



Aboriginal Affairs and Northern Development  
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Yellowknife, NT  
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November 24<sup>th</sup>, 2011

BHP Billiton Canada Inc.  
#1102 - 4920 52<sup>nd</sup> Street  
Yellowknife, NT X1A 3T1

Water Licence W2009L2-0001

Attn: Karl Schubert – Manager Health, Safety, Environment and Community

**Re: November 15<sup>th</sup>, 2011 AANDC Water Licence Inspection**

Dear Mr. Schubert,

On November 15<sup>th</sup>, 2011, an inspection of operations at the Ekati Diamond Mine was conducted by Resource Management Officer Tracy Covey. On this site visit the AANDC Land & Water Inspector was accompanied and assisted by BHP Billiton Canada Inc. Environmental Advisor-Compliance Jamie Steele.

As per the noted water licences or applicable land use permits granted in accordance with the *Mackenzie Valley Resource Management Act*, please be advised that the attached Inspection Report is part of the Public Registry and is intended to keep all interested parties informed of the manner in which licence requirements are being met. This report provides comments based on general observations and highlights any concerns or items that should be addressed by the Licensee / Permittee. Attached / enclosed is the full Inspection Report along with related site photographs.

The following areas were inspected and the details of the findings are included in the attached report:

- Inspection of construction/operations at Misery Camp.
- Inspection of the Ammonia Nitrate Storage Building.
- Inspection of Glycol Spills at the Ekati Airport.

If you have any questions or concerns please contact the undersigned at (867) 669-2875.  
Thank you for your continued cooperation.

Sincerely,

Tracy Covey  
Resource Management Officer III  
South Mackenzie District  
Aboriginal Affairs and Northern Development Canada  
[Tracy.Covey@aadnc-aadnc.gc.ca](mailto:Tracy.Covey@aadnc-aadnc.gc.ca)

cc: Mr. Ryan Fequet - Regulatory Mining Specialist, Wek'èezhìi Land and Water Board  
Mr. Mike Martin - Acting District Manager, AANDC SMD Operations  
Mr. Kevin O'Reilly - Manager, Independent Environmental Monitoring Agency



## INDUSTRIAL WATER USE INSPECTION REPORT

INSPECTION DATES: 2011-11-15

COMPANY REP : Jamie Steele

LICENSEE: BHP Billiton Canada Inc.

LICENCE #: W2009L2-0001 (Water Licence)  
Ekati Diamond Mine

### WATER SUPPLY

Source: Grizzly Lake (Fresh Water Intake)      Quantity Used: Approx 68,145 m<sup>3</sup> utilized to September 30<sup>th</sup>, 2001(YTD)      Meter Rdg: N/I

Indicate:      **A - Acceptable**      **U - Unacceptable**      **N/A - Not Applicable**      **N/I - Not Inspected**

Intake Facilities	N/I	Storage Structures	N/I	Treatment Systems	N/I	Recycling	A
Flow Meas. Device	N/I	Conveyance Lines	N/I	Pumping Stations	N/I	Modifications	N/A

### WASTE DISPOSAL

Tailings:	Tailings Pond	A	Natural Lake	N/A	Underground	N/I		
Sewage:	Sewage Treat.	N/I	Tailings pond	N/I	Natural Water	N/A		
	Continuous	N/A	Inter. Discharge	A				
Solid Waste:	Open Dump	N/A	Landfill	A	Burn & Bury	A	Underground	N/I

Indicate:      **A - Acceptable**      **U - Unacceptable**      **N/A - Not Applicable**      **N/I - Not Inspected**

Discharge Quality	N/A	Conveyance Lines	A	Disch. Meas. Dev.	A	Freeboard	A
Decant Structures	N/I	Pond Treatment	N/A	Dams, Dykes	A	Seepages	N/A
Dyke Inspections	A	Runoff Diversion	N/I	Erosion	A	Spills	A

### GENERAL CONDITIONS

Indicate:      **A - Acceptable**      **U - Unacceptable**      **N/A - Not Applicable**      **N/I - Not Inspected**

Ore & Waste Rock Stockpiles	N/I	Records & Reporting	A	Surv. Net. Prog.	A
Geotechnical Inspection	N/I	Posting, Signage	A	Contingency Plan	A
Reclamation Activities	N/A	New Construction	A	Fuel Storage	A
Mine Water Discharge	A	Chemical Storage	A	Annual Report	A

Licensee Representative's      Mr. Karl Schubert – Manager of Health, Safety, Environment and Community.

Licensee Representative's      Inspection issues discussed with BHP Billiton Environmental Compliance Staff on site.

Inspector's Name      Tracy Covey

Inspector's Signature            Dated 2011-11-22

## **Comments Section on Specific Aspects Inspected:**

### **Inspection of construction underway in preparation for the reopening of Misery Camp Facilities**

An inspection of the Misery Camp Facilities currently under construction underway occurred during the November 15<sup>th</sup>, 2011 inspection. As detailed below, the only concerns noted at this time were with the temporary fuel transfer facility. Ekati staff were directed to find a solution to resolve this concern (which should be resolved once the permanent fuel transfer facility is in place). Notable observations during this aspect of the inspection include the following:

- A new Truck & Heavy Equipment Maintenance Shop had been erected at the Misery Camp Facilities site (See Photo 1).
- Recycling was observed at several locations within the Misery Camp (see Photo 2).
- Permanent fuel storage facilities were not yet completed. A temporary fuel transfer station has, however, been established, and this was inspected (see Photo 3). This station is on a concrete platform which should contain most drips/spills of fuel which might occur. However, secondary containment practices observed during the inspection will need to be improved. As noted in Photo 4, though spill pads were in place under the fuel-transfer area, they were not effectively secured & would most likely blow away given any sort of substantial wind event. It's also apparent that drifting snow could fill-in the secondary containment "drip" tray currently deployed at the site. Until the permanent fuel storage tanks are in place & operational, Ekati staff committed to find & implement a solution for this situation which would resolve these challenges.
- Lubricant storage at the Misery facilities service area followed industry best practices (see Photo 5).

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### **Inspection of the Ammonia Nitrate Storage Building**

An inspection of the AN storage building showed no containment issues/concerns. AN product was effectively stored below the top of the cement walls as per industry best-practices, and no Prill was observed tracking out of the building (see Photo 6).

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### **Inspection of Glycol (antifreeze) spills at the airport**

An inspection of three reported glycol spills (NWT 11-405; 11-406; 11-412) at the Ekati Airport showed no evidence of the spill. Product apparently was absorbed by gravel at the time of the spills which could not be cleaned up at the time (due to aircraft safety concerns). So the spilled glycol remains (frozen into the airstrip). Ekati staff were directed to attempt cleanup as soon as snow cover melts & to conduct a visual inspection at that time to confirm that no glycol reached the receiving environment.

**November 15<sup>th</sup>, 2011 Inspection Photos:**

**Photo 1**

View of the new Truck & Heavy Equipment Maintenance Shop recently erected at the Misery Camp Facilities site.



**Photo 2**

View of recycling observed in the office complex at the Misery Camp Facilities site. Recyclable material appeared to be effectively removed from the waste stream at throughout the Camp.



**Photo 3**

Temporary fuel transfer station (Misery Camp). Note the yellow spill kit fixed to the fuel truck's back end. The site in use has a cement pad which should minimize the potential for fuel to enter the environment.



**Photo 4**

View of spill pads in use at the temporary fuel transfer station (Misery Camp). Though the pads do demonstrate effective secondary fuel containment at the time of the inspection, a more robust solution needs to be found to ensure the pads remain in place during windy conditions & don't fill in with snow.



**Photo 5**

Temporary lubricant storage at Misery Camp. Note the secondary containment berm (lined & walled).



**Photo 6**

AN stored in the AN building was observed to remained below the top of the cement wall (which ensures no product escapes containment).

