries habitat....”

The Board will also recommend that the amount of water discharged from Pollock Pond into Kilini Creek be included in the Summary Water Balance Report. This information will assist the Director in assessing the impacts of this discharge on the instream flows in Kilini Creek.

13. Licences and Approval Conditions

(a) Clerical Amendments

[204] At the beginning of the hearing, the Director advised the Board that he had issued a clerical amendment to each of the Licences. The first clerical amendment was to Licence 192603 with respect to Condition 14.⁵⁹ The second clerical amendment was to Licence 206791 with respect to Condition 21.⁶⁰ In both cases, it appears the Director was correcting a typographical error that had been pointed out by the Appellant. The Appellant argued that by issuing these clerical amendments, the Director was conceding the Licences and Approval needed to be amended. While the Board agrees the wording of the Licences and Approval could

⁵⁹ Condition 14 of Licence 192603 states:

“The licensee shall not conduct:

- (a) periodic maintenance at the temporary pump site such as removal of debris, silt, etc. is carried out and
- (b) any design and/or modification to the temporary pump site takes place without first obtaining the written authorization of the Director.”

This Condition was amended by Licence Amendment 00192603-00-01, dated November 3, 2004, to read:

“The licensee shall not conduct:

- (a) periodic maintenance at the temporary pump site such as removal of debris, silt, etc., or
- (b) any design and/or modification to the temporary pump site takes, without first obtaining the written authorization of the Director.”

⁶⁰ Condition 21 of Licence 206791 states:

“The licensee shall not conduct:

- (a) periodic maintenance at the temporary pump site such as removal of debris, silt, etc. is carried out and
- (b) any design and/or modification to the temporary pump site takes place without first obtaining the written authorization of the Director.”

This Condition was amended by Licence Amendment 00206791-00-01, dated November 3, 2004, to read:

“The licensee shall not conduct:

- (a) periodic maintenance at the pump site such as removal of debris, silt, etc., or
- (b) any design and/or modification to the pump site takes, without first obtaining the written authorization of the Director.”

be improved in a number instances, the Director's decision to issue a clerical amendment is just that, the correction of a clerical error, and the Board makes no other inference from that decision.

[205] The Board notes the Appellant expressed concern in his submissions about the wording of Condition 14 in Licence 192603 and Condition 21 in Licence 206791. As the Director has corrected the errors in response to the Appellant's submission, the Board need not address these conditions further.

(b) Licence 192603 – Conditions 3 and 5

[206] The Board notes Condition 3 in Licence 192603 is identical to Condition 5 in Licence 206791. Condition 3 of Licence 192603 provides: "The Director reserves the right to establish water conservation objectives upon 12 months written notice to the licensee." However, Licence 192603 does not appear to contain a condition similar to Condition 13 in Licence 206791 that requires the Approval Holder to comply with the water conservation objectives once it has been established by the Director. As a result, the Board will recommend that Licence 192603 be amended to include a condition that states: "Where the Director has established water conservation objectives pursuant to condition 3, the licensee will comply with any written directions the Director may provide to implement these water conservation objectives."

[207] Further, the Board notes Condition 5 in Licence 192603⁶¹ is effectively identical to Condition 4 in Licence 206791, and the Board will therefore recommend the same revision to Condition 5 in Licence 192603 as it does with respect to Condition 4 in Licence 206791 below.

⁶¹ Condition 5 of Licence 192603 provides:
"This licence is based on knowledge available at the time of issue, and therefore the Director reserves the right to amend for

- (a) monitoring systems and the annual water monitoring information,
- (b) the rate of water diversion and quantity of water allocated, and/or
- (c) the need for any offstream storage or alternative sources of water supply,

anytime there is information indicating unreasonable interference due to the operation of the project on

- (d) the source of water supply
- (e) other water users
- (f) instream objectives, and/or
- (g) the aquatic environment

(c) Licence 206791 - Condition 9

[208] Condition 9 of Licence 206791 provides:

“During diversion, the licensee shall:

- (a) equip the diversion sites with a cumulative meter(s) or other device(s) which records continuously the quantity of water pumped and produces cumulative flows for specific time intervals, as required by the Director,
- (b) equip the return flow sites with a cumulative meter or other device that records the quantity of water returned to Kilini Creek from the settling pond,
- (c) record the data from (a) and (b) above on a daily basis, and
- (d) provide the Director the results of the recorded data in (c) as and when requested by the Director in writing.”

[209] The Appellant stated Condition 9(b) of Licence 206791 needs to identify the specifications of the “cumulative meter” or the specifications of “other device.” In comparing Condition 9(b) and 9(a), given the Board’s view that more information is required by the Director to ensure the Wash Plant remains in compliance, the Board believes both conditions should provide the same degree of specificity, and the Board will recommend changes in the wording of Condition 9(b) to match the wording in Condition 9(a). Beyond this, if the “other device” does not match the abilities of a “cumulative meter,” the Approval Holder would be in breach of the condition, and the Director could take corrective action to ensure the Approval Holder meets the requirement. Given this, no further detail regarding the specifications is required in this provision.

[210] However, the Board is uncertain what the clause “as required by the Director” modifies in Condition 9(a). The broadest possible meaning is that the Approval Holder is required to collect sufficient information to produce cumulative flow data for specified periods of time, and the Approval Holder can be required to provide this information on request. In that the current wording of this portion of the provision appears to be ambiguous, the Board will recommend that it be corrected to give it the broadest possible meaning.

[211] Further, the construction of Condition 9(d) appears to limit the ability of the Director to request the information collected in Condition 9(c) during times the diversion is

which cannot, in the opinion of the Director, be satisfactorily remedied.”

occurring. This clearly cannot be the intent of this provision, and the Board will recommend this be changed. The Appellant argued Condition 9(d) should be amended so that the Approval Holder should be required to provide the information collected under Condition 9(c) to the Director on a monthly basis. The Approval Holder submitted that monthly reporting would distort the overall picture because of the varying results of measurements in any given month. It submitted that reporting to the Director on an annual basis was reasonable because it would more accurately reflect its water usage. The Board accepts the argument of the Approval Holder. Subject to the rewording the Board will be recommending, the Board is of the view the collection of information and providing it to the Director on request is satisfactory. An annual summary of this information is provided to the Director as part of the Annual Water Monitoring Report,⁶² and a summary of this information will also appear in the Summary Water Balance Report that the Board will be recommending.

[212] The Board will therefore recommend that Condition 9 of Licence 206791 be amended to read as follows:

“During diversion, the licensee shall:

- (a) equip the diversion sites with a cumulative meter(s) or other device(s) that (i) records continuously the quantity of water pumped and (ii) produces cumulative flows for specific time intervals,
- (b) equip the return flow sites with a cumulative meter(s) or other device(s) that (i) records continuously the quantity of water returned to Kilini Creek from the settling pond and (ii) produces cumulative flows for specific time intervals, and
- (c) record the data from (a) and (b) above on a daily basis.”

The Board will also recommend the following condition be added immediately after Condition 9:

- “9.1 (a) The licensee shall provide the Director the results of the information and data recorded in condition 9(c) as and when requested by the Director in writing.
- (b) The licensee shall provide the Director with the cumulative flow for specific time periods specified in condition 9(a) and (b) as and when requested by the Director in writing.”

⁶² See: Condition 15 of Licence 206791, which provides:

“The Annual Water Monitoring report shall include, as a minimum, the: (a) total amount of water diverted from each source in cubic metres, [and] (b) total amount of water returned to Kilini Creek...”

(d) Licence 206791 – Conditions 10 and 11

[213] Conditions 10 and 11 of Licence 206791 provide:

- “10. Throughout the diversion period, the licensee shall measure water levels at:
- (a) the Kilini Creek diversion site,
 - (b) the ‘Pollock pond’ diversion site during the diversion from Pollock pond only,
 - (c) Station 7, or another site downstream of the impoundment as authorized in writing by the Director,
 - (d) Station 4.9, or another site upstream of the impoundment as authorized in writing by the Director
 - (e) GW monitoring wells P-3, P-5, P-8, MW-01, MW-02, MW-05, MW-06, and
 - (f) any other site specified in writing by the Director.
11. The licensee shall record the information in
- (a) Condition 10 (a) – (d) on a weekly basis and
 - (b) Condition 10(e) on a monthly basis,
- starting one week prior to the diversion and ending one week after the diversion and provide the information to the Director when requested.”

[214] The Appellant argued Conditions 10 and 11 of Licence 206791 are inadequate, and the Approval Holder should be obligated to provide the Director with data on a monthly basis. He submitted the Approval Holder should provide real time monitoring of the flows, volumes, and levels in Kilini Creek and bi-monthly monitoring of the level of the surrounding water table. The Approval Holder submitted the type of reporting requested by the Appellant would distort the overall picture because of the varying results between any given month. It submitted that reporting to the Director on an annual basis was reasonable, because it would more accurately reflect the operations of the Wash Plant. The Board accepts the argument of the Approval Holder. In the overall context of the Licences and Approval, the Board is of the view that collection of information under Conditions 10 and 11 and the information being provided to the Director on request is satisfactory. An annual summary of this information is provided to the Director as part of the Annual Water Monitoring Report,⁶³ and portions of this information will

⁶³ See: Condition 15 of Licence 206791, which provides:

also appear in summary form in the Summary Water Balance Report the Board will be recommending.

(e) Licence 206791 – Conditions 4, 5, 12, and 13

[215] Conditions 4, 5, 12, and 13 of Licence 206791 address the issue of instream flows and the protection of fish habitat and provide as follows:

“4. This licence is based on knowledge available at the time of issue, and therefore the Director reserves the right to amend for

- (a) the rate of water diversion and quantity of water allocated,
- (b) monitoring systems and the annual water monitoring information, and/or
- (c) the need for any offstream storage or alternative sources of water supply,

anytime there is information indicating unreasonable interference due to the operation of the project on

- (d) the source of water supply
- (e) other water users
- (f) water conservation objectives, and/or
- (g) the aquatic environment

which cannot, in the opinion of the Director, be satisfactorily remedied.

5. The Director reserves the right to establish water conservation objectives upon 12 months written notice to the licensee. ...

12. The licensee shall ensure that a qualified aquatic environment specialist will, at the Director’s request, determine the flow required to be

“The Annual Water Monitoring report shall include, as a minimum, the: ...

- (c) rates and periods of the diversion,
- (d) weekly water levels at the Kilini Creek withdrawal site starting one week prior to the diversion and ending one week after including the dates and times at which the readings were taken,
- (e) weekly water levels and the ‘Pollock Pond’ withdrawal site starting one week prior to the diversion from Pollock Pond and ending one week after including the dates and times at which the readings were taken,
- (f) weekly flow rates in Kilini Creek upstream and downstream of the impoundment starting one week prior to the diversion and ending one week after,
- (g) monthly measurements of water levels from the monitoring wells during the operational season including the dates and times at which the readings were taken, and
- (h) any other information requested by the Director.”

maintained downstream of the impoundment as adequate for critical fisheries habitat until such time as the Director may establish a water conservation objective under condition 4.

13. The licensee shall maintain minimum flows downstream of the impoundment at the levels required by condition 12 or 4, whichever applies.”

[216] The Appellant argued these provisions are unclear. He submitted Condition 13 should be reworded to make it clear the Approval Holder is required to maintain the flow determined in Condition 12 unless superceded by the Director’s decision to impose water conservation objectives under Condition 4. The Appellant argued Condition 12 needs to be reworded to take out “at the Director’s request.” The Appellant stated the current wording of Condition 12 suggests that determining the flow that is “adequate for critical fisheries habitat” is to occur at the Director’s discretion and that is unacceptable. The Board agrees with the concerns raised by the Appellant. The wording of these provisions is unclear. The ability of the Director to establish an instream flow is found in Condition 5, not Condition 4 as suggested by Conditions 12 and 13. (Condition 4 only empowers the Director to amend “...(a) the rate of water diversion and quantity of water allocated, (b) monitoring systems and the annual water monitoring, and/or (c) the need for any offstream storage or alternate source of water supply...”,⁶⁴ but not to prescribe a water conservation objective.) The requirement to maintain an instream flow under Condition 13 “as required by Condition 12 or 4, whichever applies” is ambiguous in that it fails to prescribe a hierarchy between Condition 12 or 4 (or more correctly 5), and while it appears the intention in Condition 12 was that Condition 12 was to apply until the Director specifies a water conservation objective, this is unclear. Finally, the Board is of the view that determining the flow “adequate for critical fisheries habitat” until such time as the Director can establishes a water conservation objective is not optional; it should be a requirement of the licence. (The Board is of the understanding the Approval Holder has already determined this information.) As a result, the Board will recommend that Conditions 4, 12 and 13 be rewritten to provide:

⁶⁴ The Board is of the view that Condition 4 is unclear in that it suggests, for example, when the Director exercises his right to amend the licence, such as the rate of water diversion and quantity of water allocated, that he should be amending both parameters at the same time, which, while likely, is not necessarily the case.

- “4. This licence is based on knowledge available at the time of issue, and therefore the Director reserves the right to amend for
- (a) the rate of water diversion,
 - (b) quantity of water allocated,
 - (c) monitoring systems,
 - (d) the annual water monitoring information,
 - (e) the need for any offstream storage, and/or
 - (f) alternative sources of water supply,
- anytime there is information indicating unreasonable interference due to the operation of the project on
- (g) the source of water supply,
 - (h) other water users,
 - (i) water conservation objectives, and/or
 - (j) the aquatic environment
- which cannot, in the opinion of the Director, be satisfactorily remedied....
12. The licensee shall, with the assistance of a qualified aquatic environment specialist, determine the flow required to be maintained downstream of the impoundment as adequate for critical fisheries habitat.
13. (a) If the Director has not prescribed a water conservation objective pursuant to condition 5, then the licensee shall maintain minimum flows downstream of the impoundment at the levels as determined under condition 12.
- (b) If the Director as prescribed a water conservation objective pursuant to condition 5, then the licensee shall maintain flows downstream of the impoundment at the levels in accordance with that water conservation objective.”

The wording of Condition 5 does not need to be changed.

(f) Cross References between Licences

[217] The Appellant was concerned the Licences are written to operate independently, rather than in conjunction with each other. The Appellant was concerned the requirement in Licence 206791 to return 80,175 cubic metres of water to Kilini Creek was not cross-referenced in Licence 192603. He suggested the failure to link the two Licences might provide an opportunity for the Approval Holder to relieve itself of its obligation to return the 80,175 cubic

metres of water to Kilini Creek. He submitted this might be remedied if the Licences were linked together.

[218] The Board's understanding of the allocation of 80,175 cubic metres under Licence 192603 is that the water is only to be used when the Approval Holder is unable to take its allocations under Licence 206791 and the 1957 Licence because of low flow conditions. In such a case, the Approval Holder will divert water from Pit 92 to Kilini Creek, where it will flow to the impoundment, and the Approval Holder would take the water as if it were natural flow *as part of* its allocations under Licence 206791 and the 1957 Licence. The Board bases this understanding on the cross-examination of the Director by counsel for the Appellant at the Hearing:

“Secord: In those years when Lafarge takes the 80,175 cubic metres from Pit 92, does Lafarge get the 1,764,000 cubic metres from Licence No. 206791 plus the 80,175 cubic metres from Pit 92, or is the 80,175 cubic metres from Pit 92 deducted from the 1,764,000 cubic metres?”

Slater: The water from pit 92 becomes part of the water that is diverted from Kilini Creek into the wash plant. So it is not in addition to.

Secord: That is not what the Licences say do they? You have made no provision in these two licences to specify that have you?

Slater: We have authorized them to divert the water from Pit 92 to a tributary of Kilini Creek and we have indicated that the purpose of them doing this is for the Wash Plant in the licence that was issued from Pit 92.

Secord: You have, Mr. Slater, no provision in any of these licences for the 80,175 cubic metres to be returned to Kilini Creek have you?

Slater: Yes. It is part of what Lafarge returns to Kilini Creek as they recirculate the water after they have removed their consumptive amount, their licenced amount.

Secord: Where in Licence 192603 does it indicate that Lafarge is under an obligation to return the 80,175 cubic metres to Kilini Creek?

Slater: It does not, and it is considered part of the original allocation and diversion from Kilini Creek, so if they are returning and living up to the licence, that licence, they are in fact doing that.

Secord: But I would have to read between the lines. I would not be able to read that in the Licences. I would have to assume that?”

[219] It is important to clarify the purpose of the allocation of water under Licence 192603. As a result, the Board will recommend changes to make it clear the 80,175 cubic metres of water authorized in Licence 192603 is to be added to Kilini Creek when natural flows do not make it possible for the Approval Holder to take its allocation of water under Licence 206791 and the 1957 Licence. The Board will also recommend changes to make it clear the 80,175 cubic metres from Licence 192603 is not an allocation in addition to the other water that has been allocated. (The total amount of water the Approval Holder can divert into the Wash Plant is specified in Licence 206791 and the 1957 Licence only, which totals 3,490,875 cubic meters annually, and does not include the 80,175 cubic metres under Licence 192603.) Therefore, the Board will recommend the following condition be added to Licence 192603:

“The licensee may only divert water under this licence to Kilini Creek, when there is insufficient flow in Kilini Creek to take its allocations under Licences No. 3318 (dated March 5, 1990) and 00206791-00-00 (dated April 30, 2004).

The water allocated under this licence is not in addition to the water allocated under Licence 00206791-00-00 (dated April 30, 2004), and does not increase the total amount of water that the licensee may divert to its operation.”

Further, the Board will recommend the following condition be added to Licence 206791: “The water allocated under Licence 00192603-00-00 (dated April 30, 2004) is not in addition to the water allocated under this licence, and does not increase the total amount of water that the licensee may divert to its operation.”

14. Community Relations

[220] The Approval Holder stated it was a good corporate citizen who attempted to address concerns raised by the local community over its Wash Plant. It stated it searched for strategies it might implement in order to improve its relations with area residents. It provided evidence that it had done so by hosting open houses and information meetings in which its representatives, as well as representatives from Alberta Environment, were present to answer questions relating to environmental issues. The Director acknowledged these efforts and confirmed the attendance of Alberta Environment representatives at these meetings. The position of the Director was that Alberta Environment encouraged such public consultation

efforts, but as a matter of policy, they are not prepared to take the lead or otherwise become involved in them on an ongoing basis.

[221] The Board commends the Approval Holder for the good efforts it has made to try to build positive relations with the local community. The Approval Holder appears to have recognized the amount of concern being expressed by area residents regarding the Wash Plant, the most tangible evidence of this being the 137 Statements of Concern, and attempted to respond accordingly. The Board encourages the Approval Holder to continue with its public consultation efforts with the local community and stakeholders, such as the ORVCA. The Board also encourages Alberta Environment to continue to assist the Approval Holder as appropriate.

[222] As part of its public consultation process, the Board suggests the Approval Holder may wish to consider issuing periodic newsletters and continuing to host an annual open house. (Alberta Environment may benefit by receiving a copy of these newsletters and attending these open house meetings as resources permit.) Both of these options will assist the Approval Holder in addressing concerns the local community may have on an on-going basis. In particular, given the increasing concern that Albertans are having with respect to water use, it may be of assistance to make the Summary Water Balance Report that the Board is recommending be added as a requirement of the Approval, publicly available. The Board anticipates this report may answer many of the questions and concerns raised by the community.

15. Environmental Impact Assessment

[223] The Appellant and the Intervenor argued the applications for the Licences should include a full environmental impact assessment.⁶⁵

[224] The Approval Holder responded to this argument stating the "...environmental aspects, potential environmental impacts and mitigation measures associated with the operation of an aggregate wash plant are well known and established."⁶⁶ The Director agreed with the Approval Holder, stating the environmental impacts associated with the withdrawal of water in

⁶⁵ See: Intervenor's submission, dated October 25, 2004, at page 5.

⁶⁶ Approval Holder's submission, dated October 26, 2004, at paragraph 28.

the manner proposed by the Approval Holder are well known and no additional adverse impacts that are not already known are anticipated.

[225] The Board agrees with the Approval Holder and the Director. The environmental impacts of the type of operation being carried out by the Approval Holder are well known. Further, in this case, the Wash Plant has been in existence since 1957, and as a result, the environmental impacts of this operation in particular are well known. As a result, an environmental impact assessment would serve no purpose and is not necessary.

IV. SUMMARY AND RECOMMENDATIONS

A. Summary

[226] The Appellant has raised a number of concerns regarding the operation of the Wash Plant. In response to these concerns, the Board has taken into account the evidence and submission of all of the Parties and will make a number of recommendations in response to the Appellant's concerns. However, in broad terms, the matters raised by the Appellant can be summarized as three basic issues.

[227] First, the Appellant is concerned for his water supply, both in quality and quantity. The Board has concluded the Appellant has presented no evidence to suggest there is a connection between his water supply and the Wash Plant or the Licences that are under appeal. The evidence provided by the Approval Holder and the Director indicates there is no connection, and as a result, the Wash Plant and the Licences that are under appeal will not affect the Appellant's water supply.

[228] Second, the Appellant has a number of concerns with the current design of the Wash Plant and wants the Wash Plant redesigned to restore Kilini Creek to a "natural" condition. With respect, the current design of the Wash Plant is not before the Board. Even if the Board was to recommend the Licences under appeal be cancelled (which the Board is not), it would do nothing to address the concerns of the Appellant with respect to the current design of the Wash Plant and would not result in Kilini Creek being returned to a "natural" condition. The Wash Plant is an existing facility that has been licenced since 1957, and it is not the purpose of these

appeals to redesign an existing facility. The Board agrees with the Director that the environmental impacts of the operation on the Appellant are not appreciably different with or without the new Licences, and as such, the decision to grant the new Licences was appropriate. In fact, now that the operation has been properly regulated and is being properly monitored with the new Licences and new Approval, the Board expects the environmental concerns, including those of the Appellant, will be better addressed.

[229] Finally, the Appellant has raised a number of concerns regarding the wording of the Licences, as in his view the wording is unclear. On this point, the Board agrees with the Appellant. A number of the conditions included in the Licences and Approval are unclear and, as a result, subject to various interpretations. Therefore, the Board will make a number of recommendations to improve the clarity of the Licences and Approval, which will hopefully benefit all of the Parties to these appeals. The Board is also of the view that a number of additional monitoring and reporting conditions should be added to the Licences and the Approval, and the Board will also make recommendations in this regard.

[230] Having regard to all of the concerns raised by the Appellant, and the submissions of all of the Parties, the Board will be recommending the Licences and Approval be confirmed, subject to a number of variations. These recommendations are detailed below.

B. General Recommendations

[231] The Appellant has raised a number of concerns regarding the dropping water levels in his well. As the Board has stated, there is no evidence of a connection between the Licences under appeal and the Appellant's well. The Board is of the view the dropping water levels are likely being caused by some other factor, the most likely sources being some problem with his well or other domestic users. The Board encourages the Appellant to check the completion of his well. There could be a crack or cracks in the well casing reducing the water level and rate of production in the well. It may also be that the screen inlets at the bottom of the well have become clogged, impeding the passage of water. The Board is of the view that regular maintenance and monitoring of water levels in domestic wells is to be encouraged, and the Board understands Alberta Environment has information to assist domestic well users in this regard.

[232] The Appellant also raised concerns regarding the quality of the water in his well and has provided the Board with an analysis⁶⁷ that shows a number of anilities above the aesthetic objective specified in the *1996 Canadian Drinking Water Guidelines*. Again, the Board has no evidence before it to show a causal connection between the activities of the Approval Holder and these findings. The Board believes the Licences and Approval are adequately conditioned to detect any problems arising from the Wash Plant. However, the Board encourages the Appellant to continue monitoring his well on a regular basis and where appropriate, bring any additional findings to the attention of the Director.

[233] Many of the issues raised in these appeals are the result of miscommunication. The Board commends the Approval Holder for its efforts to work with the local community to address their concerns. However, there still appears to be confusion regarding the use of water in the Approval Holder's Wash Plant. The Board encourages the Approval Holder to continue with its public consultation efforts with the local community and stakeholders, such as the ORVCA. The Board also encourages Alberta Environment to continue to assist the Approval Holder as appropriate.

[234] As part of its public consultation process, the Board encourages the Approval Holder to consider issuing periodic newsletters and to continue to host an annual open house. (Alberta Environment may benefit by receiving a copy of these newsletters and attending these open house meetings as resources permit.) Both of these options will assist the Approval Holder in addressing concerns the local community may have on an on-going basis. The Board is also hopeful the annual Summary Water Balance Report will be of assistance to all of the Parties, and the local community, in understanding the use of water at the Wash Plant.

[235] The Appellant expressed concern about instream flow monitoring on Kilini Creek. The Board is of the view additional monitoring is required and will make recommendations to add conditions in this regard. However, the Board also believes the Director should undertake a review of the monitoring of instream flows in Kilini Creek, both upstream and downstream of the Wash Plant and, as resources allow, take any corrective actions the Director considers necessary. This review will assist the Director in the short term in

⁶⁷ See: Appellant's submission, dated October 25, 2004, Tab 2001, University of Calgary, Centre for Toxicology, Certificate of Chemical Analysis, dated August 30, 2001.

effectively monitoring the environmental impacts of the Wash Plant, and will also assist Alberta Environment in the longer term when it carries out its water management planning process with respect to the Sturgeon River system.

C. Specific Recommendations

1. Licence 192603 – Conditions 3 and 5

[236] Condition 3 of Licence 192603 gives the Director the ability to establish water conservation objectives, but the Licence does not appear to contain a condition that requires the Approval Holder to comply with the water conservation objectives once it has been established by the Director. The Board therefore recommends that Licence 192603 be amended to include a condition that states:

“Where the Director has established water conservation objectives pursuant to condition 3, the licensee will comply with any written directions the Director may provide to implement these water conservation objectives.”

[237] Further, the Board notes Condition 5 in Licence 192603⁶⁸ is effectively identical to Condition 4 in Licence 206791 and is also worded in a way that may cause confusion. The Board therefore recommends that Condition 5 of Licence 192603, be reworded to provide:

⁶⁸ Condition 5 of Licence 192603 provides:

“This licence is based on knowledge available at the time of issue, and therefore the Director reserves the right to amend for

- (a) monitoring systems and the annual water monitoring information,
 - (b) the rate of water diversion and quantity of water allocated, and/or
 - (c) the need for any offstream storage or alternative sources of water supply,
- anytime there is information indicating unreasonable interference due to the operation of the project on
- (d) the source of water supply
 - (e) other water users
 - (f) instream objectives, and/or
 - (g) the aquatic environment

which cannot, in the opinion of the Director, be satisfactorily remedied.”

“This licence is based on knowledge available at the time of issue, and therefore the Director reserves the right to amend for

- (a) monitoring systems,
- (b) the annual water monitoring information,
- (c) the rate of water diversion,
- (d) quantity of water allocated,
- (e) the need for any offstream storage, and/or
- (f) alternative sources of water supply,

anytime there is information indicating unreasonable interference due to the operation of the project on

- (g) the source of water supply,
- (h) other water users,
- (i) instream objectives, and/or
- (j) the aquatic environment

which cannot, in the opinion of the Director, be satisfactorily remedied.”

2. Licence 206791 – Instream Flow Monitoring Program

[238] The Board agrees with the Appellant that incomplete monitoring information, and particularly non-functional gauges at various points along the creek, is hampering the proper management of the instream flows in Kilini Creek. The Board believes there is a need for a program to provide for more complete monitoring of the instream flows in the immediate area of its Wash Plant operation. The Board recommends the following condition be added to Licence 206791:

- “(a) The licensee shall prepare a report to the satisfaction of the Director, detailing a program to provide for instream flow monitoring of Kilini Creek, and provide this report to the Director by May 1, 2005, for his review and approval.
- (b) The program shall cover the portion of Kilini Creek from ½ mile south of the water intake for Pit 92 to ½ mile north of the diversion site from Pollock Pond into Kilini Creek, and such additional portions of Kilini Creek as specified by the Director in writing.
- (c) The report will include an implementation plan, a schedule of implementation having a completion date of no later than March 1, 2006,

and a list of the instream flow information that will be collected under the program.

- (d) The program may include the repair of existing instream flow monitoring gauges and the installation of new instream flow monitoring gauges.
- (e) Upon receiving the approval of the Director, the licensee will implement the program in accordance with the implementation plan and schedule of implementation included in the report.
- (f) The licensee shall report the instream flow information collected under the program as part of the Annual Water Monitoring report provided for in conditions 14 and 15.”

3. Licence 206791 – Monitoring of Pollock Pond Water Discharge

[239] Given that Pollock Pond is being used to supplement the water flow in Kilini Creek with the express purpose of protecting “critical fisheries habitat,”⁶⁹ out of an abundance of caution, some form of short term monitoring program should be carried out. The information from this monitoring program will assist the Director in ensuring the water discharged from Pollock Pond is not negatively affecting Kilini Creek. Therefore, the Board recommends the following condition be added to Licence 206791:

- “(a) The licensee shall prepare a report to the satisfaction of the Director, detailing a program to monitor the water quality of the water being discharged from Pollock Pond to Kilini Creek at the point where the water enters Kilini Creek, and provide this report to the Director by May 1, 2005, for his review and approval.
- (b) The program shall include monitoring of the water in accordance with the analytical requirements detailed in Table 2.3-A of *Environmental Protection and Enhancement Act* Approval No. 76893-00-01 and any other requirements as specified by the Director in writing.
- (c) The program shall operate continuously for 24 months, and such additional period of time as the Director may specify in writing.
- (d) The report will include an implementation plan, a schedule of implementation having a start date of no later than March 1, 2006, and list of the information that will be collected under the program.

⁶⁹ See: Condition 12 of Licence 206791, which provides: “The licensee shall ... determine the flow required to be maintained downstream of the impoundment as adequate for critical fisheries habitat....”

- (e) Upon receiving the Director's approval of the report, the licensee will implement the program in accordance with the implementation plan and schedule of implementation included in the report.
- (f) The licensee shall report flow information collected under the program as part of the Annual Water Monitoring report provided for in conditions 14 and 15."

4. Licence 206791 – Conditions 4, 12, and 13

[240] The Board accepts the Appellant's argument that these provisions, intended to protect instream flows, are unclear. The Board recommends these conditions be rewritten to provide:

"4. This licence is based on knowledge available at the time of issue, and therefore the Director reserves the right to amend for

- (a) the rate of water diversion,
- (b) quantity of water allocated,
- (c) monitoring systems,
- (d) the annual water monitoring information,
- (e) the need for any offstream storage, and/or
- (f) alternative sources of water supply,

anytime there is information indicating unreasonable interference due to the operation of the project on

- (g) the source of water supply,
- (h) other water users,
- (i) water conservation objectives, and/or
- (j) the aquatic environment

which cannot, in the opinion of the Director, be satisfactorily remedied....

- 12. The licensee shall, with the assistance of a qualified aquatic environment specialist, determine the flow required to be maintained downstream of the impoundment as adequate for critical fisheries habitat.
- 13. (a) If the Director has not prescribed a water conservation objective pursuant to condition 5, then the licensee shall maintain minimum flows downstream of the impoundment at the levels as determined under condition 12.

- (b) If the Director as prescribed a water conservation objective pursuant to condition 5, then the licensee shall maintain flows downstream of the impoundment at the levels in accordance with that water conservation objective.”

5. Licence 206791 – Condition 9

[241] The Board agrees with the Appellant’s argument that Condition 9 of Licence 206791 is unclear, and recommends that Condition 9 of Licence 206791 be amended to read as follows:

“During diversion, the licensee shall:

- (a) equip the diversion sites with a cumulative meter(s) or other device(s) that (i) records continuously the quantity of water pumped and (ii) produces cumulative flows for specific time intervals,
- (b) equip the return flow sites with a cumulative meter(s) or other device(s) that (i) records continuously the quantity of water returned to Kilini Creek from the settling pond and (ii) produces cumulative flows for specific time intervals, and
- (c) record the data from (a) and (b) above on a daily basis.”

The Board also recommends the following condition be added immediately after Condition 9:

- “9.1 (a) The licensee shall provide the Director the results of the information and data recorded in condition 9(c) as and when requested by the Director in writing.
- (b) The licensee shall provide the Director with the cumulative flow data for specific time periods specified in condition 9(a) and (b) as and when requested by the Director in writing.”

6. Cross References between Licences

[242] The Appellant was concerned the Licences are written to operate independently, rather than in conjunction with each other. The Board’s understanding of the water allocated under Licence 192603 is that it is only to be used when the Approval Holder is unable to take its allocations under Licence 206791 and the 1957 Licence because of low flow conditions. In such a case, Licence 192603 authorizes the diversion of water from Pit 92 to Kilini Creek, where it will flow to the impoundment, and be taken as if it were natural flow *as part of* the Approval

Holder's allocations under Licence 206791 and the 1957 Licence.⁷⁰ Therefore, the Board recommends the following condition be added to Licence 192603:

“The licensee may only divert water under this licence to Kilini Creek, when there is insufficient flow in Kilini Creek to take its allocations under Licences No. 3318 (dated March 5, 1990) and 00206791-00-00 (dated April 30, 2004).

The water allocated under this licence is not in addition to the water allocated under Licence 00206791-00-00 (dated April 30, 2004), and does not increase the total amount of water that the licensee may divert to its operation.”

Further, the Board recommends the following condition be added to Licence 206791: “The water allocated under Licence 00192603-00-00 (dated April 30, 2004) is not in addition to the water allocated under this licence, and does not increase the total amount of water that the licensee may divert to its operation.”

7. Approval – Summary Water Balance Report

[243] As the Board has stated, we believe many of the issues that have been raised in these appeals are the result of confusion over the use of water at the Approval Holder's Wash Plant. The Board is recommending the Approval be amended to include a requirement for the Approval Holder to prepare an annual Summary Water Balance Report. The Board is of the view this report will assist all of the Parties and the local community in understanding how water is used at the Wash Plant, and it will also assist the Director in ensuring the operation is in compliance. Therefore, the Board recommends the following condition be added to the Approval:

“The approval holder shall prepare an Annual Summary Water Balance Report which shall describe and provide estimated volumes for all the uses of water by the approval holder's operation, including:

- (a) a description and estimated volume of all the water taken into the approval holder's operation;
- (b) a description and estimated volume of all the water released from the approval holder's operation;

⁷⁰ The Board bases this understanding on the cross-examination of the Director, by counsel for the Appellant at the Hearing.

- (c) a description and estimated volume of all the water consumed by the approval holder's operation, including the amount of water lost in the sand and gravel products, and the black sand removed from the operation, in general terms so as not to disclose confidential commercial information;
- (d) a description and estimated volume of water flowing in Kilini Creek at various points starting and including at ½ mile above the inlet to Pit 92 from Kilini Creek, and ending and including at ½ mile below the discharge from Pollock Pond into Kilini Creek;
- (d) a description and estimated volume of water diverted from Pit 92;
- (e) a description and estimated volume of water diverted from Pollock Pond; and
- (f) any additional information required by the Director as specified in writing."

V. CONCLUSION

[244] Attached for the Minister's consideration is a draft Ministerial Order implementing the Board's recommendations.

[245] With respect to sections 100(2) and 103 of EPEA, the Board recommends copies of this Report and Recommendations and of any decision by the Minister be sent to the following parties:

- Mr. Richard Secord, Ackroyd Piasta Roth & Day, on behalf of Mr. Mike Northcott;
- Ms. Cherisse Killick-Dzenick, Reynolds, Mirth, Richards & Farmer LLP, on behalf of Mr. Brendan Vickery and Mr. Mitch Schaufler, Lafarge Canada Inc.;
- Mr. William McDonald and Mr. Mark Greene, Alberta Justice, on behalf of the Director, Northern Region, Regional Services, Alberta Environment; and
- Mr. Ian Skinner, on behalf of the Onoway River Valley Conservation Association.

VI. COSTS

[246] Before the close of the Hearing, the Appellant advised that he may wish to make an application for costs. The Approval Holder and the Director indicated they did not intend to make an application for costs. The Board will establish a process for addressing the Appellant's costs application on receiving the Minister's Order with respect to this Report and Recommendations.

Dated on January 6, 2005, at Edmonton, Alberta.

"original signed by"

Mr. Ron V. Peiluck
Panel Chair

"original signed by"

Dr. Alan J. Kennedy
Board Member

"original signed by"

Mr. Al Schulz
Board Member

VII. DRAFT MINISTERIAL ORDER

Ministerial Order

/2005

Environmental Protection and Enhancement Act
R.S.A. 2000, c. E-12;

and

Water Act
R.S.A. 2000, c. W-3.

**Order Respecting Environmental Appeals Board
Appeal Nos. 04-009, 04-011, and 04-012**

I, Guy Boutilier, Minister of Environment, pursuant to section 100 of the *Environmental Protection and Enhancement Act* make the order in the attached Appendix, being an Order Respecting Environmental Appeals Board Appeal Nos. 04-009, 04-011 and 04-012.

Dated at the City of Edmonton, in the Province of Alberta this _____ day of _____, 2005.

Guy Boutilier
Minister

Draft Appendix

With respect to the decisions of Mr. Tom Slater, Director, Northern Region, Regional Services, Alberta Environment (the "Director"), to issue *Water Act* Licence No. 00192603-00-00, *Water Act* Licence No. 00206791-00-00, and *Environmental Protection and Enhancement Act* Amending Approval No. 76893-00-01, to Lafarge Canada Inc., I, Guy Boutilier, Minister of Environment, order that:

1. The Director's decisions to issue *Water Act* Licence No. 00192603-00-00, *Water Act* Licence No. 00206791-00-00, and *Environmental Protection and Enhancement Act* Amending Approval No. 76893-00-01 are confirmed, subject to the following variations.
2. Licence 00192603-00-00 is varied by adding the following immediately after condition 2:
 - “2.1 The licensee may only divert water under this licence to Kilini Creek, when there is insufficient flow in Kilini Creek to take its allocations under Licences No. 3318 (dated March 5, 1990) and 00206791-00-00 (dated April 30, 2004).
 - 2.2 The water allocated under this licence is not in addition to the water allocated under Licence 00206791-00-00 (dated April 30, 2004), and does not increase the total amount of water that the licensee may divert to its operation.”
3. Licence 00192603-00-00 is varied by adding the following immediately after condition 3:
 - “3.1 Where the Director has established water conservation objectives pursuant to condition 3, the licensee will comply with any written directions the Director may provide to implement these water conservation objectives.”
4. Licence 00192603-00-00 is varied by deleting condition 5 and replacing it as follows:
 - “5. This licence is based on knowledge available at the time of issue, and therefore the Director reserves the right to amend for
 - (a) monitoring systems,
 - (b) the annual water monitoring information,
 - (c) the rate of water diversion,
 - (d) quantity of water allocated,
 - (e) the need for any offstream storage, and/or
 - (f) alternative sources of water supply,

anytime there is information indicating unreasonable interference due to the operation of the project on

- (g) the source of water supply,
- (h) other water users,
- (i) instream objectives, and/or
- (j) the aquatic environment

which cannot, in the opinion of the Director, be satisfactorily remedied.”

5. Licence 00206791-00-00 is varied by adding the following immediately after condition 3:

“3.1 The water allocated under Licence 00192603-00-00 (dated April 30, 2004) is not in addition to the water allocated under this licence, and does not increase the total amount of water that the licensee may divert to its operation.”

6. Licence 00206791-00-00 is varied by deleting condition 4 and replacing them as follows:

“4. This licence is based on knowledge available at the time of issue, and therefore the Director reserves the right to amend for

- (a) the rate of water diversion,
- (b) quantity of water allocated,
- (c) monitoring systems,
- (d) the annual water monitoring information,
- (e) the need for any offstream storage, and/or
- (f) alternative sources of water supply,

anytime there is information indicating unreasonable interference due to the operation of the project on

- (g) the source of water supply,
- (h) other water users,
- (i) water conservation objectives, and/or
- (j) the aquatic environment

which cannot, in the opinion of the Director, be satisfactorily remedied.”

7. Licence 00206791-00-00 is varied by deleting condition 9 and replacing it as follows:

“9. During diversion, the licensee shall:

- (a) equip the diversion sites with a cumulative meter(s) or other device(s) that (i) records continuously the quantity of water pumped and (ii) produces cumulative flows for specific time intervals,

- (b) equip the return flow sites with a cumulative meter(s) or other device(s) that (i) records continuously the quantity of water returned to Kilini Creek from the settling pond and (ii) produces cumulative flows for specific time intervals, and
 - (c) record the data from (a) and (b) above on a daily basis.
- 9.1
 - (a) The licensee shall provide the Director the results of the information and data recorded in condition 9(c) as and when requested by the Director in writing.
 - (b) The licensee shall provide the Director with the cumulative flow data for specific time periods specified in condition 9(a) and (b) as and when requested by the Director in writing.”
- 8. Licence 00206791-00-00 is varied by deleting condition 12 and condition 13 and replacing them as follows:
 - “12. The licensee shall, with the assistance of a qualified aquatic environment specialist, determine the flow required to be maintained downstream of the impoundment as adequate for critical fisheries habitat.
 - 13.
 - (a) If the Director has not prescribed a water conservation objective pursuant to condition 5, then the licensee shall maintain minimum flows downstream of the impoundment at the levels as determined under condition 12.
 - (a) If the Director has prescribed a water conservation objective pursuant to condition 5, then the licensee shall maintain flows downstream of the impoundment at the levels in accordance with that water conservation objective.”
- 9. Licence 00206791-00-00 is varied by adding the following immediately after condition 16:
 - “16.1
 - (a) The licensee shall prepare a report to the satisfaction of the Director, detailing a program to provide for instream flow monitoring of Kilini Creek, and provide this report to the Director by May 1, 2005, for his review and approval.
 - (b) The program shall cover the portion of Kilini Creek from ½ mile south of the water intake for Pit 92 to ½ mile north of the diversion site from Pollock Pond into Kilini Creek, and such additional portions of Kilini Creek as specified by the Director in writing.
 - (c) The report will include an implementation plan, a schedule of implementation having a completion date of no later than March 1, 2006, and list of the instream flow information that will be collected under the program.

- (d) The program may include the repair of existing instream flow monitoring gauges and the installation of new instream flow monitoring gauges.
 - (e) Upon receiving the approval of the Director, the licensee will implement the program in accordance with the implementation plan and schedule of implementation included in the report.
 - (f) The licensee shall report the instream flow information collected under the program as part of the Annual Water Monitoring report provided for in conditions 14 and 15.
- 16.2
- (a) The licensee shall prepare a report to the satisfaction of the Director, detailing a program to monitor the water quality of the water being discharged from Pollock Pond to Kilini Creek at the point where the water enters Kilini Creek, and provide this report to the Director by May 1, 2005, for his review and approval.
 - (b) The program shall include monitoring of the water in accordance with the analytical requirements detailed in Table 2.3-A of *Environmental Protection and Enhancement Act* Approval No. 76893-00-01 and any other requirements as specified by the Director in writing.
 - (c) The program shall operate continuously for 24 months, and such additional period of time as the Director may specify in writing.
 - (d) The report will include an implementation plan, a schedule of implementation having a start date of no later than March 1, 2006, and a list of the information that will be collected under the program.
 - (e) Upon receiving the Director's approval of the report, the licensee will implement the program in accordance with the implementation plan and schedule of implementation included in the report.
 - (f) The licensee shall report flow information collected under the program as part of the Annual Water Monitoring report provided for in conditions 14 and 15."
10. Amending Approval No. 76893-00-01 is varied by adding immediately after section 4, the following:

"5. The following section and clauses are added immediately after Part 5:

Part 6: WATER MONITORING

6.1 Annual Summary Water Balance Report

- 6.1.1 The approval holder shall prepare an Annual Summary Water Balance Report which shall describe and provide estimated volumes for all the uses of water by the approval holder in its operation, including:

- (a) a description and estimated volume of all the water taken into the approval holder's operation;
- (b) a description and estimated volume of all the water released from the approval holder's operation;
- (c) a description and estimated volume of all the water consumed by the approval holder's operation, including the amount of water lost in the sand and gravel products, and the black sand removed from the operation, in general terms so as not to disclose confidential commercial information;
- (d) a description and estimated volume of water flowing in Kilini Creek at various points starting and including from ½ mile above the inlet to Pit 92 from Kilini Creek, and ending and including at ½ mile below the discharge from Pollock Pond into Kilini Creek;
- (e) a description and estimated volume of water diverted from Pit 92;
- (f) a description and estimated volume of water diverted from Pollock Pond; and
- (g) any additional information required by the Director as specified in writing."





ALBERTA ENVIRONMENT

Office of the Minister

Ministerial Order
6 /2005

Environmental Protection and Enhancement Act
R.S.A. 2000, c. E-12;

and

Water Act
R.S.A. 2000, c. W-3.

Order Respecting Environmental Appeals Board
Appeal Nos. 04-009, 04-011, and 04-012

I, Guy Boutilier, Minister of Environment, pursuant to section 100 of the *Environmental Protection and Enhancement Act* make the order in the attached Appendix, being an Order Respecting Environmental Appeals Board Appeal Nos. 04-009, 04-011 and 04-012.

Dated at the City of Edmonton, in the Province of Alberta this 28th day of Feb., 2005.

Guy Boutilier
Minister

Appendix

With respect to the decisions of Mr. Tom Slater, Director, Northern Region, Regional Services, Alberta Environment (the "Director"), to issue *Water Act* Licence No. 00192603-00-00, *Water Act* Licence No. 00206791-00-00, and *Environmental Protection and Enhancement Act* Amending Approval No. 76893-00-01, to Lafarge Canada Inc., I, Guy Boutilier, Minister of Environment, order that:

1. The Director's decisions to issue *Water Act* Licence No. 00192603-00-00, *Water Act* Licence No. 00206791-00-00, and *Environmental Protection and Enhancement Act* Amending Approval No. 76893-00-01 are confirmed, subject to the following variations.

2. Licence 00192603-00-00 is varied by adding the following immediately after condition 2:

"2.1 The licensee may only divert water under this licence to Kilini Creek, when there is insufficient flow in Kilini Creek to take its allocations under Licences No. 3318 (dated March 5, 1990) and 00206791-00-00 (dated April 30, 2004).

2.2 The water allocated under this licence is not in addition to the water allocated under Licence 00206791-00-00 (dated April 30, 2004), and does not increase the total amount of water that the licensee may divert to its operation."

3. Licence 00192603-00-00 is varied by adding the following immediately after condition 3:

"3.1 Where the Director has established water conservation objectives pursuant to condition 3, the licensee will comply with any written directions the Director may provide to implement these water conservation objectives."

4. Licence 00192603-00-00 is varied by deleting condition 5 and replacing it as follows:

"5. This licence is based on knowledge available at the time of issue, and therefore the Director reserves the right to amend for

- (a) monitoring systems,
- (b) the annual water monitoring information,
- (c) the rate of water diversion,
- (d) quantity of water allocated,
- (e) the need for any offstream storage, and/or
- (f) alternative sources of water supply,

anytime there is information indicating unreasonable interference due to the operation of the project on

- (g) the source of water supply,
- (h) other water users,
- (i) instream objectives, and/or
- (j) the aquatic environment

which cannot, in the opinion of the Director, be satisfactorily remedied.”

5. Licence 00206791-00-00 is varied by adding the following immediately after condition 3:

“3.1 The water allocated under Licence 00192603-00-00 (dated April 30, 2004) is not in addition to the water allocated under this licence, and does not increase the total amount of water that the licensee may divert to its operation.”

6. Licence 00206791-00-00 is varied by deleting condition 4 and replacing it as follows:

“4. This licence is based on knowledge available at the time of issue, and therefore the Director reserves the right to amend for

- (a) the rate of water diversion,
- (b) quantity of water allocated,
- (c) monitoring systems,
- (d) the annual water monitoring information,
- (e) the need for any offstream storage, and/or
- (f) alternative sources of water supply,

anytime there is information indicating unreasonable interference due to the operation of the project on

- (g) the source of water supply,
- (h) other water users,
- (i) water conservation objectives, and/or
- (j) the aquatic environment

which cannot, in the opinion of the Director, be satisfactorily remedied.”

7. Licence 00206791-00-00 is varied by deleting condition 9 and replacing it as follows:

“9. During diversion, the licensee shall:

- (a) equip the diversion sites with a cumulative meter(s) or other device(s) that (i) records continuously the quantity of water pumped and (ii) produces cumulative flows for specific time intervals,

- (b) equip the return flow sites with a cumulative meter(s) or other device(s) that (i) records continuously the quantity of water returned to Kilini Creek from the settling pond and (ii) produces cumulative flows for specific time intervals, and
 - (c) record the data from (a) and (b) above on a daily basis.
- 9.1 (a) The licensee shall provide the Director the results of the information and data recorded in condition 9(c) as and when requested by the Director in writing.
- (b) The licensee shall provide the Director with the cumulative flow data for specific time periods specified in condition 9(a) and (b) as and when requested by the Director in writing.”

8. Licence 00206791-00-00 is varied by deleting condition 12 and condition 13 and replacing them as follows:

- “12. The licensee shall, with the assistance of a qualified aquatic environment specialist, determine the flow required to be maintained downstream of the impoundment as adequate for critical fisheries habitat.
13. (a) If the Director has not prescribed a water conservation objective pursuant to condition 5, then the licensee shall maintain minimum flows downstream of the impoundment at the levels as determined under condition 12.
- (b) If the Director has prescribed a water conservation objective pursuant to condition 5, then the licensee shall maintain flows downstream of the impoundment at the levels in accordance with that water conservation objective.”

9. Licence 00206791-00-00 is varied by adding the following immediately after condition 16:

- “16.1 (a) The licensee shall prepare a report to the satisfaction of the Director, detailing a program to provide for instream flow monitoring of Kilini Creek, and provide this report to the Director by May 1, 2005, for his review and approval.
- (b) The program shall cover the portion of Kilini Creek from ½ mile south of the water intake for Pit 92 to ½ mile north of the diversion site from Pollock Pond into Kilini Creek, and such additional portions of Kilini Creek as specified by the Director in writing.
- (c) The report will include an implementation plan, a schedule of implementation having a completion date of no later

than March 1, 2006, and list of the instream flow information that will be collected under the program.

- (d) The program may include the repair of existing instream flow monitoring gauges and the installation of new instream flow monitoring gauges.
 - (e) Upon receiving the approval of the Director, the licensee will implement the program in accordance with the implementation plan and schedule of implementation included in the report.
 - (f) The licensee shall report the instream flow information collected under the program as part of the Annual Water Monitoring report provided for in conditions 14 and 15.
- 16.2
- (a) The licensee shall prepare a report to the satisfaction of the Director, detailing a program to monitor the water quality of the water being discharged from Pollock Pond to Kilini Creek at the point where the water enters Kilini Creek, and provide this report to the Director by May 1, 2005, for his review and approval.
 - (b) The program shall include monitoring of the water in accordance with the analytical requirements detailed in Table 2.3-A of *Environmental Protection and Enhancement Act* Approval No. 76893-00-01 and any other requirements as specified by the Director in writing.
 - (c) The program shall operate continuously for 24 months, and such additional period of time as the Director may specify in writing.
 - (d) The report will include an implementation plan, a schedule of implementation having a start date of no later than March 1, 2006, and a list of the information that will be collected under the program.
 - (e) Upon receiving the Director's approval of the report, the licensee will implement the program in accordance with the implementation plan and schedule of implementation included in the report.
 - (f) The licensee shall report flow information collected under the program as part of the Annual Water Monitoring report provided for in conditions 14 and 15."

10. Amending Approval No. 76893-00-01 is varied by adding immediately after section 4, the following:

“5. The following section and clauses are added immediately after Part 5:

Part 6: WATER MONITORING

6.1 Annual Summary Water Balance Report

6.1.1 The approval holder shall prepare an Annual Summary Water Balance Report which shall describe and provide estimated volumes for all the uses of water by the approval holder in its operation, including:

- (a) a description and estimated volume of all the water taken into the approval holder’s operation;
- (b) a description and estimated volume of all the water released from the approval holder’s operation;
- (c) a description and estimated volume of all the water consumed by the approval holder’s operation, including the amount of water lost in the sand and gravel products, and the black sand removed from the operation, in general terms so as not to disclose confidential commercial information;
- (d) a description and estimated volume of water flowing in Kilini Creek at various points starting and including from ½ mile above the inlet to Pit 92 from Kilini Creek, and ending and including at ½ mile below the discharge from Pollock Pond into Kilini Creek;
- (e) a description and estimated volume of water diverted from Pit 92;
- (f) a description and estimated volume of water diverted from Pollock Pond; and
- (g) any additional information required by the Director as specified in writing.”