



# Newfoundland Labrador

GOVERNMENT OF  
NEWFOUNDLAND AND LABRADOR  
Department of Municipal Affairs and Environment

## CERTIFICATE OF APPROVAL

Pursuant to the Environmental Protection Act, SNL 2002 c E-14.2 Section 83

Issue Date: *July 5, 2017*

Approval No. AA17-075644

Expiration: *July 5, 2022*

File No. 738.032.1

Proponent: **Canada Fluorspar (NL) Inc.**  
P.O. Box 337  
St. Lawrence, NL, Canada  
A0E 2V0

Attention: **Frank Pitman - Infrastructure/Construction Manager**

Re: **St. Lawrence Fluorspar Mine**

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Approval is hereby given for mining operation near the Town of Lawrence as per the June 1, 2017 approval application. This operation includes: Grebes Nest Pit, Centre Pit, and Open Cut Pit; AGS Mill; stockpiling at South Waste Dump, overburden stockpiles, and organic soil stockpiles; associated project infrastructure; AGS East Tailings Management Facility; and transportation to a marine terminal.

This Certificate of Approval does not release the proponent from the obligation to obtain appropriate approvals from other concerned provincial, federal and municipal agencies. Nothing in this Certificate of Approval negates any regulatory requirement placed on the proponent. Where there is a conflict between conditions in this Certificate of Approval and a regulation, the condition in the regulation shall take precedence. Approval from the Department of Municipal Affairs and Environment shall be obtained prior to any significant change in the design, construction, installation, or operation of the St. Lawrence Fluorspar Mine, including any future expansion of the St. Lawrence Fluorspar Mine. This Certificate of Approval shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the proponent without obtaining prior approval from the Minister.

This Certificate of Approval is subject to the terms and conditions as contained therein, as may be revised from time to time by the Department. Failure to comply with any of the terms and conditions may render this Certificate of Approval null and void, may require the proponent to cease all activities associated with this Certificate of Approval, may place the proponent and its agent(s) in violation of the *Environmental Protection Act*, and will make the proponent responsible for taking such remedial measures as may be prescribed by the Department. The Department reserves the right to add, delete or modify conditions to correct errors in the Certificate of Approval or to address significant environmental or health concerns.

  
For **MINISTER**

## TERMS AND CONDITIONS FOR APPROVAL No. AA16-075644

July 5, 2017

### General

1. This Certificate of Approval is for mining operation near the Town of Lawrence as per the June 1, 2017 approval application. This operation includes: Grebes Nest Pit, Centre Pit, and Open Cut Pit; AGS Mill; stockpiling at South Waste Dump, overburden stockpiles, and organic soil stockpiles; associated project infrastructure; and AGS East Tailings Management Facility; and transportation to a marine terminal.
2. Any inquiries concerning this approval shall be directed to the St. John's office of the Pollution Prevention Division (telephone: (709) 729-2556; or facsimile: (709) 729-6969).
3. In this Certificate of Approval:
  - **accredited** means the formal recognition of the competence of a laboratory to carry out specific functions;
  - **acid mine drainage** means any flow or drainage of water having a pH of less than 5.5 from areas affected by mining activities;
  - **CFI** means Canada Fluorspar (NL) Inc.;
  - **Department** means the Department of Municipal Affairs and Environment or its successors;
  - **Director** means the Director of the Pollution Prevention Division of the Department;
  - **discharge criteria** means the maximum allowable levels for the parameters listed in Table 3;
  - **EDMS** means environmental data management system;
  - **grab sample** means a quantity of undiluted sample collected at any given time. In this approval it refers to waste oil and effluent;
  - **hazardous waste** means a product, substance or organism that is intended for disposal or recycling, including storage prior to disposal or recycling, and that:
    - (a) is listed in Schedule III of the *Export and Import of Hazardous Waste Regulations under the Canadian Environmental Protection Act, 1999*;
    - (b) is included in any of Classes 2 to 6, and 8 and 9 of the *Transportation of Dangerous Goods Regulations under the Transportation of Dangerous Goods Act, 1992*; or
    - (c) exhibits a hazard classification of a gas, a flammable liquid, an oxidizer, or a substance that is dangerously reactive, toxic, infectious, corrosive or environmentally hazardous;

- **licensed** means has a Certificate of Approval issued by the Minister to conduct an activity;
- **malfunction** means any sudden, infrequent and not reasonably preventable failure of air pollution control equipment, wastewater treatment equipment, process equipment, or a process to operate in a normal or usual manner. Failures caused in part by poor maintenance or careless operation are not malfunctions;
- **Minister** means the Minister of the Department;
- **NO<sub>x</sub>** means oxides of nitrogen;
- **NO<sub>2</sub>** means nitrogen dioxide;
- **Plan** means the specific plan as identified in the section of this Approval within which it is used. For example, in the *Waste Management Plan* section it refers to the Waste Management Plan;
- **PM<sub>2.5</sub>** means particulate matter with a diameter of 2.5 µm or less;
- **QA/QC** means Quality Assurance/Quality Control;
- **register(ed)**, in the context of storage tanks, means that information regarding the storage tank system has been submitted to a Service NL office and a registration number has been assigned to the storage tank system.
- **regulated substance** means a substance subject to discharge limit(s) under the *Environmental Control Water and Sewage Regulations, 2003*;
- **spill or spillage** means a loss of gasoline or associated product in excess of 70 litres from a storage tank system, pipeline, tank vessel or vehicle, or an uncontrolled release of any volume of a regulated substance onto or into soil or a body of water;
- **storage tank system** means a tank and all vent, fill and withdrawal piping associated with it installed in a fixed location and includes a temporary arrangement;
- **TDS** means total dissolved solids;
- **TPH** means total petroleum hydrocarbons, as measured by the Atlantic PIRI method;
- **TPM** means total particulate matter with diameters less than 100µm;
- **TSS** means total suspended solids;
- **used lubricating oil** means lubricating oil that as a result of its use, storage or handling, is altered so that it is no longer suitable for its intended purpose but is suitable for refining or other permitted uses;
- **used oil** means a used lubricating oil or waste oil; and

- **waste oil** means an oil that as a result of contamination by any means or by its use, is altered so that it is no longer suitable for its intended purpose.
4. All necessary measures shall be taken to ensure compliance with all applicable acts, regulations, policies and guidelines, including the following, or their successors:
- *Environmental Protection Act;*
  - *Water Resources Act;*
  - *Air Pollution Control Regulations, 2004;*
  - *Environmental Control Water and Sewage Regulations, 2003;*
  - *Halocarbon Regulations;*
  - *Storage and Handling of Gasoline and Associated Products Regulations, 2003;*
  - *Used Oil Control Regulations;*
  - *Heating Oil Storage Tank System Regulations, 2003;*
  - *Storage of PCB Waste Regulations, 2003;*
  - *Ambient Air Monitoring Guidance Document;*
  - *Sampling of Water and Wastewater - Industrial Effluent Applications Guidance Document;*
  - *Accredited Laboratory Policy;*
  - *Precipitation Drainage of Dyke Areas Guidance Document;* and
  - *Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Above Ground Storage Tanks.*

This Approval provides terms and conditions to satisfy various requirements of the above listed acts, regulations, Departmental policies and guidelines. If it appears that any of the pertinent requirements of these acts, regulations, policies and guidelines are not being met, then a further review of the works shall be conducted, and suitable pollution control measures may be required by the Minister.

5. All reasonable efforts shall be taken to minimize the impact of the operation on the environment. Such efforts include minimizing the area disturbed by the operation, minimizing air or water pollution, finding alternative uses, acceptable to the Director, for waste or rejected materials, removing equipment or structures when they no longer have further use, and considering the requirement for the eventual rehabilitation of disturbed areas when planning the development of any area on the facility property.
6. CFI shall provide to the Department, within a reasonable time, any information, records, reports or access to data requested or specified by the Department.
7. CFI shall keep all records or other documents required by this Approval at the St. Lawrence fluorspar mine for a period of not less than three (3) years, beginning the day they were made. These records shall be made available for review by officials of the Department or Service NL when requested.
8. Should CFI wish to deviate in any way from the terms and conditions of this Certificate of Approval, a written request detailing the proposed deviation shall be made to the Minister. CFI shall comply with the most current terms and conditions until the Minister has authorized otherwise. In the case of meeting a deadline requirement, the request shall be made at least 60 days ahead of the applicable date as specified in this Approval or elsewhere by the Department.

## Environmental Protection Plan

9. All construction activities shall be subjected to the requirements of the Environmental Protection Plan (*January 2016 or as revised*) for all phases of the construction activities. All proposed revisions to the plan shall be submitted to the Director for review.

### Construction

10. Any work that must be performed in a body of water below the high water mark shall be carried out during a period of low water levels, unless otherwise permitted in writing by the Department.
11. All construction operations shall be carried out in a manner that minimizes damage to land, vegetation, and watercourses, and which prevents pollution of bodies of water in excess of applicable regulatory limits.
12. The use of heavy equipment shall be confined to dry stable areas and shall not be carried out in streams or bodies of water, unless otherwise permitted in writing by the Department.
13. All vehicles and equipment shall be in good repair, and shall be free of leaks of oil or other harmful substances that could impair water quality.
14. During the construction of concrete components, formwork shall be properly constructed to prevent any fresh concrete from entering a body of water. Dumping of concrete or washing of tools and equipment in any body of water is prohibited.
15. Waste hardened concrete shall not be disposed as unsuitable material at the project site. Waste hardened concrete shall be put to beneficial use on site as fill material, or it shall be sent to an approved waste disposal site.
16. All areas affected by this project shall 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 necessary in the opinion of this Department.
17. Prior written permission is required from the Department for all work that takes place in a body of water, including but not limited to bridges, culverts, fording, stream modifications, infilling and dredging.

### Waste Management

18. All waste generated at the facility is subject to compliance with the *Environmental Protection Act*. All non-industrial waste shall be placed in closed containers and, on at least a weekly basis, removed from the site. If required, industrial waste shall be disposed of by a licensed operator. These wastes shall be disposed of at an authorized waste disposal site with the permission of the owner/operator of the site.
19. CFI shall ensure that all volatile chemical and solvent wastes, if they cannot be reused, are placed in suitable covered containers for disposal in a manner acceptable to the Department. Disposal of liquid wastes at waste disposal sites in the province is not permitted.

20. Disposal of hazardous waste in a municipal or regional waste disposal site in this Province is prohibited. Transporters of hazardous waste shall have an approval issued by the Minister. Those generating hazardous waste shall have a waste generators number issued by the Director and shall also complete the required information outlined in the Waste Manifest Form.

### **Waste Management Plan**

21. CFI shall continue to implement the Waste Management Plan (*March 2016*) for their St. Lawrence fluorspar mine. Every year the Plan shall be reviewed and revised as necessary, accounting for expanding or alteration of activities. All proposed revisions shall be submitted to the Director for review. The Department will acknowledge receipt of the Plan and/or revisions, and shall provide any review comments within a reasonable time frame.

### **Acid Generating Waste Rock**

22. Only non-acid generating waste rock shall be reused on the surface. If waste rock is identified as potentially acid generating or metal leaching, an appropriate waste rock management program shall be developed to handle, store, and appropriately dispose of the material.
23. This identification shall be in accordance with MEND Report 1.20.1, *Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials*.

### **Open Burning**

24. Materials listed in Table 1 shall not be burned in open fires.

<b>Table 1 - Material Not Approved for Open Burning</b>	
tires	manure
plastics	rubber
treated lumber	tar paper
asphalt and asphalt products	railway ties
drywall	paint and paint products
demolition waste	fuel and lubricant containers
hazardous waste	used oil
biomedical waste	animal cadavers
domestic waste	hazardous substances
trash, garbage, or other waste from commercial, industrial or municipal operations	materials disposed of as part of the removal or decontamination of equipment, buildings or other structures

25. Materials not listed in Table 1 may be burned on site only with the approval of the Department.

## Noise

26. Efforts shall be made to minimize and control noise resulting from the St. Lawrence fluorspar mine's construction activities. All vehicles hauling materials within the facility shall have exhaust and muffling devices in good working order.

## Dust Suppression

27. CFI shall control dusting resulting from construction and operational activities at the site. Use of dust suppressants other than water or calcium chloride shall require approval of the Director. CFI are encouraged to use best management practices when applying calcium chloride or any other approved dust suppressant.

## Spill Prevention and Containment

28. Areas in which chemicals are used or stored shall have impermeable floors and dykes or curbs and shall not have a floor drain system, nor shall it discharge to the environment. Areas inside the dykes or curbs shall have an effective secondary containment capacity of at least **110%** of the chemical storage tank capacity, in the case of a single storage container. If there is more than one storage container, the dyked area shall be able to retain no less than **110% of the capacity of the largest container or 100 % of the capacity of the largest container plus 10% of the aggregate capacity of all additional containers, whichever is greater.** These dyked areas shall be kept clear of material that may compromise the capacity of the dyke system. Once a year, the dykes shall be visually inspected for their liquid containing integrity, and repairs shall be made when required. Once every ten years, the dykes shall be inspected, by a means other than visual inspection, for their liquid containing integrity, and repairs shall be made when required.
29. All on site storage of petroleum shall comply with the *Storage and Handling of Gasoline and Associated Products Regulations, 2003*, or its successor. Storage tank systems shall be registered with Service NL. All aboveground storage tanks shall be clearly and visibly labelled with their GAP registration numbers.
30. Where applicable, all tanks and fuel delivery systems shall be inspected to appropriate American Petroleum Institute or Underwriters' Laboratories of Canada standards, or any other standards acceptable to this Department. The required frequency of inspections may be changed at the discretion of the Director.
31. Refuelling and maintenance of vehicles and equipment shall, whenever possible, be undertaken on a prepared impermeable surface with an oil containment or collection system. When this is not possible, due care shall be taken to prevent spillage on the ground and to the surrounding environment, particularly streams and other water bodies. The Contingency Plan for fuel storage shall detail the specific response actions in the event of a spill from refuelling or maintenance activities.

## Contingency Plan

32. CFI shall continue to implement the Contingency Plan (*March 2016*) for their St. Lawrence fluorspar mine. This Plan describes the actions to be taken in the event of a spill of a toxic or hazardous material. Copies of the Plan shall be placed in convenient areas throughout the facility so that employees can easily refer to it when needed. CFI shall ensure that all employees are aware of the Plan and understand the procedures and the reporting protocol to be followed in the event of an emergency.

An annual response exercise is recommended for response personnel. Every year, as a minimum, the Plan shall be reviewed and revised as necessary. Any proposed significant revisions shall be submitted to the Director for review. Changes which are not considered significant include minor variations in equipment or personnel characteristics which do not affect implementation of the Plan.

33. Every time CFI implements the Contingency Plan, information shall be recorded for future reference. This will assist in reviewing and updating the Plan. The record is to consist of all incidents with environmental implications, and include such details as: date; time of day; type of incident (i.e. liquid spill, gas leak, granular chemical spill, equipment malfunction, etc.); actions taken; problems encountered; and other relevant information that would aid in later review of the Plan performance. Each incident report shall be submitted to the Director as per the **Reporting** section.

### **Rehabilitation and Closure Plan**

34. CFI shall satisfy all the rehabilitation and closure planning and financial assurance requirements of the Mining Act for the St. Lawrence fluorspar mine.
35. The Rehabilitation and Closure Plan (**February 2016 or as amended**) shall be reviewed annually by CFI and revised as necessary. All proposed revisions to the Plan shall be submitted to the Director.

### **Used Oil**

36. Used oil shall be retained in an approved tank or closed container, and disposed of by a company licensed for handling and disposal of used oil products.

### **Fuel Usage**

37. CFI shall maintain, and submit to the Director on a monthly basis as per the **Reporting** section, the monthly volume of No. 2 fuel oil used by vehicles at the site and marine terminal.

### **Effluent Monitoring and Discharge**

38. CFI shall perform an Effluent Monitoring Program as per **Table 2**. Analytical results shall be submitted as per the **Reporting** section.

<b>Table 2 - Effluent Monitoring Program</b>				
<b>Reference</b>	<b>EDMS Location Code</b>	<b>Location</b>	<b>Parameters</b>	<b>Frequency</b>
WQ STA 22	00416	Mine Site Sediment Pond #1 Discharge	EDC (except for TPH and Ra226)	Weekly (at least 24 hours apart)
			TPH and Ra226	Monthly (at least 15 days apart)
WQ STA 23	00417	Polishing Pond Discharge (Construction Phase Location)	EDC (except for TPH and Ra226)	Weekly (at least 24 hours apart)
			TPH and Ra226	Monthly (at least 15 days apart)

WQ STA 24	00418	Mill Site Event Pond Discharge	EDC (except for TPH and Ra226)	Weekly (at least 24 hours apart)
			TPH and Ra226	Monthly (at least 15 days apart)
WQ STA 25	00634	Mine Site Sediment Pond #2 Discharge	EDC (except for TPH and Ra226)	Weekly (at least 24 hours apart)
			TPH and Ra226	Monthly (at least 15 days apart)

39. Refer to Table 3 for the Effluent Discharge Criteria (EDC).

<b>Table 3: Effluent Discharge Criteria (EDC)</b>	
<b>Parameter</b>	<b>Maximum Allowable or Range</b> (all units are mg/L unless otherwise noted)
Total Dissolved Solids (TDS)	1000
Total Suspended Solids (TSS)	30
Total Petroleum Hydrocarbon (TPH)	15
Arsenic	0.5
Barium	5.0
Boron	5.0
Cadmium	0.05
Chromium	1.0
Copper	0.3
Iron	10
Lead	0.2
Nickel	0.5
Nitrates	10
Ammonia	2.0
Selenium	0.01
Silver	0.05
Zinc	0.5
pH	5.5 – 9.0 pH units
Radium 226	0.37 Bq/L

40. CFI may reduce the frequency of testing for a parameter that is set out in the EDC with the exception of pH, TSS, and Radium 226 to not less than once in each calendar quarter if that parameter's monthly mean concentration in the effluent is less than 10 percent of the maximum authorized monthly mean concentration for the

12 months immediately preceding the most recent test. CFI shall notify the Director in writing, at least 30 days in advance of a reduction in the frequency of testing.

41. CFI may reduce the frequency of testing for Radium 226 to not less than once in each calendar quarter if that substance's concentration in the effluent is less than 0.037Bq/L in 10 consecutive tests. CFI shall notify the Director in writing, at least 30 days in advance of a reduction in the frequency of testing.
42. CFI shall increase the frequency of testing to the originally prescribed frequency for a parameter that is set out in the EDC with the exception of pH and TSS if the parameter's monthly mean concentration is equal to or greater than 10 percent of the maximum authorized monthly mean concentration.

### Water Chemistry Analysis

43. Four times per calendar year and not less than thirty (30) days apart, CFI shall perform Water Quality Analysis as per **Table 4**. Refer to **Table 4** for the locations and required parameters. Analytical results shall be submitted as per the **Reporting** section.

<b>Table 4 - Water Chemistry Analysis Program</b>			
<b>Reference</b>	<b>EDMS Location Code</b>	<b>Location</b>	<b>Parameters</b>
WQ STA 1	00399	Upper Island Pond	<b>General Parameters:</b> temperature, dissolved oxygen (DO), nitrate + nitrite, nitrate, nitrite, pH, TSS, colour, sodium, potassium, calcium, sulphide, magnesium, ammonia, alkalinity, sulphate, chloride, turbidity, reactive silica, orthophosphate, phosphorous, DOC, conductance, TDS (calculated), phenols, carbonate (CaCO <sub>3</sub> ), hardness (CaCO <sub>3</sub> ), bicarbonate (CaCO <sub>3</sub> )  <b>Metals Scan:</b> aluminium, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, mercury, nickel, selenium, silver, strontium, thallium, tin,
WQ STA 2	00400	Outlet of Grebes Nest Pond	
WQ STA 3	00401	Outlet of John Fitzpatrick Pond	
WQ STA 6	00402	Downstream of John Fitzpatrick Pond	
WQ STA 7	00403	Downstream of Upper Island Pond	
WQ STA 9	00404	Downstream of Unnamed Pond	
WS-10	00405	Salt Cove Brook – Farfield	
WQ STA 11	00406	Downstream of proposed South Dump and Central North Pit	
WQ STA 13	00407	Unnamed Stream Downstream of Open Cut Pit	
WQ STA 14	00408	Unnamed Stream Downstream of the Overburden Dump	
WQ STA 15	00409	Unnamed Pond Located Downstream and Northeast of the Tailings Impoundment	
WQ STA 16	00410	Long Pond	
WQ STA 17	00411	Unnamed Pond Located Downstream and Southeast of the Tailings Impoundment	
WQ STA 18	00412	Unnamed Stream Draining the Unnamed Pond located Southeast of the Tailings Impoundment	

<b>Table 4 - Water Chemistry Analysis Program</b>			
<b>Reference</b>	<b>EDMS Location Code</b>	<b>Location</b>	<b>Parameters</b>
WQ STA 19	00413	Unnamed Stream Located Downstream of the Polishing Pond	titanium, uranium, vanadium, zinc
WQ STA 20	00414	Unnamed Stream located Downstream of the Mill Site	
WQ STA 21	00415	Unnamed Stream located at Proposed Access Road Downstream of the TMF	
WQ STA 22	00416	Mine Site Sediment Pond #1 Discharge	
WQ STA 23	00417	Polishing Pond Discharge (Construction Phase Location)	
WQ STA 24	00418	Mill Site Event Pond Discharge	
WQ STA 25	00634	Mine Site Sediment Pond #2 Discharge	

### **Ambient Air**

44. CFI shall operate an ambient air monitoring program as per the conditions in this Approval and its amendments for the St. Lawrence fluorspar mine's operation.
45. Parameters to be monitored are outlined in Table 5.

<b>Table 5 - Ambient Air Monitoring Program</b>	
<b>Location</b>	<b>Parameters</b>
Director Drive (near the Warehouse)	PM <sub>2.5</sub> , TPM, NO <sub>x</sub>

46. Ambient air monitoring shall be done in accordance with the *Ambient Air Monitoring Guidance Document (GD-PPD-065)*, or its successors.
47. Information regarding calibrations, site visits and maintenance for all continuous ambient air monitors shall be recorded into the DR DAS electronic logbook.

### **Analysis and QA/QC**

48. Unless otherwise stated herein, all solids and liquids analysis performed pursuant to this Approval shall be done by either a contracted commercial laboratory or an in-house laboratory. Contracted commercial laboratories shall have a recognized form of accreditation. In-house laboratories have the option of either obtaining accreditation or submitting to an annual inspection by a representative of the Department, for which CFI shall be billed for each laboratory inspection in accordance with Schedule 1 of the *Accredited Laboratory Policy (PD:PP2001-01.02)*. Recommendations of the Director stemming from the annual inspections shall be addressed within 6 months, otherwise further analytical results shall not be accepted by the Director.
49. CFI shall bear all expenses incurred in carrying out the environmental monitoring

and analysis required under conditions of this Approval.

### **Monitoring Alteration**

50. The Director has the authority to alter monitoring programs or require additional testing at any time when:
- pollutants might be released to the surrounding environment without being detected;
  - an adverse environmental effect may occur; or
  - it is no longer necessary to maintain the current frequency of sampling and/or the monitoring of parameters.
51. CFI may, at any time, request that monitoring program or requirements of this Approval be altered by:
- requesting the change in writing to the Director; and
  - providing sufficient justification, as determined by the Director.

The requirements of this Approval shall remain in effect until altered, in writing, by the Director.

### **Reporting**

52. Monthly reports containing the environmental compliance monitoring and sampling information required in this Approval shall be received by the Director in digital format within 30 calendar days of the reporting month. All related laboratory reports shall be submitted with the monthly report in XML format and Adobe Portable Document Format (PDF). Digital report submissions shall be uploaded through the EDMS web portal. The Pollution Prevention Division shall provide details of the portal web address and submission requirements.
53. All incidents of:
- *Contingency Plan* implementation; or
  - non-conformance of any condition within this approval; or
  - spillage or leakage of a regulated substance; or
  - whenever discharge criteria is, or is suspected to be, exceeded; or
  - verbal/written complaints of an environmental nature from the public received by CFI related to the St. Lawrence Fluorspar Mine, whether or not they are received anonymously;

shall be immediately reported, within one working day, to this Department by phoning (709) 729-2556.

A written report including a detailed description of the incident, summary of

contributing factors, and an Action Plan to prevent future incidents of a similar nature, shall be submitted to the Director. The Action Plan shall include a description of actions already taken and future actions to be implemented, and shall be submitted within thirty days of the date of the initial incident. The address for written report submission is:

Director, Pollution Prevention Division  
Department of Environment and Conservation  
P.O. Box 8700  
St, John's, NL  
A1B 4J6

54. Any spillage or leakage of gasoline or associated product shall be reported immediately through the Canadian Coast Guard at 1-(709)-772-2083.

### **Expiration**

55. This Certificate of Approval expires *July 5, 2022*.
56. Should the proponent wish to continue to construct the St. Lawrence fluorspar mine beyond this expiry date, a written request shall be submitted to the Director for the renewal of this approval. Such request shall be made prior to *January 5, 2022*.

## APPENDIX A

### Rehabilitation and Closure Plan Guideline

This appendix is intended to provide guidance for the development of a Rehabilitation and Closure Plan Guidelines and to identify areas that are of particular concern or interest. The points presented are not set and are open to interpretation and discussion.

The Plan is intended to present the scope of activities that CFI shall undertake at the time of final closure and/or abandonment of the St. Lawrence fluorspar mine properties. Where it is useful and practical to do so the company is encouraged to begin undertaking some of the activities outlined in the Plan prior to final closure and abandonment. The objectives of the restoration work to be undertaken can be summarized as follows:

- to ensure that abandoned mine facilities do not endanger public health or safety;
- to prevent progressive degradation and to enhance the natural recovery of areas affected by mining activities;
- to ensure that mine facilities, wastes and tailings are abandoned so that the requirement for long term maintenance and monitoring is minimized;
- to mitigate, and if possible prevent, the continued loadings of contaminants and wastes to the environment. The primary objective shall be to prevent the release of contaminants into the environment. Where prevention is not practical due to technical or economic limitations then activities intended to mitigate the consequence of such a release of contaminants shall become the objective of restoration work;
- to mitigate, and if possible prevent, the formation of acid mine drainage. The primary objective shall be to prevent the formation of acid mine drainage. Where prevention is not practical due to technical or economic limitations, then activities intended to mitigate the consequences of the formation of acid mine drainage shall become the objective of restoration work; and
- to return affected areas to a state compatible with the original undisturbed condition, giving due consideration to practical factors including economics, aesthetics, future productivity and future users.

In particular the following areas should be addressed in the Plan:

#### Mill and Service Buildings

- The mill processing equipment shall be washed and cleaned of all ore residues. This activity shall remove all concentrate and chemical bearing residues from the milling circuit with the washed residues being treated through the effluent treatment plant and ultimately discharged into the tailings impoundment area.
- The equipment and internal fittings contained in both the mill and service buildings shall be dismantled, removed and sold for their salvage value. Items with no salvage value shall be disposed of according to section 30 of the Environmental Protection Act.
- All buildings are to be dismantled and removed from the site. All concrete walls, footings, foundations or floor slabs of the mill and service buildings should be

demolished to ground level. All openings or indentations below ground level are to be backfilled to ground level. Fill material shall be non-contaminated soil or concrete from demolition. All other outbuildings and pipe racks in the immediate vicinity of the mill and service buildings, and elsewhere on the property should be removed using the same philosophy.

- All buried pipelines and electrical cables may be left in place in the ground. Where these pipes or cables come to surface they should be cut off below ground level and buried with local fill. If oil filled power cables are to be left in place in the ground they shall be purged. Pipelines are to be purged of all residual materials and capped before backfilling. CFI shall provide the Department with drawings showing the location of all buried pipes and cables which are to remain after the mine's closure.

### **Fuel Storage Facilities**

- All of the fuel storage facilities, including fuel handling equipment and pipelines, at the mine site shall be emptied and removed from the site according to the Storage and Handling of Gasoline and Associated Products Regulations, 2003.

### **Tailings**

- The tailings impoundment areas should be left in a condition, acceptable to this Department, to prevent the generation of acid mine drainage and dust. Runoff from impoundment areas is to be directed to an outflow where drainage from the area can be monitored.

### **Till Borrow Areas/Quarries**

- The till borrow areas/quarries used by CFI should be graded to ensure natural runoff patterns and then revegetated to mitigate future erosion. Till borrow areas/quarries shall be closed out in accordance with the permits already issued by this Department and the Department of Natural Resources.

cc: Mr. Neil Codner  
Environment and Climate Change Canada  
6 Bruce Street  
Mount Pearl, NL  
A1N 4T3

Mr. Robert Locke  
Manager of Operations and Environmental Protection  
Service NL  
5 Mews Place  
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Mr. Alex Smith, P. Eng. – Director  
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Department of Natural Resources  
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Town Manager  
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March 19, 2019

Ms. Shelly Adams  
Environment Permitting and Compliance Lead  
Canada Fluorspar (NL) Inc.  
P.o. Box 337  
1 Clarke's Pond Road  
St. Lawrence, NL  
A0E 2V0

Dear Ms. Adams:

**RE: Approval to use Alpine Ice-Melt**

Further to your email of February 28, 2019, CFI's requested use of the antifreeze agent Alpine Ice-Melt (potassium acetate) to help prevent crushed ore from freezing together has been approved until May 31, 2019. The Department expects that CFI will enclose the stockpile with an insulated dome structure for the next winter.

In the near future, we will be reviewing CFI's existing groundwater monitoring program with a view to incorporating components of this program in an amended Certificate of Approval.

If you have any questions or comments regarding this matter, please contact Stephen Dyke at (709) 729-2738 or myself.

Sincerely,



**Dexter Pittman, P.Eng.**  
Director (Acting)

May 5, 2020

Shelley Adams  
 Environmental Permitting and Compliance Lead  
 Canada Fluorspar (NL) Inc.  
 P.O. Box 337, 1 Clarke's Pond Rd  
 St. Lawrence, NL A0E 2V0

**RE: Blue Beach Marine Terminal Construction Approval**

Ms. Adams,

Regarding CFI's recent application for the Blue Beach Marine Terminal construction approval, the Department hereby amends the current operation **Certificate of Approval AA17-075644** to include the onshore construction aspects of the terminal and the access road.

Table 4 of AA17-075644 is expanded to include the sampling locations for these new construction activities as well as the groundwater sampling locations listed in the April 10, 2019 amendment letter. The complete revised table is shown below. Furthermore, CFI shall amend the mine site's existing EPP and EEMP to include this construction project. Please note that Approval AA17-075644 expires **July 5, 2022**.

Table 4 – Water Chemistry Analysis Program			
Reference	EDMS Location Code	Location	Parameters
WS-2	00741	Clarke's Pond Outlet, Upstream of Port Access Road	<b>General Parameters:</b> temperature, dissolved oxygen (DO), nitrate + nitrite, nitrate, nitrite, pH, TSS, colour, sodium, potassium, calcium, sulphide, magnesium, ammonia, alkalinity, sulphate, chloride, turbidity, reactive silica, orthophosphate, phosphorous, DOC, conductance, TDS (calculated), phenols, carbonate (CaCO <sub>3</sub> ),
WS-5	00740	Shoal Cove Pond Outlet, Downstream of Port Access Road	
WS-10	00405	Salt Cove Brook – Farfield	
WQ STA 1	00399	Upper Island Pond	
WQ STA 2	00400	Outlet of Grebes Nest Pond	
WQ STA 3	00401	Outlet of John Fitzpatrick Pond	
WQ STA 6	00402	Downstream of John Fitzpatrick Pond	
WQ STA 7	00403	Downstream of Upper Island Pond	
WQ STA 9	00404	Downstream of Unnamed Pond	
WQ STA 11	00406	Downstream of proposed South Dump and Central North Pit	
WQ STA 13	00407	Unnamed Stream Downstream of Open Cut Pit	
WQ STA 14	00408	Unnamed Stream Downstream of the Overburden Dump	

**Table 4 – Water Chemistry Analysis Program**

Reference	EDMS Location Code	Location	Parameters
WQ STA 15	00409	Unnamed Pond Located Downstream and Northeast of the Tailings Impoundment	hardness (CaCO <sub>3</sub> ), bicarbonate (CaCO <sub>3</sub> )  <b>Metals Scan:</b>  aluminium, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, mercury, nickel, selenium, silver, strontium, thallium, tin, titanium, uranium, vanadium, zinc
WQ STA 16	00410	Long Pond	
WQ STA 17	00411	Unnamed Pond Located Downstream and Southeast of the Tailings Impoundment	
WQ STA 18	00412	Unnamed Stream Draining the Unnamed Pond located Southeast of the Tailings Impoundment	
WQ STA 19	00413	Unnamed Stream Located Downstream of the Polishing Pond	
WQ STA 20	00414	Unnamed Stream located Downstream of the Mill Site	
WQ STA 21	00415	Unnamed Stream located at Proposed Access Road Downstream of the TMF	
WQ STA 22	00416	Mine Site Sediment Pond Discharge	
WQ STA 23	00418	Polishing Pond Discharge (Construction Phase Location)	
WQ STA 24	00419	Mill Site Event Pond Discharge	
WQ STA 25	00634	Mine Site Sediment Pond #2 Discharge	
WQ STA 26	00737	Hay Pook Pond Outlet #1, Downstream of Port Access Road	
WQ STA 27	00738	Hay Pook Pond Outlet #2, Downstream of Port Access Road	
WQ STA 28	00739	Clarke's Pond Outlet, Downstream of Port Access Road	
<b>Ground Water Monitoring (TSS is not required for groundwater wells)</b>			
MW14-04	00701	Northwest of Center Pit	
MW15-01	00702	Northeast of the Polishing Pond	
MW16-05	00703	Southwest of Grebes Nest Pit	
MW16-07	00704	South of the Mill	
MW17-08	00705	Southeast of the Tailings Pond	
MW17-09	00706	Northeast of the Tailings Pond	

If you have any questions or comments regarding this matter, please contact Stephen Dyke at [sdylke@gov.nl.ca](mailto:sdylke@gov.nl.ca) or myself.

Sincerely,



**DEXTER PITTMAN**  
 Manager of Environmental Compliance  
 Pollution Prevention Division