

Pardy's Dewatering Technologies
30 Kyle Avenue
Donovan's Industrial Park
Mt. Pearl, NL
A1N 4R5

July 12, 2018

Attention: Steve Moores, General Manager

Dear Mr. Moores:

Reference: **Approval for separation of spent drilling fluids/muds originating from Newalta Corporation, at Pardy's facility located on Kyle Avenue, Mt. Pearl, as a pilot project.**

This authorization letter is based upon the following:

- Letter delivered via e-mail May 10, 2018 requesting amendment to existing Certificate of Approvals (Approvals) # WMS-15-10-010 and # WMS-15-10-011;
- Supporting documentation and diagrams respecting the proposed separation process and Tricanter technology;
- Site visit to view equipment and proposed processing at 30 Kyle Avenue on July 6, 2018.

The Department has reviewed all information provided, and with this letter authorizes Pardy's to conduct a pilot project to separate spent drilling fluids/muds owned by Newalta Corporation using the proposed methodology and Tricanter centrifuge system. Wastewater will be further treated on-site to meet regulatory requirements prior to discharge. Used oil shall be recuperated for recycling purposes, and drilling muds solids shall be sent for further bio-remediation at an approved facility. The following conditions shall apply:

- There shall be no on-site storage of drilling fluids/muds. The material will be delivered from the Valero storage tank located in Holyrood to an on-site receiving tank from where processing will begin.
- Initial analyses of the material to be treated shall be submitted to the Department for each batch. Final analyses of separated oil, and solids shall be submitted for each batch to the Department prior to recycling or treatment for final disposal, and further bio-remediation respectively
- All conditions of the Approvals WMS-15-10-010 and WMS-15-10-011, issued to Pardy's Dewatering Technologies and Pardy's Disposal Services Limited respectively, shall apply to this authorization as they relate to the centrifuge operation, and the handling of wastewater and used oil.

- Post-drilling mud wastewater from the centrifuge separation process shall be sent to the water collection tank for further treatment prior to discharge. Wastewater must be treated to meet parameters listed in Table 1 of Approval WMS-15-10-010 prior to discharge.
- Post-drilling mud separated oils shall be removed to oil storage tanks and tested to meet specifications for recycling. Used oil shall meet Used Oil Contamination Limits as stated in Appendix C of Approval WMS-15-10-011 and the *Used Oil Control Regulations*.
- Secondary containment shall be maintained for all storage tanks on site.
- For each batch processed in the Tricanter, sampling and analysis of drilling mud solids prior to transport to treatment facilities and as per the Laboratory Analysis & QA/QC section of either approval is required. The solids component shall be tested and analysed for: flashpoint, sodium adsorption ratio, total petroleum hydrocarbons (TPH), benzene toluene ethylbenzene and xylene (BTEX), polyaromatic hydrocarbons (PAHs) and a metal scan shall be completed. These results shall be submitted to the Department.
- Post-drilling mud solids from the process shall be transferred by sealed-end dump trucks to an approved soil bio-remediation treatment facility.
- Newalta Corporation, as the owner of the spent drilling fluids/mud, shall be ultimately responsible for the removal of drilling fluids/mud material that cannot be treated to acceptable criteria, and if this is the case, for subsequent transportation for further treatment and/or disposal to an approved facility.
- An annual report shall be submitted to the Department by January 31, 2019 summarizing all drilling mud transactions, laboratory results, and destination of waste streams for the previous year. This report shall be in addition to the regular annual report submitted in compliance with the aforementioned existing Approvals.

This approval expires on December 31, 2018. If you have any questions regarding this please contact Marie Ryan at (709) 729-1810.

Sincerely,



DAN MICHELSEN
DIRECTOR