

PERMIT TO ALTER A BODY OF WATER

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Pursuant to the Water Resources Act, SNL 2002 cW-4.01, specifically Section(s) 48

Date: OCTOBER 07, 2020 File No: 534-01  
Permit No: ALT7752-2020

Permit Holder: Department of Natural Resources  
P.O. Box 8700  
50 Elizabeth Avenue  
St. John's NL A1B 4J6

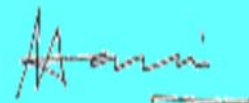
Attention: Mr. Darren Pittman

Re: Whalesback Mine Site Rehabilitation- Dept of Industry, Energy and Technology

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Permission is hereby given for : the rehabilitation of the Whalesback Mine Site including breaching of the Whalesback dam to create a spillway channel to allow flow into Collapse Pond, sealing of a drainage tunnel, and associated activities outlined in the application received from the Department of Industry, Energy and Technology on September 18, 2019 with additional information received on September 22, 2020.

- This Permit does not release the Permit Holder from the obligation to obtain appropriate approvals from other concerned municipal, provincial and federal agencies.
- The Permit Holder must obtain the approval of the Crown Lands Administration Division if the project is being carried out on Crown Land.
- This Permit is subject to the terms and conditions indicated in Appendices A and B (attached).
- It should be noted that prior to any significant changes in the design or installation of the proposed works, or in event of changes in ownership or management of the project, an amendment to this Permit must be obtained from the Department of Environment, Climate Change and Municipalities under Section 49 of the Water Resources Act.



(for) MINISTER

**APPENDIX A**  
**Terms and Conditions for Permit**

**Dam/Reservoir Design**

1. Reservoirs must be provided with a spillway of adequate capacity to safely discharge design flows at non-erosive velocities without causing flooding of the reservoir or damage to the spillway channel.
2. The dam and associated works shall be designed according to the Canadian Dam Association Dam Safety Guidelines and associated Bulletins (most recent edition).
3. The dam and appurtenant structures are located at the following coordinates:

Name	Datum	Northing (m)	Easting (m)	Zone
Whalesback Mine Tailings Dam	83	5494290	571732	21

4. The dam and associated works must be designed and constructed under the direct supervision of an engineer eligible for membership with the Professional Engineers and Geoscientists of Newfoundland and Labrador (or equivalent Canadian organization) who is able to demonstrate competence in the design, construction, and surveillance of dams.

**General Alterations**

5. Any work that must be performed below the high water mark must be carried out during a period of low water levels.
6. Any flowing or standing water must be diverted around work sites so that work is carried out in the dry.
7. Water pumped from excavations or work areas, or any runoff or effluent directed out of work sites, must have silt and turbidity removed by settling ponds, filtration, or other suitable treatment before discharging to a body of water. Effluent discharged into receiving waters must comply with the *Environmental Control Water and Sewage Regulations, 2003*.
8. All operations must be carried out in a manner that prevents damage to land, vegetation, and watercourses, and which prevents pollution of bodies of water.
9. The use of heavy equipment in streams or bodies of water is not permitted. The operation of heavy equipment must be confined to dry stable areas.
10. All vehicles and equipment must be clean and in good repair, free of mud and oil, or other harmful substances that could impair water quality.
11. Any areas adversely affected by this project must be restored to a state that resembles local natural conditions. Further remedial measures to mitigate environmental impacts on water resources can and will be specified, if considered necessary in the opinion of the Department.

12. The bed, banks and floodplains of watercourses, or other vulnerable areas affected by this project, must be adequately protected from erosion by seeding, sodding or placing of rip-rap.
13. All waste materials resulting from this project must be disposed of at a site approved by the Department of Service NL.
14. Care must be taken to prevent spillage of pollutants into the water.
15. The owners of structures are responsible for any environmental damage resulting from dislodgement caused by wind, wave, ice action, or structural failure.
16. Sediment and erosion control measures must be installed before starting work. All control measures must be inspected regularly and any necessary repairs made if damage is discovered.
17. Fill material must be of good quality, free of fines or other substances including metals, organics, or chemicals that may be harmful to the receiving waters.
18. The attached Completion Report (Appendix B) for Permit No. 7752 must be completed and returned to this Department upon completion of the approved works. Pictures must be submitted along with the completion report, showing the project site prior to and after development.
19. This Permit is valid for two years from the date of issue. Work must be completed by that date or the application and approval procedure must be repeated. The following terms are valid for the life cycle of the tailings management area: 22, 29, 30, 31, 32.
20. The location of the work is highlighted on the Location Map for this Permit attached as Appendix C.
21. All work must be carried out within the proponent's legal property boundaries.

#### **Dam Safety**

22. The dam has been conditionally classified in the LOW Consequence category based on the 2007 Canadian Dam Association (CDA) guidelines. A Dam Safety Review is not required for low-consequence dams. However, the consequences of failure should be reviewed periodically, since they may change with downstream development. If the classification increases, a Dam Safety Review is required at that time.

#### **Stream Diversion Design**

23. An approximately 58 metre long permanent diversion channel may be excavated to carry the waters and other materials of the Whalesback Tailings Reservoir to Collapse Pond within the proponent's legal property boundaries.
24. All bedrock at the entrance of the discharge tunnel to be sealed with a concrete plug shall be hydro blasted to clean the surface and remove any loose rock prior to the application of concrete. The concrete plug shall be setback at least 1.5 m from the exterior face of the existing discharge tunnel entrance.
25. The new channel must provide adequate capacity to safely discharge flood flows at a velocity no greater than that which would cause movement of the rip rap lining of the channel.
26. A minimum freeboard of 2.4 metres must be provided between the design high water level and the top of the channel bank to prevent overtopping.

27. The stream diversion must have the following dimensions:

Bottom Width (m)	Depth of Channel (m)	Bank Slope (H:V)	Flow Area (m <sup>2</sup> )	Bed Slope (%)
4.0	2.5	3:1	0.43	7.6

28. To safely convey peak flows, the stream diversion must be designed according to the following hydraulic criteria:

Design Return Period (years)	Maximum Flow Capacity (m <sup>3</sup> /s)	Maximum Flow Velocity (m/s)
100	0.73	1.6

**Special Conditions**

29. The Department may require the set-up of water resources monitoring and/or dam safety monitoring stations through a Memorandum of Agreement or as per provisions of Section 31 of the Water Resources Act, SNL2002 Chapter W-4.01.

30. The dam will not be considered fully decommissioned and reclassified as a landform until the dam owner has been able to demonstrate the physical, chemical, ecological and social stability of the decommissioned structure.

31. Flow paths, either existing or created, along the remaining portions of the upstream and downstream embankments of the Whalesback tailings dam shall be monitored for erosion.

32. The spillway channel and culvert must be inspected regularly to identify any indications of structural failure, leaking, blockage, erosion or other problem so that immediate action can be taken to rectify the problem.

33. A water quality sample and elevation survey shall be collected at the Brinix No. 2 Adit.

34. The proponent shall develop and implement a monitoring plan with respect to flow, water level and water quality at key locations (Whalesback Pond, tailings pond, Collapse Pond, Brinix No. 2 Adit, discharge tunnel outlet, Deer Pond/Paul's Pond outlet stream) in order to determine any change to baseline values resulting from the rehabilitation of the Whalesback Mine site.

35. The permit holder shall determine whether the tailings from the Whalesback tailings management area are ARD/ML and what risk they pose to the environment.

**Stream Diversion Construction**

36. If fill is required in the construction of the spillway, any placed fill shall be compacted.

37. The spillway channel, including bottom and banks, shall be lined with a layer of rip rap with a D50 of 500 mm to a depth between 400-750 mm.

38. Where pumping is used to bypass flow, cofferdams must be installed both above and below areas of construction. The Permit Holder must provide pumps with sufficient capacity to prevent washout of cofferdams.

39. Cofferdams must be properly designed and constructed of suitable materials to prevent leakage and to resist loss of any material as a result of erosion. Cofferdams must be removed upon completion of their intended function. All material must be removed carefully to prevent disturbance of the water body and to prevent water quality degradation.
40. The new channel must be excavated in the dry beginning from the downstream end.
41. Flow must not be diverted into the new channel until all excavation, lining and bank stabilization work has been completed. Water from the reservoir must be diverted into the new channel gradually. The channel must be monitored visually for any indications of excessive erosion or other problems.
42. The channel, including any areas up to the high water mark, must be kept free of all excavated or unused construction materials at all times.
43. Fill material must be obtained from an approved quarry site or taken from the existing tailings management area. It must not be taken from beaches or streams, and must not be dredged from a body of water.
44. The transportation of labour and materials to the site must be along existing access roads.

**APPENDIX B**  
**Special Terms and Conditions for Permit**

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1. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall keep all systems and works in good condition and repair and in accordance with all laws, by-laws, directions, rules and regulations of any governmental authority. The Permit Holder or its agent(s), subcontractor(s), or consultant(s) shall immediately notify the Minister if any problem arises which may threaten the structural stability of the systems and works, endanger public safety and/or the environment or adversely affect others and/or any body of water either in or outside the said Project areas. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall be responsible for all damages suffered by the Minister and Government resulting from any defect in the systems and works, operational deficiencies/inadequacies, or structural failure.
2. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall operate the said Project and its systems and works in a manner which does not cause any water related and/or environmental problems, including but not limited to problems of erosion, deposition, flooding, and deterioration of water quality and groundwater depletion, in or outside the said Project areas. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the operational procedures by the Permit Holder or its agent(s), subcontractor(s), or consultant(s).
3. If the Permit Holder or its agent(s), subcontractor(s), or consultant(s) fails to perform, fulfil, or observe any of the terms and conditions, or provisions of this Permit, as determined by this Department, the Minister may, without notice, amend, modify, suspend or cancel this Permit in accordance with the *Water Resources Act*.
4. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) indemnify and hold the Minister and Government harmless against any and all liabilities, losses, claims, demands, damages or expenses including legal expenses of any nature whatsoever whether arising in tort, contract, statute, trust or otherwise resulting directly or indirectly from granting this Permit, systems and works in or outside the said Project areas, or any act or omission of the Permit Holder or its agent(s), subcontractor(s), or consultant(s) in or outside the said Project areas, or arising out of a breach or non-performance of any of the terms and conditions, or provisions of this Permit by the Permit Holder or its agent(s), subcontractor(s), or consultant(s).
5. This Permit is subject to all provisions of the *Water Resources Act* and any regulations in effect either at the date of this Permit or hereafter made pursuant thereto or any other relevant legislation enacted by the Province of Newfoundland and Labrador in the future.
6. This Permit shall be construed and interpreted in accordance with the laws of the Province of Newfoundland and Labrador.

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- cc: File Copy for Binder
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Water Resources Management Division  
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Appendix C - Completion Report

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Pursuant to the Water Resources Act, SNL 2002 cW-4.01, specifically Section(s) 48

Date: OCTOBER 07, 2020

File No: 534-01  
Permit No: ALT7752-2020

Permit Holder: Department of Natural Resources  
P.O. Box 8700  
50 Elizabeth Avenue  
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Re: Whalesback Mine Site Rehabilitation- Dept of Industry, Energy and Technology

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I (the Permit Holder named above or agent authorized to represent the Permit Holder) do hereby certify that the project described above was completed in accordance with the plans and specifications submitted to the Department of Environment, Climate Change and Municipalities and that the work was carried out in strict compliance with the terms and conditions of the Permit issued for this project.

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

This completion report must be completed and forwarded to the following address upon completion of the approved work.

Department of Environment, Climate Change and Municipalities  
Water Resources Management Division  
PO Box 8700  
St. John's NL A1B 4J6



