



## WATER LICENCE INSPECTION FORM

☒ Original  
☐ Follow-Up Report

|   |  |
|---|--|
| Licensee<br><b>Hamlet of Kugluktuk</b>  | Licensee Representative<br><b>Donald LeBlanc</b>               |
| Licence No. / Expiry<br><b>3BM-KUG0914 (Expired)</b>  | Representative's Title<br><b>Senior Administrative Officer</b> |
| Land / Other Authorizations<br><b>-</b>   | Land / Other Authorizations<br><b>-</b>                        |
| Date of Inspection<br><b>12/08/2014</b>   | Inspector<br><b>Eva Paul</b>                                   |
| Activities Inspected<br><input type="checkbox"/> Camp <input type="checkbox"/> Drilling <input type="checkbox"/> Mining <input checked="" type="checkbox"/> Construction <input checked="" type="checkbox"/> Reclamation <input type="checkbox"/> Fuel Storage<br><input type="checkbox"/> Roads/Hauling <input checked="" type="checkbox"/> Other: Municipal Works <input type="checkbox"/> Other: |  |

|   |  |                       |                    |  |                            |                           |         |                    |  |           |         |
|---|--|-----------------------|--------------------|--|----------------------------|---------------------------|---------|--------------------|--|-----------|---------|
| Conditions:   |  | <b>A - Acceptable</b> | <b>C - Concern</b> | <b>U - Unacceptable</b>  | <b>NA – Not Applicable</b> | <b>NI – Not Inspected</b> |         |                    |  |           |         |
| Water Use   |  | Condition             | Comment            | Site Conditions  |                            | Condition                 | Comment | Haz/Mat Management |  | Condition | Comment |
| Intake/Screen   |  | A                     |                    | Water Management Structures  |                            | C                         | 5       | Storage            |  | A         |         |
| Flow Measure. Device  |  | A                     |                    | Culverts / Bridges   |                            | NI                        |         | Spills             |  | A         |         |
| Source: Coppermine R.   |  | C                     | 1                  | Drainage   |                            | C                         | 5       | Spill Plan         |  | U         | 10      |
| Water Use:  |  | A                     | 1                  | Erosion / Sediment   |                            | U                         | 6       |                    |  |           |         |
| Recirculation ( y /n)   |  | NA                    |                    | Mitigation Measures  |                            | U                         | 6       | Administrative     |  |           |         |
|   |  |                       |                    | Reclamation Activities   |                            | U                         | 7       | Records            |  | A         | 1       |
|   |  |                       |                    | Materials Storage  |                            | A                         |         | Reports            |  | A         |         |
| Waste Disposal  |  |                       |                    | Signage  |                            | U                         | 8       | Plans              |  | U         | 10      |
| Waste Water   |  | U                     | 2                  |  |                            |                           |         | Notifications      |  | C         | 11      |
| Solid Waste   |  | C                     | 3                  | Monitoring   |                            |                           |         | Other              |  |           |         |
| Hazardous Waste   |  | U                     | 4                  | Sample Collection / Analysis   |                            | U                         | 9       |                    |  |           |         |
|   |  |                       |                    |  |                            |                           |         |                    |  |           |         |
| <i>*The number in the comments field will correspond with specific comments provided below.</i> |  |                       |                    |  |                            |                           |         |                    |  |           |         |
| Samples taken by Inspector:   |  |                       |                    | Location(s): Sewage Lagoon (KUG-3), Landfill Water Retention Area (KUG-2) and within the landfill downslope from the landfarm. |                            |                           |         |                    |  |           |         |
| <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                             |  |                       |                    |  |                            |                           |         |                    |  |           |         |

|   |  |  |   |
|---|--|--|---|
| <b>SECTION 1</b>  | <input checked="" type="checkbox"/> Comments (s.1) | <input checked="" type="checkbox"/> Non-Compliance with Act or Licence (s.2) | <input checked="" type="checkbox"/> Action Required (s.3) |
| <p>An inspection was conducted on August 12, 2014, in cooperation with Mr. Shah Alam, Municipal Planning Engineer for the Government of Nunavut, Kitikmeot Region. We were accompanied by George Egotak of the hamlet throughout the inspection. The Water Treatment Plant, water intakes (old and new), Landfill, and Sewage Lagoon were inspected for compliance with the water licence. Monitoring Stations were verified, and the locations of KUG-2 and KUG-5 were modified to more accurately reflect the licence requirements. Water usage records were inspected, and a brief administrative compliance review was conducted.</p> <p>1. The water distribution system includes automatic recording of water usage. Mr. LeBlanc provided water usage records to July 31 at the request of the Inspector. Daily logs are maintained at the Water Treatment Plant showing the volume as well as chlorination records. While both intake facilities are acceptable, there is open access to the water source areas. During the inspection, a community member drove his quad right into the river and filled his personal water jugs. The community water source would be better protected if access was restricted to authorized personnel. Additionally, it was noted that Qulliq Energy is storing a considerable quantity of waste oil and other hazardous waste up-slope from the water reservoir and no secondary containment is employed. This poses a risk to this essential community water structure.</p> <p>2. Waste water from the lagoon and the landfill are being discharged without water quality testing. The sewage lagoon is not to be decanted without submitting compliant sample results to the Inspector. A float was not in place on the lagoon suction hose, meaning that the material being discharged was sludge rather than the liquid. This is unacceptable practice, contrary to the licence and approved operating plans, and constitutes a contravention of the Act. Hydrocarbon-contaminated water from the landform may be running directly into the landfill due to overfilling, rather than being contained as intended within the landform. I am concerned that the water retention area at the bottom of the landfill is not functioning as intended; the construction drawings and O&amp;M Manual indicate that water is intended to accumulate within the structure and be discharged deliberately when required (after testing). Contact water currently flows freely from this structure.</p> <p>3. There is currently no person responsible for operating the Solid Waste Management Facility (landfill). Garbage segregation is inconsistent, although some segregation is evident at the Bulky Metals Area. Garbage is being dumped and burned by the garbage truck drivers, without direction, and is choking the entry to the landfill area. Waste should be moved out of the entry area, and segregation practices implemented. A review of the existing O&amp;M Manual will provide guidance on the intended management of the landfill. Operations not consistent with the approved plan are in contravention of the licence and the Act.</p> <p>4. The hazardous waste storage area and landform cell are both lined, but both also full. The small hazardous waste area contains barrels, batteries, paint and other hazardous goods, and has clearly been full for some time. The overflow of barrels and hazardous waste has been placed in the landform cell. While it is good that the hazardous waste is in a lined containment area, the volume of waste makes it impossible to manage the landform as intended. Barrels are not to be stored in the landform. The approved O&amp;M Manual clearly describes how to treat the contaminated soil so as to be able to remove it and use it for fill in the landfill. This is not being undertaken; the soil piles have not been actively managed and vegetation is growing within the</p> |  |  |   |



landfarm. The piles of soil are pushed over against the northwest wall, enabling runoff water to flow directly into the landfill instead of accumulating within the berm. Barrels stored within the lined areas are not labelled to identify the waste. The hamlet is not authorized for long term storage of hazardous waste; regular backhaul to a hazardous waste receiver is required. It should also be noted that the hamlet is not an authorized receiver of hazardous waste; the municipal facility should not accept hazardous waste from contractors, industry, or non-municipal sources. Guidelines for management of hazardous waste in Nunavut can be found at: <http://env.gov.nu.ca/node/82#Guideline Documents>. Mr. LeBlanc indicated that a backhaul of batteries is intended for September; please consult the guidelines and consult with the DOE to ensure packaging is consistent with TDG requirements. In future, the batteries stored in the hazardous waste storage area should be stored in such a manner to prevent water accumulation and any risk of acid spills.

5. Issues with the sewage lagoon structure remain largely unchanged since 2010. Gasses beneath the lagoon liner push the liner to the surface of the lagoon ("bubbles"), causing mixing of the lagoon contents and reducing the effective capacity of the lagoon. There is suspicion that the liner was installed upside-down. There are reports of leakage coming from the lagoon, though none was evident during the inspection. The lagoon was constructed on a wetland, and overland flow is causing erosion to south wall. The old lagoon which has not been remediated causes ponding against the east wall. Mr. Alam of the GN has submitted a funding proposal to investigate the extent of and reasons for malfunction of the sewage lagoon.
6. The new water intake was constructed in 2012. Since that time, a large erosion channel has formed along the intake, causing sediment to wash into the river (water source). No erosion control measures are in place and no corrective action has been taken. Mr. Alam will determine whether corrective action can be required of the contractor who conducted the work.
7. The old sewage lagoon, not in use since 2010, has not been reclaimed. The sides are collapsed and a pool of water remains within. No active control or water monitoring is being undertaken. In essence, the facility has been abandoned.
8. Monitoring station signs (KUG-1 to KUG-5) were posted in incorrect locations. The new GPS coordinates were determined during this inspection and signs are to be posted on permanent metal stakes or affixed to the fences where appropriate. Facility signage (Water Intake Facilities, Sewage Lagoon, Solid Waste Disposal Facility and Landform) is faded or absent and does not provide sufficient public warning. Clear signage within the landfill should facilitate waste segregation practices.
9. Lack of water quality monitoring shows blatant disregard of the licence and the Act, despite previous training provided to hamlet employees by Mr. Alam. No samples were collected prior to the lagoon decanting; as such an estimated 40 days of illegal discharging has taken place in 2014. No record is kept of the volume of discharge; also required for reporting under the water licence.
10. Four plans were required to be updated pursuant to issuance of the 2009 licence. Of these four plans, only one (the sewage treatment O&M plan) has been updated, and was submitted with then 2014 renewal documentation. These plans date back to 2006 and 2007. These plans are to be updated as required by the 2009 licence, incorporating the information that was specified in the 2009 licence, and any changes to operations. The A&R plan for the old sewage lagoon is to be submitted to the Board.
11. Notification to the Inspector (by e-mail) is required prior to any decant of the sewage lagoon, and prior to any release of water from the landfarm. Samples must indicate compliance with the discharge criteria outlined in the water licence or alternative treatment measures will be required. Sample results must be submitted to the Inspector before authorization will be given to decant, and in the case of the sewage lagoon, a current photo of the lagoon level and a short justification for the decant to ensure that the decant is consistent with the operational plan.

SECTION 2



Comments



Non-Compliance with Act or Licence



Action Required

Part B Item 1: Reporting of monthly discharges of effluent. The estimates given in the report are not reflective of actual discharges from the sewage lagoon.

Part B Item 2: Failure to implement the Monitoring Program as required by the licence.

Part B Item 5: Failure to maintain the necessary signs to appropriately identify the stations of the Monitoring Program.

Part B Item 11: Failure to implement Plans as approved by the Board.

Part C Item 6: Failure to implement sediment and erosion control measures in relation to the new water intake facility.

Part D Item 2: Failure to ensure compliance with discharge criteria prior to decanting of the Lagoon.

Part D Item 5: Failure to treat soil in the landfarm facility in accordance with the Solid Waste Management Operation and Maintenance (O&M) Plan, March 2007.

Part D Item 6: Failure to monitor water from the landfarm facility.

Part F Item 1: Failure to provide updated Plans and Manuals as required by the licence.

Part F Item 3: Failure to provide annual geotechnical reports.

Part G Item 2: Failure to provide updated A&R plan for the old sewage lagoon.

Part H Item 1: Failure to maintain Monitoring Program Stations.

Part H Item 3: Failure to carry out monitoring as specified in the licence.

Part H Item 9: Failure to provide an updated QA/QC Plan.

SECTION 3



Comments



Non-Compliance with Act or Licence



Action Required

Hamlet of Kugluktuk:

1. A float is to be installed on the lagoon suction hose prior to the next decant.
2. Monitoring program is to be implemented including lagoon sampling at KUG-3 prior to any decant, and monthly sampling at KUG-2, -4, and -5 during periods of flow.
3. A report showing the correct installation of the Monitoring Station signs is to be submitted to the Inspector by **August 30 2014**.
4. Samples must indicate compliance with the discharge criteria outlined in the water licence or alternative treatment measures will be required. Sample results must be submitted to the Inspector before authorization will be given to decant, and in the case



of the sewage lagoon, a current photo of the lagoon level and a short justification for the decant. Results from KUG-5 are to be submitted to the Inspector prior to any release of water from the landfarm. An appropriate discharge location for the landfarm is to be determined with the Inspector at the time of the next visit.

5. Safe, covered containment for used batteries (eg – a sea-container) should be set up at the landfill for future accumulation and to facilitate shipment.
6. Barrels in the landfarm are to be removed, labelled, and prepared for backhaul according to TDG requirements. To the extent possible, hazardous waste should be sent annually to a licensed receiver. Records of the shipment are to be kept for future inspections, and included in the Annual Report.
7. Soil in the landfarm is to be turned according to the O&M manual and re-distributed in the cell so as to leave a trench around the perimeter. This will prevent un-treated water from draining out of the cell, facilitate implementation of the monitoring program, and facilitate treatment of the soils as intended. This remediation work should also be reported in the Annual Report.
8. Action Items 6 and 7 are to be completed by **October 30 2014** and photos of the completed works submitted to the Inspector by **November 15**.
9. Segregation of non-hazardous waste is also important. There should be a hamlet employee dedicated to management of the landfill and landfarm facilities according to the O&M manual. Ideally, the facility would be gated to preclude unauthorized dumping, but at minimum should be well-signed and well laid-out in order to facilitate waste segregation.
10. Access to the water intake areas (water source) should be restricted to authorized personnel, in order to reduce the risk of contamination.
11. Hazardous waste stored up-hill from the water reservoir should be moved to an appropriate location.
12. The Solid Waste Management Facility Operation and Maintenance (O&M) Plan, Sewage Treatment Facility Operation and Maintenance (O&M) Plan, Monitoring Program and Quality Assurance/Quality Control Plan, and Environmental Emergency Contingency Plan are to be updated as required by the 2009 licence, incorporating the information that was specified in the 2009 licence, and any changes to operations since that time. It is best if the Hamlet be involved in the review of these Plans so as to take ownership of the content.

Government of Nunavut in relation to capital projects:

13. Mr. Alam is to keep the Mr. LeBlanc and the Inspector apprised of studies and works in relation to the sewage lagoon.
14. The A&R plan for the sewage lagoon decommissioning is to be submitted to the Board immediately.
15. Mr. Alam is to pursue corrective measures with respect to the erosion channel formed at the new water intake.

|                                    |                                 |
|------------------------------------|---------------------------------|
| Licensee or Representative         | Inspector's Name                |
| Signature<br><i>Donald LeBlanc</i> | Eva Paul                        |
| Date<br><i>August - 14 - 2014</i>  | Signature<br><i>[Signature]</i> |
|                                    | Date<br>14 August 2014          |

|             |  |   |                                       |
|-------------|--|---|---------------------------------------|
| APPENDICES: | <input type="checkbox"/> Inspection Photos | <input type="checkbox"/> Sample Results | <input type="checkbox"/> Other: _____ |
|-------------|--|---|---------------------------------------|

|                  |  |  |
|------------------|--|--|
| Office Use Only: | Follow-up report to be issued by Inspector | <input type="checkbox"/> Yes <input type="checkbox"/> No |
|------------------|--|--|

CC: Phyllis Beaulieu, Manager of Licensing, NWB  
Erik Allain, Manager of Field Operations, AANDC  
Shah Alam, Municipal Planning Engineer, GN