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June 18, 2020

File: W2014L3-0002

Larry Baran  
Senior Administrative Officer  
Community Government of Behchokq  
PO Box 68  
Behchokq, NT X0E 0Y0

Sent via Email

Dear Larry Baran,

**Re: Landfarm Soil Use as Intermediate Temporary Cover**

The Wek'èezhii Land and Water Board (WLWB or the Board) met on June 18, 2020 and considered the Community Government of Behchokq's (CGB) request to use treated landfarm soil as intermediate temporary cover at the former solid waste disposal facility (SWDF).<sup>1</sup> As per Part D, Condition 20c of Water Licence (Licence) W2014L3-0003,<sup>2</sup> CGB requires Board approval to use landfarm soil as intermediate cover at a SWDF if the treated soil does not meet soil quality criteria outlined in the Licence. The Board has reviewed CGB's request and decided to approve the use of soil from piles 1, 2, and 3 as intermediate temporary cover at the former SWDF.

The Board would also like to remind CGB that as per Part I, Condition 1 of the Licence, a Closure and Reclamation Plan is required to be submitted at least six months prior to closure of any of the Sewage or SWDF, including the landfarm. Schedule 4 of the Licence outlines the requirements for the Closure and Reclamation Plan. Based on responses from the CGB during public review, the Board anticipates receiving a Closure and Reclamation Plan for the landfarm in 2020.

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<sup>1</sup> See WLWB Online Registry ([www.wlwb.ca](http://www.wlwb.ca)) for [W2014L3-0002 – Behchoko – Landfarm Soil Use Sampling Report – May 3 20](#)

<sup>2</sup> See WLWB Online Registry for [W2014L3-0002 – Behchoko – Water Licence – Rectification of Clerical Errors – Jun 24 15.pdf](#)

Sincerely,

A handwritten signature in blue ink, appearing to read "Joe Mackenzie". The signature is fluid and cursive, with a prominent initial "J" and a long, sweeping underline.

Joe Mackenzie

Chair, Wek'èezhii Land and Water Board

Copied: Wek'èezhii West Distribution List



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## Reasons for Decision

Reference/File Number:	W2014L3-0002 (Type "A" Water Licence)
Licensee:	Community Government of Behchokò
Subject:	Landfarm Soil Use as Interim Cover

## Decision from the Wek'èezhìi Land and Water Board Meeting of June 18, 2020

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### 1.0 Decision

On June 18, 2020, the Wek'èezhìi Land and Water Board (the Board) met and considered a request by the Community Government of Behchokò (CGB) for the approval of a request to use landfarm soil as intermediate temporary cover at the former Solid Waste Disposal Facility (SWDF) under Water Licence W2014L3-0002.<sup>1</sup> The Board has decided to approve CGB's to use treated landfarm soil from piles 1, 2, and 3 as intermediate temporary cover for the former SWDF

### 2.0 Background

On March 3, 2020, the CGB submitted a request to use treated landfarm soil from piles 1, 2, and 3 as intermediate temporary cover at the former SWDF. This request was supported by a Landfarm Soil Sampling Report prepared by BluMetric and was submitted as per Water Licence W2014L3-0002 (Licence), Part D, Condition 20c.<sup>2</sup> Part D, Condition 20c of the Licence requires CGB to "place treated soil in the SWDF and cover with the final solid waste facility cap as part of the closure and reclamation of the SWDF, or as otherwise as approved by the Board." Treated soils are to meet the Landfarm Soil Quality Criteria in Part D, Condition 20a prior to removal from the landfarm.

In BluMetric's supporting report it was identified that samples collected from the three piles meet the soil quality criteria outlined in the Behchokò Water Licence W2014L3-0002 - Soil Quality Criteria for the

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<sup>1</sup> See WLWB ([www.wlwb.ca](http://www.wlwb.ca)) Online Registry for [W2014L3-0002 – Behchoko – Landfarm Sampling Report and Soil Use Request – Mar 3 20](#)

<sup>2</sup> See WLWB Online Registry for [W2014L300002 – Behchoko – Water Licence – Rectification of Clerical Errors – Jun 24 15.pdf](#)

Landfarm, apart from pH. pH measured between 8.08 and 8.12, which exceeds the soil quality criteria objectives (6.0-8.0). BlueMetric stated that “pH measured in the piles should not constitute a significant issue to reuse the soil for intermediate temporary coverage” at the former SWDF but that the CGB should request permission from the Board to use the treated landfarm soil in the closure of the former SWDF.

Since the three piles do not meet the soil quality criteria outlined in the Licence, Board approval is required for the landfarm soils to be used as interim cover at the SWDF. This request was distributed for public review on March 13, 2020 with reviewer comments due April 5, 2020 and proponent responses due by April 20, 2020. Comments and recommendations were received by the Government of the Northwest Territories Department of Environment and Natural Resources (GNWT-ENR). Both the Tłı̄chǫ Government and Wek’èezhii Renewable Resources Board commented they had no recommendations at this time. Board staff also submitted questions. Proponent responses were received on May 15, 2020. Reviewer comments and recommendations, as well as the proponent’s responses are available on the WLWB Online Registry.<sup>3</sup>

### **3.0 Reasons for Decision**

#### **3.1 Request to Use Landfarm Soil as Interim Cover**

During the public review, GNWT-ENR submitted comments and recommendations regarding the use of treated landfarm soil as interim cover at the former SWDF. The first questions were related to the methodology used for sampling the soil and quantifying the exceedance in pH (GNWT-ENR comments 1 and 2). GNWT-ENR commented that the report provided results from one sampling location per pile whereas the Environmental Guidelines for Contaminated Site Remediation specifies that “3-5 boreholes or test pits per potential sources should be considered as a minimum, to provide an adequate detailed description of the nature, extent, and fate of contamination in three dimensions” (GNWT-ENR comment 1). GNWT-ENR recommended that CGB provide further details regarding each composite sample that was taken and the collection methodology guidelines that were used to ensure the sampling conducted was representative of soil conditions (GNWT-ENR comments 1 and 2). CGB responded to this indicating that the GNWT Environmental Guideline for Contaminated Site Remediation and CCME Guidance Manual for Sampling, Analysis, and Data Management, Volume 1: Main Report were used to determine the number of samples taken and the location. CGB also provided specific details regarding the methodology used for sampling the landfarm soil and commented that BlueMetric carried out sampling in a way to obtain a representative result of the soil quality from each of the piles. Each sample was composed of 8 or 10 subsamples taken randomly from test pits at different elevations within each of the three piles. The combined samples were mixed until homogenous, so the composite sample was representative of the entire pile. The Board is of the opinion that CGB’s response addressed GNWT-ENR’s comment and that the sampling was adequately representative.

GNWT-ENR asked why nickel concentration and pH measurements exceeded the soil quality criteria outlined in the Licence and why exceedances for nickel concentration and pH, measured in the July

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<sup>3</sup> See WLWB Online Registry for [W2014L3-0002 – Behchoko – Landfarm Soil Use Request – Review Summary and Attachments – May 15 20.pdf](#)

sampling, were not also observed in August. (GNWT-ENR comments 3 and 4). CGB responded indicating that the August sampling was not intended to repeat sampling but to fill gaps from the July sampling to fulfill reporting requirements for landfarm soil outlined in Part D, Condition 20b of the Licence. Additionally, the exceedance measured for nickel only occurred in one sample from pile 3 and not in the duplicate sample that was also collected from pile 3. CGB requested that the sample be analyzed again to verify the concentration and the results showed a concentration of nickel that was below the acceptable criteria. The Board believes that the response from CGB addresses the comments from GNWT-ENR.

GNWT-ENR also recommended that CGB maintain a moisture content of 10-20% in the piles (GNWT-ENR comment 8). This recommendation was made to maximize the treatment quality and shorten the duration of the treatment process so landfarm soil can be disposed of more quickly. CGB responded saying they will assess the moisture content of the remaining landfarm soil as part of the maintenance and assessment work. Further recommendations to treat the remaining landfarm soil will be developed through the Operation and Maintenance Plan. The Board believes that CGB's response has addressed GNWT-ENR's comment.

The CGB was asked if it expected the pH or the concentration of any other soil quality criteria to have changed by the time the landfarm soil is used as interim cover (WLWB comment 2). If changes were anticipated in pH or the concentration of soil quality criteria, the CGB was asked to explain what changes were expected and why the soil would be okay to use as interim cover (WLWB comment 2). The CGB responded indicating that the landfarm is not actively used and no new contaminated soils are being added. BlueMetric advised CGB not to move or modify the tested piles until receiving approval from the Board. CGB expects no change in the pH or concentration of any soil quality criteria and no further sampling is planned. The Board is of the opinion that CGB's response addresses the questions and does not believe that further sampling should be required for the landfarm soil to be used as interim cover for the former SWDF.

In an overall recommendation, GNWT-ENR supported the use of landfarm soil as intermediate temporary cover at the former SWDF provided that the sampling is an accurate representation of the quality of the entire pile (GNWT-ENR comment 3). CGB responded indicating that BlueMetric's sampling was carried out to provide representative results of the soil quality for the entire pile. As discussed above, BlueMetric explained that the methods used to collect the samples provided a representative sample of soil conditions in the entire pile. The Board is of the opinion that CGB's responses demonstrates that the sampling of soil was adequately representative of soil conditions in the landfarm.

Based on the reviewer comments and Proponent responses, the Board approves the use of soil from landfarm piles 1, 2, and 3 for use as intermediate temporary cover for the former SWDF.

- ***Decision #1: The Board has decided to approve CGB's request to use treated landfarm soil from piles 1, 2, and 3 as intermediate temporary cover for the former Solid Waste Disposal Facility.***

### 3.2 Closure and Reclamation

During the public review, questions were asked about closure and reclamation of the landfarm and both SWDFs. GNWT-ENR asked CGB to describe the anticipated timelines associated with closing the former SWDFs and any decommissioning activities that might be planned for the near future (GNWT-ENR comments 5 and 7). The CGB responded that the new SWDF has been operational since September 3, 2019. The CGB intends to submit an updated Closure and Reclamation Plan in 2020 to begin work closing the old SWDF in 2021 or 2022. GNWT-ENR also commented that exceedances in the silt and clay layers of the landfarm should be further analyzed and delineated during the decommissioning and remediation process of the old SWDF (GNWT-ENR comment 6). The CGB agreed that further analysis and delineation would occur during the closure and reclamation process.

The CGB was asked when all the soil in the landfarm would be treated and removed for disposal; when the CGB plans on closing the landfarm; and when the Board should expect an updated Closure and Reclamation Plan for the landfarm (WLWB comment 1). The CGB responded saying that no additional soil is being added to the landfarm but treatment activities will continue until the soil quality criteria outlined in the Licence is achieved. The CGB intends to close the landfarm when the existing soil is treated and disposed of properly. The CGB also indicated they will be submitting an updated Closure and Reclamation Plan for the landfarm in 2020 to prepare for closure in 2021, at the earliest.

Overall, the Board believes that the CGB has addressed the comments regarding closure and reclamation of the old SWDF and the landfarm. The Board reminds the CGB that as per Part I, Condition 1 of the CGB's Water Licence, a Closure and Reclamation Plan is required at least six months prior to closure of any of the Sewage or Solid Waste Disposal Facilities, including the landfarm.

**Signed the 18<sup>th</sup> Day of June, 2020, on behalf of the Wek'èezhii Land and Water Board**



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Witness



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Joe Mackenzie  
Chair, Wek'èezhii Land and Water Board