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**LETTER SENT BY E-MAIL**

September 15, 2009

Mr. Andrew Keim  
Inspector  
Department of Indian and Northern Affairs Canada  
Nunavut Regional Office  
Building 553  
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Iqaluit, Nunavut X0A 0H0

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Dear Mr. Keim:

**INSPECTOR'S DIRECTION ISSUED SEPTEMBER 14, 2009**

We have received your Inspector's Direction and have reviewed it thoroughly. Thank you also for forwarding on the Record of Inspection Form also received yesterday. As you are aware, Allison Rippin Armstrong has been preparing a dewatering plan for the accumulated water within the secondary containment facility housing the fuel along with the assistance of True Grit Consulting Ltd. Starfield Resources will be sending personnel to the Ferguson Lake camp site within the next week to address issues requiring attention. These include: dewatering of the secondary containment facility housing the fuel, general clean up of garbage around the site, clean up of any areas where leaks and or spills may have occurred, tidying of scrap metal area, etc. The following outlines the dewatering plan.

**Dewatering**

In order to address the accumulated water within the secondary containment facility satisfactorily, Starfield has retained the services of True Grit Consulting Ltd. Mr. Gus Hunt, P.Eng. will be the Project Engineer/Manager who oversees this activity in design, on-site delivery and final write-up. Mr. Hunt has worked on numerous contaminated sites in the arctic during his involvement with the DEW Line Cleanup Project as well as several mining facilities in northern Labrador. He has design and construction management experience with engineered landfills, land farms, soil remediation systems and water treatment systems for contaminated sites. Mr. Hunt has completed several hydrocarbon contaminated water treatment system designs for various industrial clients throughout Canada.



The system that has been designed for the dewatering program at Ferguson Lake involves pumping the water using a Grundfos centrifugal pump through the proposed treatment units at a controlled rate of 10 US Gallons Per Minute (USGPM). The pump will be fitted with 200' of 2" diameter steel intake hose complete with a compression backflow prevention valve. The pump will be connected in parallel to two treatment trains each consisting of: 1 - Bag Filter, complete with 25 micron or 1 micron filter bags and hydrocarbon absorbent material; 1 - TM100 (organo-clay) filled treatment drum; and 2 - Activated Carbon filled treatment drums. The filter assembly will remove suspended solids and free phase petroleum hydrocarbons. The TM100 media is designed to absorb the larger dissolved petroleum hydrocarbons such as F3-F4 hydrocarbon fractions and the Activate Carbon media is designed to remove smaller dissolved phase petroleum hydrocarbons such as Benzene, Toluene, Ethylbenzene, Xylenes and F1-F2 hydrocarbon fractions. Replacement media will be on-site in addition to the media already in the system.

Upon arrival to site, a total of six (6) water samples will be collected from the accumulated water in the fuel containment area to establish raw, untreated water quality. The treatment system will be assembled and approximately 1000 - 2000 litres of water will be treated and stored in secondary containment areas set up within the main fuel containment area. A total of six (6) water samples will be collected from the treated water to confirm removal efficiencies as per the disposal criteria provided by Andrew Keim, INAC Water Resource Officer and the additional parameters proposed below.

Once the confirmatory sample results have been received and effluent quality parameters have been proven to be met and approvals received, the water in the secondary containment will be discharged to the environment. The remainder of the accumulated water will be pumped, treated and discharged. The 1" discharge line will be fed into a perforated discharge line to further control velocity and disperse the discharge water thereby reducing the potential for erosion. The discharge line will be visually inspected continuously during the treatment and discharge operations.

Treatment System media will be replaced as required based on a mass balance calculation for the removal efficiencies as provided by the treatment system supplier. Removal efficiencies are based on flow rate and petroleum hydrocarbon concentrations in the raw/untreated water. A simple calculation to determine the operational life of the media can be completed once initial water quality has been confirmed based on the controlled operational flow rate of 10 USGPM. The accumulative volume of water being pumped and treated will be monitored and the system will be shut down and media replaced when the operational life of the media has been reached. In addition, the discharge will be monitored visually to ensure that no hydrocarbon sheen or odour is present. Once a sufficient volume of water has been pumped and treated, the site will be secured, the treatment system will be dismantled and stored in a secure weather proof structure for the winter.



### Discharge Criteria Proposed

Mr. Keim has provided the following effluent discharge parameters and allowable concentrations:

Parameter Maximum Average	Concentration	Maximum Allowable Grab
pH	6.0 to 9.5	6.0 to 9.5
TSS	25 mg/L	50 mg/L
Oil and Grease	15 mg/L and no visible sheen	15 mg/L and no visible sheen
Benzene	370 µg/L	370 µg/L
Toluene	2 µg/L	2 µg/L
Ethylbenzene	90 µg/L	90 µg/L
Lead	1 µg/L	1 µg/L
Al	1.5 µg/L	1.5 µg/L

The following additional parameters will be added to ensure adequate protection of the environment:

- a. Petroleum Hydrocarbon Fractions F1 and F2: Maximum combined concentration 1000 µg/L. While no known federal or territorial guideline exists for these parameters, the Ontario Ministry of Environment imposes these concentrations for groundwater on sites with potable groundwater users in the vicinity. Using these discharge parameters is anticipated to be sufficient to protect groundwater and surface water resources at the site.
- b. Petroleum Hydrocarbon Fractions F3 and F4: Maximum combined concentration 1000 µg/L. While no known federal or territorial guideline exists for these parameters, the Ontario Ministry of Environment imposes these concentrations for groundwater on sites with potable groundwater users in the vicinity. Using these discharge parameters is anticipated to be sufficient to protect groundwater and surface water resources at the site.
- c. Xylenes: Maximum concentration 72 µg/L. While no known federal or territorial guideline exists for these parameters, the Ontario Ministry of Environment imposes this concentration on surface water through the Public Water Quality Objectives (PWQO). Using this discharge parameter is anticipated to be sufficient to protect groundwater and surface water resources at the site.



All lab results will be forwarded to your office immediately upon receipt. A photographic record will be submitted of all on-site activities and submitted to your office in a final report. We look forward to receiving your response. If you have any questions, please do not hesitate to contact Allison Rippin Armstrong directly.

Yours truly,

**André J. Douchane,  
President & CEO.**

c.c. Phyllis Beaulieu, Nunavut Water Board  
Bernie MacIsaac, INAC  
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