

**ENVIRONMENTAL COMPLIANCE APPROVAL**  
NUMBER 8142-CFLKVS  
Issue Date: July 18, 2022

Sanexen Environmental Services Inc.  
9935 de Châteauneuf St, No. 200  
Brossard, Quebec  
J4V 3V4

**Site Location:** Mobile

*You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:*

- one (1) in-situ remediation process to treat soil/groundwater contaminated with organic and/or inorganic compounds by the application of Remedial Amendment(s) into contaminated soil and groundwater by one or a combination of the following methods:
  - vertical or horizontal injection wells or galleries;
  - temporary injection points;
  - drainage networks or surface infiltration;
  - sprinkler systems;
  - trenches or permeable barrier walls;
  - in-situ mixing or direct placement in subsurface;
  - injection, placement or mixing with specialized equipment such as drills, excavators, direct push equipment or other similar heavy equipment;

all in accordance with the Environmental Compliance Approval application submitted by Sanexen Environmental Services Inc., dated February 11, 2021 and signed by Jean Paquin, Vice-President - Technology; and all supporting information, including the application report prepared by Sanexen Environmental Services Inc., dated January 2021.

*For the purpose of this environmental compliance approval, the following definitions apply:*

1. "Approval" means this Environmental Compliance Approval, including the application and supporting documentation listed above;
2. "Bioaugmentation Culture(s)" means any non-hazardous, non-pathogenic bacterial culture used in the Process as listed in Schedule B of this Approval, and as described in this Approval including the safety data sheets submitted with the application, to the extent approved by this Approval;
3. "Biostimulation Compound(s)" means any chemical amendment, nutrient amendment or pH adjustment chemical used in the Process to enhance bioremediation, as listed in Schedule B of this Approval, and as described in this Approval including the safety data sheets submitted with the application, to the extent approved by this Approval;
4. "Chemical Reagent(s)" means any oxidant or reductant used in the Process as listed in Schedule B of this Approval, and as described in this Approval including the safety data sheets submitted with the application, to the extent approved by this Approval;
5. "Company" means Sanexen Environmental Services Inc., which is responsible for the operation of the Process and includes any successors and assigns;
6. "District Manager" means the District Manager of the appropriate local district office of the Ministry, where the Site is geographically being operated;
7. "EPA" means the *Environmental Protection Act*, R.S.O. 1990, c. E.19;
8. "Equipment" means the equipment associated with the Process as described in this Approval;
9. "Monitoring Plan" means a written monitoring plan developed for the Site as described in Condition 4;
10. "Ministry" means the Ministry of the Government of Ontario responsible for the EPA and includes all officials, employees or other persons acting on its behalf;
11. "Operations and Maintenance Manual" means the written operations and maintenance manual developed for the Company as described in Condition 3;
12. "Process" means the in-situ remediation processes as described in the Company's application, this Approval, and in the supporting documentation submitted with the application, to the extent approved by this Approval;
13. "Publication NPC-300" means the Ministry Publication NPC-300, "Environmental Noise Guideline, Stationary and Transportation Sources - Approval and Planning, Publication NPC-300", August 2013, as amended;
14. "Remedial Amendment(s)" means any Bioaugmentation Culture, Biostimulation Compound, or Chemical Reagent used in the Process with the intent to reduce the soil and/or groundwater concentrations of the Target Compounds at the Site.

15. "Remedial Work Plan" means a plan, developed for the Site, prepared as a single document as described in Condition 2;
16. "Schedule" means the schedules attached to, and forming part of, this Approval, namely:
  - i. Schedule A - Form 1: Soil/Groundwater Remediation Process Notice of Intended Location
  - ii. Schedule B - Remedial Amendments;
  - iii.
17. "Site" means any property or properties described in a completed Schedule A at which the Process is operated;
18. "Soil, Groundwater and Sediment Standards" means the Ministry publication "Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act" dated April 15, 2011, as may be amended;
19. "SPCP" means the written Spill Prevention and Contingency Plan developed for the Company as described in Condition 5;
20. "Supporting Documents" means the Ministry publications that accompany the Soil, Groundwater and Sediment Standards including "Guide for Completing Phase II Environmental Site Assessment under Ontario Regulation 153/04" dated June 2011, as amended; and
21. "Target Compound(s)" means the organic or inorganic compounds, or other compounds listed in the Soil, Groundwater and Sediment Standards that the Process is designed to treat as part of the Remedial Work Plan.

*You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:*

## **TERMS AND CONDITIONS**

### **1. PERFORMANCE REQUIREMENTS**

1. The Company shall, at all times, design and operate the Process with the intent to reduce the soil/groundwater concentrations of the Target Compounds to comply with the appropriate criteria provided in the Soil, Groundwater and Sediment Standards, appropriate worker health and safety criteria or Site specific criteria developed in accordance with the Supporting Documents.
2. The Company shall, ensure that the noise emissions from the Process at the

Site comply with the limits set out in Ministry Publication NPC-300.

3. The Company shall, before commencement of operation of any Process at the Site, prepare the following:
  - a. a Remedial Work Plan;
  - b. a Monitoring Plan; and
  - c. an Operation and Maintenance Manual.
4. The Company shall, at all times, unless otherwise agreed by the District Manager, design and operate the Process so that no Remedial Amendments, Target Compounds, or their decomposition compounds, are permitted to migrate off-Site in groundwater or soil vapour, as a result of the Process, at concentrations greater than the applicable criteria provided in the Soil, Groundwater and Sediment Standards, appropriate worker health and safety criteria or Site specific criteria.

## **2. REMEDIAL WORK PLAN**

1. The Company shall, before commencement of operation of the Process at the Site, prepare a Remedial Work Plan designed with specific application for the Site that specifies, as a minimum:
  - a. the remedial objectives established for the Site;
  - b. an overview of the work to be undertaken by the Company;
  - c. a description of the Site;
  - d. locations of on-Site and off-Site receptors and potential migration pathways;
  - e. a Site plan overview of the extent of contamination at the Site;
  - f. locations of the proposed Equipment and points of application of the Process;
  - g. land uses at the Site and in the immediate surrounding vicinity;
  - h. overview of the Site geology and hydrogeology, and expected chemical reactions resulting from the operation of the Process; and
  - i. alternative remedial measures to be undertaken in the event that the Process is not successful to meet the Remedial Work Plan objectives.

## **3. OPERATION AND MAINTENANCE**

1. The Company shall, before commencement of operation of the Process at the Site, prepare and implement a Site specific Operating Procedures and Maintenance Manual for the Equipment and Process. The Manual shall specify, as a minimum:

- a. major components of the Equipment to be used in the Process;
- b. frequency of inspections and scheduled maintenance for the Equipment;
- c. the SPCP procedures to prevent spills relating to the Process;
- d. procedures to prevent and/or minimize odourous and noise emissions;
- e. procedures to prevent and/or minimize the build-up of hazardous decomposition compounds with respect to appropriate worker health and safety criteria for the Site;
- f. procedures to prevent any upset conditions and contingency measures to address any off-Site migration;
- g. procedures to record the amount of Remedial Amendments each time these materials are utilized by the Process;
- h. procedures to record and respond to environmental complaints; and
- i. steps to be carried out for the discontinuation of the Process.

#### **4. MONITORING PLAN**

1. The Company shall, before commencement of operation of the Process at the Site, design and implement a Monitoring Plan, in accordance with the Supporting Documents, for the soil/groundwater at the Site to document that the Performance Requirements outlined above are not exceeded and that the Remedial Work Plan objectives are achieved. The Monitoring Plan shall specify, as a minimum:
  - a. the Monitoring Plan objectives;
  - b. a list of analytical and/or indicator parameters;
  - c. monitoring locations and frequency;
  - d. a Site-specific evaluation of the potential impact of the Process to assess whether groundwater, and/or surface water monitoring is required;
  - e. a soil vapour monitoring program, when applicable, to assess the levels of hazardous decomposition compounds at the Site with respect to appropriate worker health and safety criteria for the Site;
  - f. identification of potential migration pathways on-Site and off-Site;
  - g. procedures for monitoring any potential off-Site migration;
  - h. approximate monitoring locations and frequency of the monitoring, prior to, during and after the Process; and
  - i. sampling methodology and QA/QC procedures, when applicable.

## **5. SPILL PREVENTION AND CONTINGENCY PLAN**

1. The Company shall prepare, and implement a written spill prevention and contingency plan that is applicable to the Process at the Site. The SPCP shall include appropriate measures to mitigate spills that may result from the Process, including different spill sizes, types of contaminants, and receiving environments (including land, natural waterways, and municipal sewers). The SPCP shall include the following information commensurate with the risk of spills at the Site:
  - a. containment procedures;
  - b. treatment, neutralization and/or clean up procedures;
  - c. disposal procedures that are in accordance with the EPA, and/or municipal by-laws and other legislation as applicable;
  - d. securement of necessary equipment;
  - e. notification procedures; and
  - f. details of the training procedures.
2. The Company shall ensure that employees and agents of the Company shall be trained on the SPCP prior to commencement of the Process at the Site.
3. The Company shall review and update the SPCP from time to time as needed.

## **6. NOTIFICATION REQUIREMENTS**

1. The Company shall notify the District Manager at least ten (10) calendar days, or at such other time as may be agreed to in writing by the District Manager, before commencement of operation of the Process at any Site by submitting a completed Form 1, set out in Schedule A of this Approval, with attachments, to the District Manager.
2. The Company shall notify the District Manager, in writing, forthwith if the Process is not carried out in accordance with the Performance Requirements outlined in Condition 1.
3. The Company shall notify the District Manager, in writing, forthwith within two (2) business days of each complaint that the Company receives resulting from the operation of the Process at the Site. The notification shall include the information described in paragraph (f) of Condition 7.1.

## **7. RECORD KEEPING REQUIREMENTS**

1. The Company shall, for each Site, retain for a minimum of five (5) years from the date of their creation, all reports, records, and information as described in this Approval, related to or resulting from the operation of the Process at the

Site including:

- a. the Remedial Work Plan;
- b. the Monitoring Plan;
- c. records about the type and quantity of Remedial Amendments used in the Process;
- d. records about the inspection, maintenance, and repair of the major components of the Equipment related to the Process;
- e. all monitoring results including any verification sampling; and
- f. records about complaints, including:
  - i. a description of the time and date of the complaint and of the incident to which the complaint relates;
  - ii. the nature of the complaint and the address of the complainant, if known;
  - iii. weather conditions at the time of the incident to which the complaint relates;
  - iv. a description of the measures taken to determine the possible causes of the complaint and the steps taken to investigate and deal with the cause of the incident to which the complaint relates and the steps taken and/or to be taken to prevent a similar occurrence in the future; and
  - v. a written response to the complainant, if known.

## **SCHEDULE A**

### **SOIL/GROUNDWATER REMEDIATION PROCESS NOTICE OF INTENDED LOCATION**

1. Owner and/or Operator
  - a. Company name:
  - b. Environmental Compliance Approval (Air) number:
  - c. Contact person:
  - d. Telephone number:
2. Proposed Location
  - a. Municipality:

b. Street Address or Lot and Concession number:

3. Land use in the immediate vicinity:

4. Operating schedule:

a. Date of commencement:

b. Estimated Duration:

c. Hours of operation:

Please attach the following:

- a. A plan showing the area(s) within the Site where the Process will be operated;
- b. A copy of the most recent safety data sheet (SDS) for each Remedial Amendment to be used at the Site;
- c. An overview of the Process to be used at the Site, including a description of the technology (or technologies) and delivery method(s) to be used; and
- d. An overview of the Site specific Remedial Work Plan, the Monitoring Plan and the Operations and Maintenance Manual that have been drafted and will be finalized before commencement of operation of the Process at the Site and will be implemented at the Site as required by this Approval.

## **SCHEDULE B**

### **REMEDIAL AMENDMENTS**

<b>Remedial Amendment</b>	<b>Manufacturer</b>
32-0-0	Eco+
3-D Microemulsion	Regenesis
Accelerite®	JRW Bioremediation
Acetic Acid	Various
Air Mixture	Various
Ammonium Nitrate	Various
Ammonium Persulphate	Various
Bio-Dechlor INOCULUM® PLUS	Regenesis
BOS 100	RPI Rem Products
BOS 200	RPI Rem Products
Calcium Hydroxide	Various
Calcium Nitrate	Various
Calcium Oxide	Various
Calcium Peroxide	Various



Calcium Phosphate	Various
Calcium Thiosulphate	Various
CAT 100	RPI Rem Products
Chelated Iron	Various
Citric Acid	Various
CRS®	Regenesis
Daramend® Reagent	chm
Dextrose	Various
D-fructose (high fructose corn syrup)	Various
Diammonium Phosphate (DAP)	Various
Dipotassium Phosphate (DKP)	Branntag
EHC Plus	Peroxychem
EHC®-O	Chemco
ELS®	Peroxychem
Ethanol	Various
Ferric Sulfate	Various
Fertilizer content from reused soils or sediments	Various
GEOFORM™	Peroxychem
Granular Activated Carbon	Various

#### **REMEDIAL AMENDMENTS (CONTINUED)**

<b>Remedial Amendment</b>	<b>Manufacturer</b>
Hydrochloric Acid	Various
Hydrogen Peroxide	Various
Hydrogen Release Compound (HRC®)	Regenesis
Iron (Ferric) Nitrate	Various
Iron Powder	Various
Ivey-sol	Chemco
KB-1®	SIREM
Lactic Acid	Various
Lactose	Various
Lime Kiln Dust	Graymont
Limestone	Various
Magnesium peroxide	Various
Maltose	Various
Manure and other components	Various
Metals Remediation Compound (MRC®)	Regenesis
Methyl Alcohol (Methanol)	Various

Molasses	Various
Monopotassium Phosphate	Various
Nitric Acid	Various
Nutrite 20-20-20	Nutrite
Oxygen	Various
Oxygen Release Compound (ORC®)	Regenesis
PetroCleanze	Regenesis
Petrofix	Regenesis
Phosphoric Acid	Various
PlumeStop®	Regenesis
Potassium Citrate	Various
Potassium Hydroxide	Various
Potassium Lactate	Various
Potassium Nitrate	Various
Potassium Permanganate	Various
Potassium Persulfate	Various
Powdered Activated Carbon	Various
RegeneOx® Part A	Regenesis
RegeneOx® Part B	Regenesis

**REMEDIAL AMENDMENTS (CONTINUED)**

<b>Remedial Amendment</b>	<b>Manufacturer</b>
Sodium Bicarbonate	Various
Sodium Carbonate	Various
Sodium Hydroxide	Various
Sodium Nitrate	Various
Sodium Percarbonate	Various
Sodium Permanganate	Various
Sodium Persulfate	Various
Sodium Phosphate	Various
Steel Powder	Various
Sucrose	Various
Sulphuric Acid	Various
Terramend Inorganic	Peroxychem
Terramend® Carbon	Peroxychem
Tomadol	Various
Tree Mulch	Various
Triton X-100	Various
Urea	Various

Vegetable Oil	Various
VTH Catalyst	Chemco
VTX Catalyst 22	Chemco
VTZ	Chemco
Woodchips and Woodwaste	Various
Zeolite	Various
Zero valent iron powder (ZVI) (including emulsified)	Various
ZVI + readily available organic compounds	Various

*The reasons for the imposition of these terms and conditions are as follows:*

1. Condition No. 1 is included to outline the minimum performance requirements considered necessary to prevent an adverse effect resulting from the operation of the Process.
2. Condition No. 2 is included to require the Company to gather accurate information and prepare a work plan prior to carrying out the Process at the Site and so that compliance with the EPA and this Approval can be verified.
3. Condition No. 3 is included to emphasize that the Equipment and Process must be operated according to a procedure that will result in compliance with the EPA, the regulations, and this Approval.
4. Condition No. 4 is included to require the Company to gather accurate information so that the environmental impact and subsequent compliance with the EPA, the regulations, and this Approval can be verified.
5. Condition No. 5 is included to require the Company to prevent and mitigate spills thereby minimizing adverse environmental impacts.
6. Condition No. 6 is included to require the Company to notify the Ministry so that the environmental impact and subsequent compliance with the EPA, the regulations, and this Approval can be verified.
7. Condition No. 7 is included to require the Company to retain records and provide information to the Ministry so that the environmental impact and subsequent compliance with the EPA, the regulations, and this Approval can be verified.

In accordance with Section 139 of the *Environmental Protection Act*, you may by written notice served upon me, the Ontario Land Tribunal and in accordance with Section 47 of the *Environmental Bill of Rights*, 1993, the Minister of the Environment, Conservation and Parks, within 15 days after receipt of this notice, require a hearing by the Tribunal. The Minister of the Environment, Conservation and Parks will place notice of your appeal on the Environmental Registry. Section 142 of the *Environmental Protection Act*

provides that the notice requiring the hearing ("the Notice") shall state:

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

Registrar\*  
Ontario Land Tribunal  
655 Bay Street, Suite 1500  
Toronto, Ontario  
M5G 1E5  
OLT.Registrar@ontario.ca

and

The Minister of the Environment,  
Conservation and Parks  
777 Bay Street, 5th Floor  
Toronto, Ontario  
M7A 2J3

and

The Director appointed for the purposes of  
Part II.1 of the *Environmental Protection Act*  
Ministry of the Environment, Conservation  
and Parks  
135 St. Clair Avenue West, 1st Floor  
Toronto, Ontario  
M4V 1P5

**\* Further information on the Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or [www.olt.gov.on.ca](http://www.olt.gov.on.ca)**

This instrument is subject to Section 38 of the *Environmental Bill of Rights*, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at <https://ero.ontario.ca/>, you can determine when the leave to appeal period ends.

The above noted activity is approved under s.20.3 of Part II.1 of the *Environmental Protection Act*.

DATED AT TORONTO this 18th day of July, 2022



Nancy E Orpana, P.Eng.  
Director

appointed for the purposes of Part  
II.1 of the *Environmental Protection  
Act*

KS/

c: District Manager, MECP Ottawa

Myriam Cadotte, Sanexen Environmental Services Inc.