



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
Department of Environment and Climate Change

CERTIFICATE OF APPROVAL

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

Issue Date: **March 29, 2022**

Approval No. AA22-035666

Expiration: **March 29, 2027**

File No. 717.038

Proponent: **Cenovus Energy Inc.**
351 Water Street,
St. John's NL
A1C 1C2


Attention: **Mr. Sandy Nairn, White Rose Vice President**

Re: **Argentia West White Rose Project Graving Dock and CGS**

Approval is hereby given for the construction and operation of the West White Rose Project (WWRP) Graving Dock and associated facilities, and disposal of material from near shore dredging and bund wall removal into The Pond at Argentia, NL.

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 requirement of the regulation shall take precedence. Approval from the Department of Environment and Climate Change shall be obtained prior to any significant change in the design, construction, installation, or operation of the facility, including any future expansion of the works. 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. AA22-035666

March 29, 2022

General

1. This Certificate of Approval is for the construction and operation of the West White Rose Project (WWRP) Graving Dock and associated facilities, and disposal of material from near shore dredging and bund wall removal into The Pond at Argenta, NL.
2. This Approval is a renewal of the original approval based on the March 25, 2021 application which focuses on the disposal of material from near shore dredging and bund wall removal for the eventual CGS tow out.
3. This approval does not authorize ocean dredging. Cenovus is advised to contact the Water Resources Management Division of the Department, Environment and Climate Change Canada, and Fisheries and Oceans Canada.
4. In this Certificate of Approval:
 - **Atlantic PIRI** means Atlantic Partnership in Risk-Based Corrective Action Implementation;
 - **BTEX** means benzene, toluene, ethylbenzene, and xylenes;
 - **CCME** means Canadian Council of Ministers of the Environment;
 - **Cenovus** means Cenovus Energy Inc.;
 - **CGS** means Concrete Gravity Structure;
 - **Department** means the Department of Environment and Climate Change or its successors;
 - **DGSNL** means Digital Government and Service NL and its successors;
 - **effluent discharge criteria (EDC)** means the maximum allowable levels for the parameters listed in Table 5;
 - **ESL** means ecological screening level;
 - **GAP** means *Storage and Handling of Gasoline and Associated Products Regulations, 2003*;
 - **grab sample** means a quantity of undiluted sample collected at any given time. In this Approval it refers to used 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;

- **leak or leakage** means any discharge of gasoline or associated product from a storage tank system, pipeline, tank vessel, tank car or tank vehicle, other than through the usual function for which the storage tank system, pipeline, tank vessel, tank car or tank vehicle was designed;
- **Lease Area** means the area of land leased by Cenovus from the Argentina Management Authority Limited for the White Rose Extension Project;
- **licenced** 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;
- **On-Scene Commander** means the person designated to co-ordinate and direct pollution control efforts at the scene of an existing spill of a toxic or hazardous material;
- **PAHs** means polycyclic aromatic hydrocarbons;
- **PCBs** means polychlorinated biphenyls;
- **Project** means the West White Rose Project (WWRP) in Argentina;
- **register(ed)**, in the context of storage tanks, means that information regarding the storage tank system has been submitted to a DGSNL office and a registration number has been assigned to the storage tank system. In the context of environmental site assessment and impacted site management work, registered means submitted to and approved by the Department in accordance with departmental policy and guidelines;
- **QA/QC** means Quality Assurance/Quality Control;
- **RBSL** means risk-based screening level;
- **regulated substance** means a substance subject to discharge limit(s) under the *Environmental Control Water and Sewage Regulations, 2003*;
- **Site Professional** means an individual who is registered with the Department to oversee environmental site assessment, remediation and impacted site management work in this province;

- **SSM** means surface settlement monuments;
- **SOP** means Standard Operating Procedure;
- **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;
- **TSS** means total suspended solid(s);
- **The Pond** means the water body west of the Graving Dock that has been about 50% filled with material from the Graving Dock excavation and will be further filled, but not completely, with material from near shore dredging and bund wall removal as specified in the March 25, 2021 application which also outlines the installation of Weir Boxes at The Pond to control effluent TSS;
- **used glycol** means glycol that, through use, storage or handling, can no longer be used for its original purpose;
- **used oil** means oil that, through use, storage or handling, can no longer be used for its original purpose;
- **VOCs** means volatile organic compounds; and
- **WWRP** means the West White Rose Project.

5. All necessary measures shall be taken to ensure compliance with all applicable acts, regulations, policies, guidance documents and guidelines, including the following, or their successors:

- *Environmental Protection Act;*
- *Water Resources Act;*
- *Air Pollution Control Regulations, 2022;*
- *Environmental Control Water and Sewage Regulations, 2003;*
- *Halocarbon Regulations;*
- *Storage and Handling of Gasoline and Associated Products Regulations, 2003;*
- *Used Oil and Used Glycol 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;*

- *Effluent Schedule Determination Policy for Industries*
- *Compliance Determination Guidance Document;*
- *Stack Emission Testing Guidance Document;*
- *Plume Dispersion Modelling Guidance Document;*
- *Precipitation Drainage of Dyke Areas Guidance Document;*
- *Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Above Ground Storage Tank; and*
- *Guidance Document for the Management of Impacted Sites.*

This Approval provides terms and conditions to satisfy various requirements of the above listed acts, regulations, Departmental policies, guidance documents and guidelines. If it appears that all 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.

6. 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, water or soil pollution;
 - finding alternative uses, acceptable to the Department, 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.
7. Cenovus shall provide to the Department, within a reasonable time, any information, records, reports or access to data requested or specified by the Department.
8. Cenovus shall keep all records or other documents required by this Approval at the St. John's and/or Argentia site office locations 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 DGSNL when requested.
9. Should Cenovus 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. Cenovus 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.

Activities Affecting Bodies of Water

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 the discharge of substances, to 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, crushed for reuse 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 within 15 metres of a body of water, including but not limited to bridges, culverts, fording, stream modifications, infilling and dredging.

Concrete Batch Plant

18. The concrete batch plant(s) and associated equipment shall be equipped with dust and emission control systems that are acceptable to the Department.
19. Batch plants shall not be operated without the dust control system on the silos being fully functional (i.e. no visible dust emissions from the baghouse).
20. The transport of granular materials shall be conducted in a manner to minimize the generation of airborne particulate.
21. Aggregate stockpiles shall be maintained to prevent generation of airborne particulate. The location of stockpiles shall take into consideration the prevailing wind directions and locations of sensitive receptors such that environmental impacts are minimized.
22. Concrete manufacturing shall take place at least 100 metres from a body of water.
23. Washing of tools and equipment in any body of water is strictly prohibited. Hand tools and concrete truck chutes may be cleaned at the delivery location. Cleaning of hand tools or concrete truck chutes shall not be conducted within the buffer zone of water bodies or other sensitive areas.
24. Uncured waste concrete shall be discharged in an impermeable berm containment area adjacent to the concrete batch plants.
25. Wash water from the cleaning of mixers, mixer trucks, and concrete delivery systems shall be directed to a dedicated closed-system rinsing/settling basin.

26. In the event that settling basin water does not meet the effluent discharge criteria of Table 5, excessive settling basin water and sediment shall be removed by a licensed third party waste transporter and transported off-site for disposal in a manner acceptable to the Department.
27. The concrete batch plant settling basin shall be cleaned on an as required basis to ensure the retention and settling capacity is maintained at all times.
28. Solids recovered from the settling basins may be put to beneficial use at the site. In the event that solids recovered from the settling basins cannot be beneficially used, they shall be disposed of at an approved disposal site by a licensed contractor.
29. Concrete additives and form release agents shall be stored in double-walled tanks or dyked areas and transferred and used in a manner that avoids loss of material to the environment.
30. Liquid concrete wastes shall be stored in a designated area with containment and allowed to harden prior to disposal.
31. Excess or off-specification concrete may be used for concrete slabs, barriers, retaining structures and other similar items. Alternatively, cured concrete may be broken down into 600mm, or smaller, fragments for disposal in The Pond.

Waste Management

32. The management of waste generated at the facility is subject to compliance with the *Environmental Protection Act*. All non-industrial waste shall be stored in a manner acceptable to the Department and, on at least a weekly basis, be disposed of:
 - at an authorized waste disposal site, with the permission of the owner/operator of the site; or
 - by some other means acceptable to the Department.

If required, industrial waste shall be disposed of by a licensed operator.

33. Cenovus 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.
34. 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 generator's number issued by the Department and shall also complete the required information outlined in the Waste Manifest Form.

Waste Management Plan

35. Cenovus shall continue to implement the Waste Management Plan (*January 24, 2018*) for the Project, including all revisions. 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 Department for review. The Department

will acknowledge receipt of the Plan and/or revisions, and shall provide any review comments within a reasonable time frame.

Open Burning

36. Materials listed in **Table 1** shall not be burnt in open fires.

Table 1 - Material Not Approved for Open Burning	
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

37. The Department shall be notified prior to the burning of any materials not listed in Table 1.

Noise

38. Efforts shall be made to minimize and control noise resulting from construction, operations and maintenance activities. All vehicles operating within the facility shall have exhaust and muffling devices in good working order.

Dust Suppression

39. Cenovus 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 Department. Operators are encouraged to use best management practices when applying calcium chloride or any other approved dust suppressant.

Spill Prevention & Containment

40. Areas in which chemicals are used or stored shall have spill containment systems constructed with impermeable floors, walls, dykes or curbs as applicable and be configured, maintained, inspected and repaired as follows:

- they shall not discharge to the environment;
 - they 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, they shall have an effective secondary containment capacity of at least 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;
 - they shall be kept clear of material that may compromise the containment capacity;
 - they may include a floor drain system provided that the floor drains, and the place or device to which they drain, are configured in such a manner that the required effective secondary containment capacity is maintained;
 - every year they shall be visually inspected for their liquid containing integrity, and repairs shall be made when required; and
 - once every ten years, spill containment systems shall be inspected, by a means other than visual inspection, for their liquid containing integrity, and repairs shall be made when required.
41. 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 DGSNL.
42. 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 Department.
43. Cenovus shall maintain an inventory of all petroleum and chemical storage tanks. This inventory shall include the following:
- site plan showing tank location,
 - storage tank system photos including manufacturer's labels,
 - registration number (where applicable),
 - identification number,
 - material stored,
 - capacity,
 - annual throughput,
 - tank material,
 - tank type,
 - tank diameter,
 - tank height,
 - tank colour,
 - roof type,
 - year of manufacture,
 - date of installation,
 - date of last inspection,
 - failure history,
 - maintenance history,
 - effective secondary containment capacity, and
 - date of next planned inspection.

An update of the complete storage tank inventory including any changes to it shall be submitted to the Department within three (3) months of the change having occurred.

44. Cenovus shall maintain a maintenance program for the prevention of leaks/spills of hydrocarbons from mobile equipment (i.e. from the hydraulic hoses and/or motors from the machine houses of the drills, excavators and trucks). These preventive maintenance procedures and associated records shall be made available for review by officials of the Department when requested.

Contingency Plan

45. Cenovus shall continue to implement the Contingency Plan (*January 24, 2018*) for the Project, including all revisions. 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. Cenovus 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 Department for review. Changes which are not considered significant include minor variations in equipment or personnel characteristics which do not affect implementation of the Plan.
46. Every time Cenovus 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 Department as per the *Reporting* section.

Used Oil and Used Glycol

47. Used oil and used glycol shall not be mixed and shall be stored in separate:
- closed containers;
 - registered tanks; or
 - tanks that have an active approval from DGSNL.
48. Where greater than 205 litres of used oil or used glycol is stored in one or more containers, the storage shall require approval from the Department.
49. Used oil and used glycol shall be disposed of by a company licensed for the handling and disposal of such products.
50. The use or operation of an oil separator requires registration under the *Used Oil and Used Glycol Control Regulations*. Applications for registration shall be submitted

to, and registration numbers are assigned by, DGSNL.

Filling of The Pond with Excavated and Dredged Material

51. Cenovus may continue filling The Pond as per the *White Rose Extension Project, Excavated Material and Dredged Material Placement Plan (WH-G-00W-G-TN-00005-001 (March 23, 2021))*. Settlement monitoring comprised of topographical surveys shall be performed as per section 6.4 *Settlement Monitoring Program*. The topographical surveys shall be to an accuracy of plus or minus 1 cm and the raw data shall be made available to the Department when requested.
52. A soak-away shall be installed downstream from each of The Pond's overflow weirs.
53. Cenovus shall retain a Site Professional to carry out a sampling program on the final one (1) m cap material used over The Pond. The sampling program shall consist of the collection of soil samples and laboratory analysis for metals, PCBs, PAHs, VOCs, BTEX and TPH. The one (1) meter cap over The Pond shall meet the CCME Soil Quality Guidelines (metals, PCBs, PAHs, and VOCs) and the Atlantic PIRI Tier I RBSLs (BTEX and TPH) for residential sites. The one (1) meter cap shall also meet the Atlantic PIRI Tier I ESLs (BTEX and TPH) for residential sites should the Site Professional deem these to be applicable.
54. The material from the excavated sea bund, including the soil-cement bentonite cut-off wall material, shall be fully incorporated into The Pond's one (1) meter cap.
55. Vegetative material from the site shall not be part of The Pond fill material.
56. Capping and settlement requirements are not required for areas where pre-existing organic material (i.e. peat) is present in such a quantity that makes it impractical or unsafe to place backfill material. A reasonable effort shall be made to grade the fill material so that it appears natural.

Excavation and Dredging

57. An updated soil/sediment sampling program shall be conducted in the area of bund wall removal to determine present-day conditions. The sampling program must be completed within a period of six (6) months prior to the commencement of bund wall removal. The sampling program shall consist of the following:
 - The collection of soil samples from at least five (5) locations on-land;
 - The collection of sediment samples from at least five (5) locations in the near-shore area;
 - Samples shall be collected from locations and depths considered appropriate for detecting impacts (if present);
 - The submission of at least ten (10) soil/sediment samples for laboratory analysis of each of the following parameters: BTEX/TPH, metals, PCBs, PAHs and VOCs; and

- Sample locations shall be shown on a site plan that also shows the approximate location of proposed bund wall and near-shore sediment removal.

The results of the sampling program shall be documented in a written report and submitted to the Pollution Prevention Division for review prior to bund wall removal as per the **Reporting** section. Relevant historical analytical results shall be summarized in the report. The report shall describe the proposed plan for managing impacted soil/sediment that exceeds the residential and commercial guidelines. Where possible, this plan shall include isolating impacted material prior to transfer to The Pond. If exceedances are expected to be a result of naturally elevated background levels, this must be adequately demonstrated.

58. If deemed necessary based on conditions encountered during excavation of soil (e.g. visual or olfactory evidence of contamination), further sampling and analysis of the excavated soil shall be conducted.
59. Excavated soil that meets the CCME Soil Quality Guidelines (metals, PCBs, PAHs and VOCs) and Atlantic PIRI Tier I RBSLs (BTEX) for commercial sites and that has TPH concentrations below 1000 mg/kg may be re-used for levelling/grading purposes on the site or may be placed in the subsurface of The Pond (i.e. >1 m below the surface).
60. Dredged material that meets the CCME Soil Quality Guidelines (metals, PCBs, PAHs and VOCs) and Atlantic PIRI Tier I RBSLs (BTEX) for commercial sites and that has TPH concentrations below 1000 mg/kg may be placed in the subsurface of The Pond (i.e. >1 m below the surface).
61. Excavated soil and dredged material with TPH levels above 1,000 mg/kg or concentrations of other parameters above the CCME Soil Quality Guidelines (metals, PCBs, PAHs and VOCs) and Atlantic PIRI Tier I RBSLs (BTEX) for commercial sites cannot be re-used at the site and shall be disposed of in accordance with Section 7 of the **Protocol for the Management of Excavated Soils, Concrete Rubble and Dredged Materials Guidance Document (GD-PPD-045.2)**.
62. On-site treatment of petroleum contaminated soil would require a separate Approval from the Department.

Graving Dock Excavation Water

63. Other than sanitary effluent, all effluent and precipitation runoff from within the Graving Dock Perimeter Ditch shall be directed to the settlement ponds or The Pond. All precipitation runoff collected by the Outer Perimeter Ditch shall be directed to filtration system or vegetated areas and never directly into a watercourse or marine environment.
64. The two settlement ponds shall be operated as per the **Environmental Protection**

Plan – White Rose Extension Project – Argentia Site and the subsequent **Amendment to Argentia Certificate of Approval (AA13-115582) Additional Settlement Settling Pond to Dewater System (August 11, 2014)** submission for a second settlement pond.

65. Graving dock excavation water shall be managed as per the approved **White Rose Extension Program: Argentia Graving Dock – Groundwater Monitoring Plan**. This water shall be directed to the settlement ponds or The Pond and tested as indicated in the **Effluent Monitoring & Discharge** section.
66. These settlement ponds shall be cleaned on a regular basis to ensure adequate capacity.

Effluent Monitoring & Discharge

67. Cenovus shall perform an Effluent Monitoring Program as per **Table 3 and 4**. Refer to **Table 5** for the effluent discharge criteria. Analytical results shall be submitted to the Department as per the **Reporting** section.
68. Cenovus has indicated in the **Environmental Protection Plan – White Rose Extension Project – Argentia Site** that they will conduct additional inspections and effluent analyses as required based on visual inspections. Any analyses conducted as a result of these inspections shall be submitted as per the **Reporting** section.

Table 3 - Effluent Monitoring Program			
Location	EDMS Code	Parameters	Frequency
Settlement Pond #1 Decant	00333	TSS and pH	Weekly
		EDC	Monthly
		WCA	Four times per year not less than thirty (30) days apart
Settlement Pond #1 Combined Wells Inflow	00334	TDS	Monthly*
Settlement Pond #2 Decant	00335	TSS and pH	Weekly
		EDC	Monthly
		WCA	Four times per year not less than thirty (30) days apart
Settlement Pond #2 Combined Wells Inflow	00336	TDS	Monthly*
Pond Overflow Weir (West)	00337	TSS and pH	Weekly
		EDC	Monthly
		WCA	Four times per year not less than thirty (30) days apart
Pond Overflow Weir (East)	00800	TSS and pH	Weekly
		EDC	Monthly
		WCA	Four times per year not less than thirty (30) days

Outer Perimeter Ditch	00338	pH and TPH	apart Weekly when water present
*Sample must be collected at the same time as corresponding monthly EDC sample.			

Table 4 - Water Chemistry Analysis (WCA) Program	
Parameters	
General Parameters: 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), phenolics, carbonate (CaCO ₃), hardness (CaCO ₃), bicarbonate (CaCO ₃)	
Metals Scan: 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	

Table 5 - Effluent Discharge Criteria (EDC) ⁽¹⁾	
Parameter	Maximum Allowable or Range
Total Dissolved Solids (TDS)	1000 ⁽²⁾
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
Cyanide	0.025
Iron	10
Lead	0.2
Mercury	0.005
Nickel	0.5
Nitrates	10
Ammonia	2.0

Phenols	0.1
Phosphates (total as P ₂ O ₅)	1.0
Selenium	0.01
Sulfides	0.5
Silver	0.05
Zinc	0.5
pH	5.5 – 9.0 pH units
Radium 226	0.37 Bq/L

(1) Units are in mg/L unless otherwise stated; (2) above background.

Pollution Control Equipment

69. All pollution control equipment shall be maintained and operated per the manufacturer's specifications for best performance.
70. Solids that accumulate in a settling pond or behind a sediment trap shall be removed on a regular basis to ensure such devices remain effective.
71. All oil separators shall be checked routinely and maintained in accordance with the manufacturer's instructions to ensure they are working properly. A log of these checks shall be maintained by Cenovus.
72. The Department reserves the right to require the installation of additional pollution control equipment by Cenovus within a reasonable time frame, as necessary to bring Cenovus into full compliance with the *Air Pollution Control Regulations, 2022*.

Analysis & QA/QC

73. 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 Cenovus shall be billed for each laboratory inspection in accordance with Schedule 1 of the *Accredited Laboratory Policy (PD:PP2001-01.02)*. Recommendations of the Department stemming from the annual inspections shall be addressed within 6 months, otherwise further analytical results shall not be accepted by the Department.
74. If Cenovus wishes to perform in-house laboratory testing and submit to an annual inspection by the Department then a recognized form of proficiency testing recognition shall be obtained for compliance parameters for which this recognition exists. The compliance parameters are listed in the *Effluent Monitoring & Discharge* section. If using a commercial laboratory, Cenovus shall contact that commercial laboratory to determine and to implement the sampling and

transportation QA/QC requirements for those activities.

75. The exact location of each sampling point shall remain consistent over the life of the monitoring programs, unless otherwise approved by the Department. Using a GPS or similar device, the northing and easting of each sampling location shall be recorded and submitted by *August 7, 2022*.
76. Cenovus shall bear all expenses incurred in carrying out the environmental monitoring and analysis required under conditions of this Approval.

Monitoring Alteration

77. The Department 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.
78. Cenovus may, at any time, request that monitoring program or requirements of this Approval be altered by:
- requesting the change in writing to the Department; and
 - providing sufficient justification, as determined by the Department.

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

Reporting

79. Monthly reports containing the environmental compliance monitoring and sampling information required in this Approval shall be received by the Department in digital format within 30 calendar days of the reporting month. All related laboratory reports shall be submitted with the monthly report in XML (Extensible Markup Language) format and Adobe Portable Document Format (PDF). Digital report submissions shall be uploaded through the EDMS web portal.
80. Each monthly report shall include a summary of all environmental monitoring components and shall include an explanation for the omission of any requisite data. The monthly summary reports shall be in Microsoft Word or Adobe PDF and shall be uploaded through the EDMS web portal with the data submissions.
81. All incidents of:
- *Contingency Plan* implementation; or
 - non-conformance of any condition within this Approval; or

- spillage or leakage of a regulated substance; or
- effluent discharge criteria being, or suspected of being, exceeded; or
- verbal or written complaints of an environmental nature received from the public by Cenovus and related to the project, including complaints submitted anonymously;

shall be immediately reported, within one working day, to the Department.

A written comprehensive incident 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 prepared. The report shall include a description of actions already taken and future actions to be implemented, and shall be submitted to the Department within thirty days of the date of the initial incident.

82. Any spillage or leakage of gasoline or associated product shall be reported immediately through the Environmental Emergencies 24-hour report line at 1-800-563-9089.

Expiration

83. This Approval expires on ***March 29, 2027***.
84. Should Cenovus wish to continue to operate the Project 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 ***September 29, 2026***.

cc: Mr. Gary Kennell
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