



Aboriginal Affairs and  
Northern Development Canada  
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Affaires autochtones et  
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<http://www.aadnc-aandc.gc.ca>

North Mackenzie District  
P.O. Box 2100  
Inuvik, NT X0E 0T0

Telephone: 867-777-8900  
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December 29, 2012

Northwest Territories Water Board  
P.O. Box 2531  
Inuvik, NT X0E 0T0

**Attn: Mike Harlow, Executive Director**

**RE: Industrial Water Use N7L1-1769  
CLASS B - INDUSTRIAL  
Unnamed Channel – Mackenzie River**

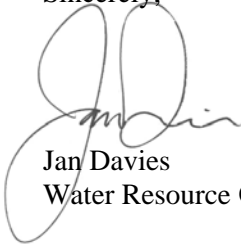
Dear Mr. Harlow,

Please find the enclosed Inspection Report for your review and records.

An electronic copy (un-editable Adobe pdf.) has also been provided by e-mail.

If you have any questions or concerns regarding the enclosed, and/or if additional information is required please contact me at (867) 777-8909.

Sincerely,



Jan Davies  
Water Resource Officer

Cc: Conrad Baetz, District Manager, North Mackenzie District, Inuvik, NT

Enclosure: Industrial Water Use Inspection Report and Cover Letter (4 pages)



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P.O. Box 2100  
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December 29, 2012

JAPEX Canada Limited  
2300 Standard Life Building  
639 - 5<sup>th</sup> Avenue S.W.  
Calgary, AB T2P 0M9

**Attn: Yukio Kishigami**

**RE: Industrial Water Use N7L1-1769  
CLASS B - INDUSTRIAL  
Unnamed Channel - Mackenzie River**

Dear Mr. Kishigami,

An inspection of the JAPEX Canada Limited Water Licence N7L1-1769 (expiry on September 30, 2002) was conducted on October 2, 2012. The operation under the above mentioned Industrial Water Use was inspected to assess compliance and ensure that the terms and conditions were met.

Enclosed is a copy of the Inspection Report (3 pages) for your review and records.

Please note that it is the Licensee's responsibility to ensure compliance with all of the terms and conditions of its Water Licence. A copy of this report will be sent to the Northwest Territories Water Board for their review and public records.

If you have any questions regarding the enclosed and/or if additional information is required, please do not hesitate to contact me at (867) 777-8909.

Sincerely,

Jan Davies  
Water Resource Officer

Cc: Conrad Baetz, District Manager, North Mackenzie District, Inuvik, NT

Enclosure: Industrial Water Use Inspection Report (3 pages)



## INDUSTRIAL WATER USE INSPECTION REPORT

<b>LICENCE #:</b>	N7L1-1769	<b>EXPIRY DATE:</b>	September 30, 2002
<b>LICENCEE:</b>	JAPEX Canada Limited	<b>PREVIOUS INSPECTION:</b>	August 24, 2011
<b>COMPANY REP:</b>	Yukio Kishigami	<b>INSPECTION DATE:</b>	October 2, 2012

### WATER SUPPLY

Source:	Unname Channel – Mackenzie River	Quantity Used:	N/A, See Annual Reports
Owner/Operator:	JAPEX Canada Limited	Meter Reading:	N/A

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

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

### **Water Supply Comments:**

- N/A

### WASTE DISPOSAL

Well Waste:	Off-Site Removal	N/A	Drilling Sump	A	Downhole	N/A	Land spread	N/A
Solid Waste:	Open Dump	N/A	Landfill	A	Burn & Bury	N/A	Under ground	N/A
	Owner / Operator	N/A	Sludge Disposal	N/A	Other	N/A		
Tailings:	Tailings Pond	N/A	Natural Lake	N/A	Under ground	N/A		
Sewage:	Sewage Treat. System	N/A	Camp Sump	N/A	Natural Water Body	N/A	Wetland Treatment	N/A
	Continuous Discharge	N/A	Inter. Discharge	N/A	Seasonal Discharge	N/A	Trench	N/A

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

Discharge Quality	N/A	Construction	N/A	Disch. Meas. Dev.	N/A	Freeboard	N/A
Decant Structures	N/A	O&M Plan	N/A	Dams, Dykes	N/A	Seepages	N/A
Dyke Inspections	N/A	A&R Plan	N/A	Erosion	U <sup>1</sup>	Spills	A
Conveyance Lines	N/A	Pond Treatment	N/A	Runoff Diversion	N/A	Sump Treatment	N/A
Sump Liners	N/A		SNP Samples Collected		N/A		
Periods of Discharge	N/A		Effluent Discharge Rate		N/A		

### **Waste Disposal Comments:**

Concerns:

1. Subsidence remains consistent with the previous Water Licence Inspection dated August 24, 2011. There was a significant amount of water throughout the Mallik area and ponding within sump subsidence. The camp sump continues to have the deepest subsidence of any of the sumps in the area and the water almost filled its northern and southern sections.

Further monitoring is recommended but a longer term solution would be to give the sumps the appropriate attention such as reclaiming the sump caps by filling in the subsidence to ensure long term stability. Continued subsidence and especially the ponded water when present will have an influence on sump long term stability. These could both cause larger problems later on due to possible effects on permafrost and containment of wastes.

Notes:

- No garbage or solid waste was present as the drilling and camp sump sites are clean.



## INDUSTRIAL WATER USE INSPECTION REPORT

### GENERAL CONDITIONS

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

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

**General Condition Comments:**

Concerns:

1. The camp sump had major ponding present since there was a lot of water in the Mallik area. The northern and southern sections of the sump were almost completely full of water. In the previous inspection the depth of subsidence was estimated to be about 1-1.5 metres deep. The drill sump had more water ponding then previously seen in the south end and northern portions where subsidence has occurred.
2. The sumps associated with this program have minimal sump caps remaining. The caps are close to the surface of the ground with minor sloping. Vegetation cover remains consistent with previous inspections and site visits where sump surface has a lot of bare soil - the drill sump is <10% whereas the camp sump has ~15%.

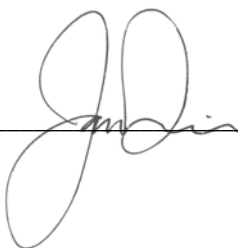
Note:

- Please note the following activity that occurred previously on site as stated in the August 24, 2011 Water Licence Inspection:  
 On August 28, 2008 there was an Inspection of the operation under the Land Use Permit – N2001A0016. It was evident that the camp sump was subsiding a great deal and action was needed to ensure compliance with the permit.  
 Subsequently a Mallik 2002 Camp Sump Assessment Plan was prepared by JAPEX Canada Limited through KAVIK-AXYS Inc. in April 2009 to address subsidence of the camp sump. A preliminary sump survey was conducted in which a detailed survey of the sump by Inukshuk Geomatics was to develop elevation/depression contours in addition to observance and collection of sump cap material. The information would be compared to a site survey in 2006 to determine if the subsidence had increased or stabilized.  
 A detailed sump survey occurred in which the sump content was tested to verify the camp sump contents remained frozen, to gain a sense of the volume and profile of sump cap material, and to test the sump contents to confirm their composition. There was also surface soil and water sampling to identify potential surface changes that may be related to the subsidence at the sump. Minor sump cap recontouring was conducted to address the more severe fractures in the cap adjacent to the subsidence area.  
 The final Mallik 2002 Camp Sump Assessment Report stated the “sump contents (comprising treated grey water) were only observed below the active layer, frozen within the permafrost”. The northern subsidence found there is little or no frozen sump contents and further significant subsidence is not anticipated since it has less ice content in the soil then the southern portion of the sump. The distance between the base of the active layer and the upper portion of the sump is 3cm in the southern subsidence and minimal thawing is thought to have occurred. The contents of the camp sump were verified to be treated grey water with no hydrocarbon contamination.  
 Sump contents appear to be stable but further erosion and flooding is expected given the location and natural occurrences. Further thaw penetration could occur and sump contents seep into the surrounding soil. The report estimated that the only impacts to the environment would be aesthetic and its release would not result in adverse affects to wildlife and vegetation. The report concluded the “potential release of grey water is not considered likely to result in detrimental effects to the environment”. It is thought to allow natural processes take place like subsidence and ponding since these are happening in the area and this would result in less adverse impacts to the environment as compared to undertaking physical remediation. The report commented that remediation would require imported soils, winter or summer use of heavy equipment, and challenges such as erosion, thermal changes etc. could occur during and after remediation similar to the current situation.

**NON-COMPLIANCE/VIOLATIONS OF ACT OR LICENCE**

N/A

Inspector’s Signature:

  
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## INDUSTRIAL WATER USE INSPECTION REPORT

### Inspection Images:



Figure 1

Aerial overview of camp sump. Subsided areas have more ponded water present compared to previous inspections. Poor vegetation coverage, October 2, 2012.

Figure 2

Camp sump with large amount of subsidence and surficial cracking. Very deep north side subsidence and water ponding in the bottom, August 24, 2011.



Figure 3

Camp sump subsidence and ponding, from northeast corner, October 2, 2012.

Figure 4

Aerial overview of drill sump, water ponding on the south end and northern portions of the sump in addition to the area surrounding the sump, October 2, 2012.



Figure 5

Drill sump cap with subsidence and poor vegetation growth, August 24, 2011.

Figure 6

Drill sump subsidence now full of ponded water, from southeast corner, October 2, 2012.