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September 25, 2008

Ministry of Energy, Mines and  
Petroleum Resources  
Mining and Minerals Division  
South Central Region  
162 Oriole Drive  
Kamloops, BC  
V2C 4N7

Attention: Joe Seguin, Senior Inspector of Mines

Dear Mr. Seguin:

**RE: Amended Reclamation Permit G-4-208  
Pearson Creek Gravel Pit**

The purpose of this letter is to express our concerns related to the gravel extraction operation that has been approved and is in operation near the confluence of Pearson and Mission Creeks in the Mission Creek watershed. While we understand the need for gravel in the region, we have previously stated the pit location within 30 metres of the largest single water source into Okanagan Lake (Mission Creek) is very poor planning and shows a lack of understanding of how to manage the natural resources in the region. Mission Creek is a multiple use watershed with agriculture, forestry, and recreational activities present. We accept the multiple uses and have worked with the stakeholders and agencies to protect our water resources for the longer term. The proximity of this gravel extraction activity to Mission Creek is in direct conflict with the regional and provincial planning initiatives in the region.

The Black Mountain Irrigation District is the largest stakeholder on Mission Creek. We supply drinking water to 20,000 residents in Kelowna from the Mission Creek source. We were not issued referrals from your office on these matters but were able to provide comments through the Regional District of Central Okanagan during the initial permit and permit amendment processes. The ten comments/issues that were raised in our September 10, 2008 letter have not been addressed or acknowledged by your office prior to approving this permit.

We were made aware that the amended permit application was approved on January 30, 2008. Since that date there was little activity as the property was for sale. Only recently, in accordance with the permit, a large open face excavation has appeared adjacent to Foolhen Forest Service Road and minimal silt control structures were constructed. Photos of the excavation and limited silt control basins are provided on the next page.

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**Photos**



Extraction excavation south of Mission Creek



25 cubic metre drainage sediment control pond volume for a 10 acre site

We have the following specific drainage and water supply concerns related to activities approved for the site.

**CONCERN 1.0 INADEQUATE SILT AND SEDIMENT CONTROL**

Mr. Don Dobson, P.Eng. and I met with the gravel pit drainage engineer, Mr. Ken Langedyk, P.Eng., at the BMID office on December 19, 2007. We expressed our concerns of the inadequacy of the sediment control structures, and the lack of storm water runoff design information in the Drainage and Sediment control report.

Mr. Dobson and I have both designed many such features for developments and have carried out hydrological runoff estimates from sites such as this one. We are both professionally qualified to review these types of designs. The sediment control plan, upon which we assume the permit approval was based, is in our opinion, inadequate, incomplete, and the control features are probably undersized (based on silt detention pond dimensions and as shown in the attached photos). Much more detail is required to validate the size, location, and silt control ability of the proposed works. Specifically, the following items were not addressed in the plan:

- Identification of areas of upstream slopes that will drain across the site, particularly drainage draws and points where the ground will collect and concentrate water;
- Pre-development and post-development runoff flows, estimating the order of magnitude of runoff that will occur during various frequency storm events, including up to a 1:200 year flood event;
- Setbacks from the creek required to allow the site to safely operate during a 1:200 year flood as the areas are very close to the floodplains of Mission and Pearson Creeks;
- Flows that would be expected from frozen ground and saturated surface soils conditions which are far more frequent at the pit elevation than in the Okanagan Valley floor;
- An accounting for the higher precipitation, which is in the order of 2 to 3 times greater at the pit than in the Okanagan Valley, and runoff that can be expected as a result of this wetter climate;
- Provision of a revised Sediment Control Plan that addresses the above concerns, signed and sealed by a Professional Engineer;
- Details on how the sediment control facilities for the 4.0 hectare (10 acre) site are sized. Presently they only have the capacity to hold approximately 25 cubic metres which is less than 1.0mm of runoff depth over a 4.0 ha. site;
- Construction of the proper sediment and runoff control works that will provide a higher level of assurance that the risk of sediment and silt spilling from the pit into the creeks is eliminated.

Mr. Langedyk was advised at the December meeting that regardless of permit approval or Ministry involvement, he was still professionally responsible for a suitable sediment control design, particularly if silt and sediment from the gravel extraction operation entered the creeks. We advised him that BMID would be monitoring overland runoff to the creek very closely and if any sediment or contamination were to occur to the creek, that we would be pursuing the matter either through the Province, the Association of Professional Engineers, the Courts, or other avenues. At that meeting, Mr. Langedyk appeared to understand our concerns however; it appears that no modifications to the original sediment control plan have been made.

### **CONCERN 2.0 WATER USE AND WATER LICENSING**

We understand that water is intended to be used on-site for dust control. We understand the necessity for dust control for the pit to operate. Presently we are unaware of any water licenses being issued for the operation. The water source whether surface or groundwater, will impact the flow regime in Mission Creek. BMID owns and operates Fishhawk Reservoir and Greystoke Reservoir above the gravel pit site, and also operates Loch Long Reservoir for the Ministry of Environment. Loch Long Reservoir water is released annually to support fish habitat in lower Mission Creek in September and October. As a part of our license requirements, BMID is obligated to release 35 acre-feet of water per day below our intake on Mission Creek.

Any extractions of surface or groundwater, for irrigation, dust control or other uses draws water away from the environmental baseflow that exists in the creek. Mission Creek has been identified by the Ministry of Environment as being one of the primary fisheries habitats in the Okanagan. Any water drawn off of the creek must be supported by releases from upper watershed reservoir storage. This was identified as an issue in the recently completed Water Use Plan on Mission Creek. There is no identification of how much water is intended to be used for dust control. There is also no clarification by the gravel pit owner or Ministry of Energy, Mines and Petroleum Resources on the intention to wash gravel now or at any time in the future.

Because of the pervious granular stratum that is present in the creek and along the banks, we believe that the creeks and groundwater in this area are hydraulically connected. Therefore, we believe that any withdrawals from groundwater must also be licensed and supported by storage. By copy of this letter, we are forwarding these concerns on to the Ministry of Environment.

BMID has storage sites identified in upper Mission Creek. The volume of storage required is based on the annual volume of water required by the proponent. The capital cost for storage is in the range of \$1,500 per 1,000 cubic metres of constructed storage. Release of this water stored from spring snowmelt will ensure sufficient water is available during more sensitive times of the year.

### **CONCERN 3.0 WATER QUALITY MONITORING**

As a result of this project, BMID will be expending additional resources to monitor if there is sediment runoff to the receiving bodies of Pearson and Mission Creeks. Public funds will be expended rather than having the private gravel extraction operation cover these monitoring costs. Monitor of upstream on Pearson Creek will be very difficult as the site is private property signed with "No Trespassing" by the owner. As a result, our staff will be required to hike through a difficult and steep forested route to access water from upstream.

If the gravel pit owner were to become a true stakeholder in the creek, they should retain an independent qualified water quality testing firm to verify that during special conditions, such as spring snowmelt runoff, heavy rainstorm events, or rainfall on frozen ground, that there is no silt or sediment reaching Mission or Pearson Creeks. Alternately, they could cover the testing costs that BMID will be incurring.

BMID is forced to monitoring the creek as a protective measure for our customers. It should be the responsibility of the operator of the gravel pit to ensure their activities are in conformance with acceptable practices and results, not Black Mountain Irrigation District.

## CLOSURE

There are several sites in the region proposed for gravel extraction. Some of them would have a greater impact on the water resources than others. Of all of the proposed locations in the region, this pit is the one that poses the greatest potential for environmental damage and largest impact on both drinking water and water for fisheries. BMID has communicated our disapproval of the site since it was first proposed.

With the permit approved, the minimum expectation by our District is that proper measures and procedures will be followed, otherwise it is not a question of “if sediment will contaminate the creek” but rather “when there will be contamination”. We respectfully request the following from the Ministry of Energy, Mines and Petroleum Resources:

1. Setbacks to the 1:200 year floodplain be established and enforced as it is a normal requirement by the Ministry of Environment for all development activity near significant creeks or water bodies in the region;
2. That a modified sediment control plan be prepared, signed and sealed by a qualified Professional Engineer, and issued for review by the local stakeholders. All of the concerns noted in Concern 2.0 should be addressed. The current plan is inadequate and not acceptable to BMID. Plans for how much runoff water can be expected and where, must be identified within the plan. This has not been done and we believe that the permit was issued prematurely without consultation or agreement that the concerns were addressed. The upgraded sediment control works should then be constructed. A very short timeline and high attention is required on this specific issue as a substantial area of land is already without vegetation cover;
3. A disclosure of the gravel pit operator of their daily and annual water demands and how they intend to access water from the watershed should be provided. Approvals from the Ministry of Environment should be required on any withdrawals;
4. Commitment by the gravel pit operator should be provided to cover costs to monitor water quality in the watershed with full disclosure of water quality testing results by an independent agency. This way the pit operator starts to become a stakeholder on the well being of the region.

These are not unreasonable requests and are simply the right thing to do. Please advise us if these items can be accommodated.

Yours truly,  
**Black Mountain Irrigation District**



Robert Hrasko, P.Eng.  
Administrator

cc: Al Horning, MLA, Kelowna-Lake Country  
Board of Directors - RDGO  
Dale Thomas, Interior Health Authority  
Ken Cunningham, Head, Water Stewardship, MOE  
Solvej Patschke, Watershed Protection Officer, MOE  
Michael Crowe, Department of Fisheries and Oceans, DFO

Don Dobson, Dobson Engineering  
Ken Langedyk, P.Eng.  
Kevin Bird, Pit Operator  
Ted Thomas, Joe Rich Res. Assn.