

LAND TREATMENT FACILITY PERMIT

Issued for the Operation of a Land Treatment Facility Pursuant to the *Environment Act*, and the
Contaminated Sites Regulation

Permittee: Transport Canada

Mailing Address: 344 Edmonton St., Winnipeg, MB R3C 0P6

Site Location: Former Fire Training Area at the south end of the Whitehorse International Airport

Authorized

Representative: Kellie Hunnie
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Effective Date: Date of Director's signature

Expiry Date: December 31, 2021

This permit replaces land treatment facility permit #24-006 issued on September 16th, 2016.

Scope of Authorization: In accordance with your application and supporting documents, **Transport Canada**, is hereby permitted to operate a Private Land Treatment Facility (the "facility") at the above site location for the acceptance, storage and treatment of soil and snow contaminated with petroleum hydrocarbons, including:

- a) soil also containing contaminants other than petroleum hydrocarbons below the standards in the *Contaminated Sites Regulation* for those contaminants for Industrial Land Use; and
- b) snow also containing contaminants other than petroleum hydrocarbons below the applicable *Contaminated Sites Regulation* standards for those contaminants,

as set out in the terms and conditions of this permit.

Dated this 18th day of January, 2017



Director, Environmental Programs Branch
Environment Yukon

DEPARTMENT OF ENVIRONMENT
ENVIRONMENTAL PROGRAMS
Whitehorse, Yukon
Certified true copy of original

Date: 18 Jan 17 Initials: JAM

PART 1. DEFINITIONS

1. In this permit,
 - a) "Act" means the *Environment Act*, R.S.Y. 2002, c.76;
 - b) "approved plan" means a plan that is submitted by the permittee and approved by an environmental protection analyst under this permit and includes any terms and conditions specified by the environmental protection analyst in the approval;
 - c) "associated personnel" means all employees, contractors, subcontractors, agents and volunteers involved in the activities conducted in relation to permit;
 - d) "berm" means an earthen raised barrier which completely encloses a staging or treatment cell;
 - e) "Branch" means the Environmental Programs Branch, Environment Yukon;
 - f) "contaminant of concern" means any contaminant that is known or suspected to be present at concentrations above applicable CSR standards;
 - g) "contaminated material" means any soil, snow, sediment, or water that has one or more parameters in excess of applicable standards in the *Contaminated Sites Regulation*, O.I.C. 2002/171;
 - h) "CSR" means the *Contaminated Sites Regulation*, O.I.C. 2002/171;
 - i) "EIHWRMR" means the *Export and Import of Hazardous Waste and Hazardous Recyclable Materials Regulations*;
 - j) "facility" means the entire area of the Land Treatment Facility authorized by this permit, including the staging cells, treatment cells, and all access roads;
 - k) "freeboard" means the distance between the liquid level within the cell and the top of the berm(s);
 - l) "highly contaminated material" means highly contaminated water, highly contaminated soil, or a mixture of both;
 - n) "highly contaminated soil" includes:
 - i. soil with a total petroleum hydrocarbon concentration of 30,000 ppm or greater;
 - ii. soil containing any substance at a concentration equal to or greater than the concentrations in Schedule 5 of the EIHWRMR; and
 - iii. soil containing a substance for which the leachate concentration (based on a toxicity characteristic leaching procedure (TCLP)) is equal to or greater than the leachate limit identified for that substance in column 3 of Schedule 6 of the EIHWRMR;
 - o) "highly contaminated water" includes
 - i. water with a total concentration of volatile hydrocarbons of 15,000 µg/L or greater;
 - ii. water with a total concentration of light extractable hydrocarbons of 5,000 µg/L or greater;
 - iii. water that contains any substance at a concentration equal to or greater than the concentrations in Schedule 5 of the EIHWRMR (assuming a density of water of 1 kg/L); and

- iv. water that contains any substance at a concentration equal to or greater than the leachable limit for that contaminant in Schedule 6 of the EIHWHRMR.
 - p) "nonaqueous phase liquid" means an immiscible liquid composed of organic compounds (which may be lighter or denser than water) at any apparent thickness;
 - q) "ppm" means parts per million;
 - r) "private land treatment facility" means a facility which is authorized to accept contaminated material generated from the permittee's operations only;
 - s) "protocols" are those protocols created under section 21(1) of the CSR and which are currently in force;
 - t) "Regulations" means the *Contaminated Sites Regulation*, O.I.C. 2002/17, the *Special Waste Regulations*, O.I.C. 1995/047, and the *Spills Regulations*, O.I.C. 1996/193, as applicable;
 - u) "seasonal high water table" means the shallowest depth to free water on an annual basis;
 - v) "staging cell" means a bermed area into which contaminated material without analytical results is temporarily placed upon acceptance at the facility;
 - w) "supporting documents" means documents, correspondence or other material submitted in conjunction with the permit application;
 - x) "treatment cell" means a fully enclosed, bermed area into which contaminated material is placed for treatment;
 - y) "treatment" includes but is not limited to tilling/turning the material, mixing it with other materials, or adding moisture or nutrients; and
 - z) "vehicle" has the same meaning as in the *Motor Vehicles Act*, R.S.Y. 2002, c. 153.
2. Any term not defined in this permit that is defined in the Act or the Regulations has the same meaning as in the Act or the Regulations.

PART 2. GENERAL CONDITIONS

1. No condition of this permit limits the applicability of any other law.
2. The permittee shall only conduct activities authorized by this permit on land that the permittee has the right to enter upon and use for that purpose.
3. The permittee shall ensure that all activities authorized by this permit conform to applicable bylaws.
4. The permittee shall only collect, store, handle, or treat contaminated material generated by the permittee's own activities at the facility.
5. The permittee shall only allow associated personnel to take part in activities in relation to this permit if they:
 - a) have access to a copy of this permit;

- b) are knowledgeable of the terms and conditions of this permit; and
 - c) receive the appropriate training for the purposes of carrying out the requirements of this permit.
6. The permittee shall provide notice in writing to an environmental protection analyst prior to any significant change of circumstances, including without limitation:
 - a) closure of the facility;
 - b) a change in the ownership of the facility; or
 - c) a change in the mailing address, site location or phone number of the permittee.
 7. The permittee shall ensure that the facility is operated as described in the permit application, supporting documents, and all approved plans, except where conflicts exist between such documents and this permit, in which case the permit shall prevail.
 8. If an inspection reveals that the facility is in any way not in compliance with this permit or approved plans, the permittee shall take actions as required to comply with this permit as soon as practicable.
 9. The permittee shall have all sampling conducted in accordance with all applicable protocols pursuant to the CSR that pertain to sampling and analysis. The permittee shall have all sample collection carried out by trained personnel using appropriate equipment and procedures.
 10. The permittee shall have all analytical testing required by this permit performed as described in applicable protocols.
 11. If an environmental protection analyst or environmental protection officer directs in writing that a submitted plan, including plans submitted under previous permits for the facility, be amended, the permittee shall prepare the required amendment by the date specified.
 12. Where conflicts exist between this permit, the permit application, or elements of any plan pertaining to any activity conducted by the permittee and regulated under the Act, this permit shall prevail.
 13. If this permit expires or is cancelled by the Minister pursuant to section 91(1) of the Act, the permittee shall decommission the facility as directed by an environmental protection officer.
 14. For clarity, the obligations of the permittee survive the expiry of the permit and remain in effect until they are fulfilled to the satisfaction of an environmental protection officer.

PART 3. FACILITY SPECIFICATIONS

1. The permittee shall not operate a facility on any portion of land where:
 - a) the slope is greater than 6%;

- b) the seasonal high water table is less than 3 metres below the surface;
 - c) the facility would be within 100 metres of a surface water body;
 - d) the land is within a 25 year floodplain; or
 - e) residential property boundaries or residential buildings are less than 60 metres away.
2. The permittee shall install and maintain the following liners in each cell before placing any material into that cell and shall maintain each liner as specified:
 - a) A UV-resistant, impermeable liner of a minimum 30 mil (30 thousandths of an inch) thickness beneath all treatment and staging cells in accordance with the manufacturer's specifications to remain firmly anchored in the berms on all sides of each cell.
 3. The permittee shall have qualified personnel install, weld and repair all impermeable liners.
 4. The permittee shall take all reasonable measures to maintain the integrity of the liner and shall undertake all necessary maintenance, repairs, upgrades or other actions to remedy any failures in the integrity of the liner.
 5. In accordance with the permit application and supporting documents and approved plans:
 - a) the facility shall consist of:
 - i. one staging cell, with maximum interior dimensions of 64 metres by 66.5 metres; and
 - ii. two treatment cells, each with maximum interior dimensions of 50 metres by 50 metres;
 - b) the maximum height of piles of contaminated material within the stockpile cell shall be 4 metres, and the maximum height of the piles of contaminated material within the treatment cells shall be 2 metres; and
 - c) the facility shall be contained within the boundaries of the site location.
 - d) The permittee shall not exceed these maximum thresholds.
 6. The permittee shall maintain berms around all treatment cells to prevent the escape of contaminated material, runoff or leachate from the cells. The permittee shall maintain berms at sufficient height and lateral extent to contain all contaminated material, runoff, and leachate in the cells, as determined by an environmental protection officer.
 7. The permittee shall prevent berms surrounding staging or treatment cells from being removed or breached except as approved by an environmental protection analyst in writing or as instructed by an environmental protection officer.
 8. The permittee shall maintain ramps to allow equipment to access the cells without damaging or degrading the berms or the liner(s).

9. If any berms become damaged or degraded, the permittee shall repair the berms as soon as practicable.
10. The permittee shall construct and maintain diversion berms and/or ditches as required to ensure that runoff cannot enter the cells.
11. The permittee shall keep the facility secured at all times to prevent access by unauthorized persons.
12. The permittee shall post a sign at the entrance to the facility identifying that the facility contains contaminated material and shall maintain the sign at all times of the facility's operation.

PART 4. FACILITY MAINTENANCE

1. The permittee shall:
 - a) properly maintain and repair the berms, ditches, tanks, fencing, signage, and all other facility components at all times; and
 - b) inspect the facility for compliance with this permit every two weeks from April 1 to October 31 of each year.
2. If an inspection under condition 4.1 reveals that the facility is in any way not in compliance with this permit or approved plans, the permittee shall take actions as required to comply with this permit as soon as practicable.
3. The permittee shall take all reasonable measures to prevent wildlife, including waterfowl, from being attracted to the site. These measures may include, but need not be limited to, fencing, the use of bird scare devices, removal of suitable habitat (e.g. standing water and vegetation), and the installation of netting over the cells.
4. The permittee shall water the contaminated soil in the facility as required to minimize dust, and shall prevent dust from creating a hazard or nuisance for associated personnel or nearby property users.

PART 5. INTAKE OF CONTAMINATED MATERIAL

1. The permittee may accept only the following contaminated materials soil and snow contaminated with petroleum hydrocarbons, including: soil also containing contaminants other than petroleum hydrocarbons below the standards in the *Contaminated Sites Regulation* for those contaminants for Industrial Land Use; and snow also containing contaminants other than petroleum hydrocarbons below the applicable *Contaminated Sites Regulation* standards for those contaminants,
2. The permittee shall obtain the relocation permit number under which incoming material is transported prior to acceptance of the material into the facility, unless otherwise directed by an environmental protection analyst or environmental protection officer.

3. The permittee shall have samples as per applicable protocols of incoming contaminated material from each source analyzed for petroleum hydrocarbons and any other contaminants of concern within 60 days of acceptance of the material.
4. If the permittee has reasonable grounds to believe that incoming contaminated material may contain contaminants other than petroleum hydrocarbons, the permittee shall contact an environmental protection analyst prior to accepting the contaminated material and shall follow the direction provided by an environmental protection analyst in respect of that contaminated material.
5. Should analysis of incoming contaminated material show that it contains contaminants other than petroleum hydrocarbons above the standards for those contaminants in the CSR for Industrial Land Use , the permittee shall contact an environmental protection analyst for direction on the disposal of the material within 5 days of receipt of the analytical results, and shall remove the material from the facility within 30 days of receipt of the analytical results or as directed by an environmental protection analyst.
6. The permittee shall not initiate treatment of incoming material, including but not limited to tilling or applying water or other soil conditioners or amendments, until analytical results are received, establishing the type and level of contaminants in that material .
7. If any results of analysis of incoming contaminated material demonstrates that the material is highly contaminated material, the permittee shall inform an environmental protection analyst within 5 days of receipt of the analytical results. Within 30 days of the receipt of the results, the permittee shall remove the material represented by the relevant sample.

PART 6. SOIL HANDLING AND STOCKPILING

1. The permittee shall ensure that contaminated material from different sources or containing different types of contamination is handled, stored and treated separately except as authorized by this permit or as directed by an environmental protection analyst.
2. Following the receipt of analytical results for samples from each stockpile, the permittee may consolidate stockpiles of soil from different sources into a single stockpile with a maximum volume of 500 m³, provided that each original stockpile:
 - a) contains only petroleum hydrocarbon-contaminated material; and
 - b) does not contain highly contaminated material.
3. The permittee shall prevent contaminated material from being mixed with highly contaminated material or special waste, treated material or non-contaminated material, except as authorized by this permit or as directed by an environmental protection analyst.

4. The permittee shall take all reasonable measures to prevent the release of contaminated material into the environment.
5. The permittee shall place all contaminated material within a cell a sufficient distance from all berms to prevent contaminated material, runoff or leachate from escaping the cell, as determined by an environmental protection officer.
6. The permittee shall sufficiently separate piles or windrows of contaminated material to allow equipment to access each pile or windrow, and to prevent inadvertent mixing of piles or windrows of contaminated material from different sources or containing different levels or types of contamination.
7. The permittee prevent contaminated material from being placed on the ramp(s) into the cells, the berms surrounding the cells or on access road(s) into or within the facility.
8. The permittee shall label all stockpiles within the facility with signage identifying the relocation permit number under which the material was transported to the facility or another identifier consistent with the figure and records required under condition 12.2, below.

PART 7. MONITORING

1. The permittee shall develop and implement a sampling and monitoring program for all contaminated material being treated at the facility, in accordance with all guidelines and protocols pursuant to the CSR that pertain to the sampling, analysis and monitoring of contaminated material within a land treatment facility.
2. The permittee shall have all groundwater wells at the facility with detectable water levels monitored, sampled and analyzed as follows:
 - a) to determine the timing of high and low water conditions, the groundwater elevation in all wells shall be monitored quarterly for one year following the completion of the hydrogeological assessment;
 - b) in subsequent years, the groundwater elevation in all wells shall be monitored twice annually at the times of high and low water conditions as determined in (a);
 - c) to monitor for groundwater contamination, samples from all wells at the facility shall be analyzed for petroleum hydrocarbons, dissolved metals, pH, conductivity, dissolved oxygen, redox potential, temperature, and any other contaminants of concern:
 - (i) at the time of the hydrogeological assessment; and
 - (ii) twice annually at the determined high and low water points thereafter.
3. If groundwater is not encountered during the hydrogeological assessment, the permittee shall ensure that the groundwater wells are checked for water at least once annually during known periods of high water in the area thereafter. If groundwater is encountered, the permittee shall conduct the monitoring, sampling, and analysis described in condition 7.2 above.

4. Additional wells must be installed if they are found to be necessary to characterize the groundwater flow regime and/or to effectively monitor potential impacts to groundwater quality downgradient of the facility as directed by an environmental protection analyst.
5. If groundwater analyses show detectable concentrations of petroleum hydrocarbons or concentrations of any other contaminant(s) of concern that are equal to or greater than the applicable CSR standard(s) in any well during any sampling event, the permittee shall notify an environmental protection analyst within 7 days of receipt of the results.
6. If petroleum hydrocarbons are detected in two consecutive sampling events as per *Protocol 13: Adaptive Management*, the permittee shall follow the process for adaptive management contained in this protocol as updated from time to time, as directed by an environmental protection analyst.

PART 8. REMOVAL OF REMEDIATED SOIL

1. The permittee shall not remove any material from the facility without first:
 - a) submitting a written request to an environmental protection analyst to remove a specific volume of material;
 - b) providing information on the land use at the receiving site;
 - c) providing analytical results demonstrating that the material to be removed is suitable for use at the receiving site, based on the applicable CSR land use standards, for all contaminants of concern;
 - d) providing a description of sampling methodology applied;
 - e) demonstrating, to the satisfaction of an environmental protection analyst, that if the material removed from the facility is contaminated above CSR standards for all land uses, that the material will be transported, in accordance with applicable transport laws, to a facility permitted to receive the contaminated material;
 - f) providing the date on which the soil was last tilled;
 - g) receiving the written approval of an environmental protection analyst for the removal; and
 - h) obtaining a relocation permit for the relocation of the remediated material, if the concentration of any contaminant in the material is above the applicable standards in the CSR for the receiving site.
2. Within 14 days prior to collecting confirmatory samples from a stockpile in support of a request to remove the soil from the facility, the permittee shall thoroughly till or turn all of the material in the stockpile at least once using appropriate equipment.
3. Prior to removal of stockpiles that have been consolidated in accordance with condition 6.2 above, the permittee shall ensure that confirmatory samples are analyzed for all contaminants of concern from each individual stockpile or source.

PART 9. MANAGEMENT OF LIQUID CONTAMINATED MATERIAL

1. Liquid contaminated material, other than runoff from soil in the facility, may not be collected, stored, or treated at the facility.
2. The permittee shall ensure that all runoff within cells, including rain water, snow and ice melt, is either contained within the berms of each cell while still leaving a minimum of 30 cm freeboard or is removed from the cells and is contained within the facility in aboveground storage tanks of sufficient volume.
3. Prior to discharging or removing any liquid contaminated material from the facility, including runoff from soil in the facility, the permittee shall:
 - a. collect a representative sample of the liquid proposed for discharge;
 - b. submit a written request to an environmental protection analyst to discharge the liquid; and
 - c. provide analytical results demonstrating that hydrocarbons, total metals, and any other contaminants of concern are below applicable CSR standards.
4. The permittee may remove snow from the facility and discharge it to the environment without sampling, provided that the snow is from an area of the facility where no contaminated soil is present and that the snow has not come into contact with contaminants or contaminated material.
5. The permittee shall have a sample of the liquid contaminated material referred to in 9.3 and 9.4 above collected and analyzed prior to adding any additional material to the storage tank or treatment cell in order to not change the composition of the liquid that was sampled.
6. The permittee shall not apply any liquid highly contaminated material onto soil in the facility. The permittee shall dispose of such liquid in accordance with all applicable regulations.

PART 10. SPILLS

1. The permittee shall store or handle all substances as so as to prevent spills, leakage, leaching or other discharges or releases of the substances from their storage containers, equipment, or other sources.
2. The permittee shall contact either an environmental protection officer or the 24-hour Yukon Spill Report Centre (867-667-7244), as soon as possible under the circumstances, in the event of a release, spill, unauthorized emission, discharge or escape of any material as defined in the Act or Regulations.
3. The permittee shall ensure that appropriate clean-up equipment (such as sorbent, shovel, broom, bucket, gloves, boots, etc.) is readily available on site.

4. The permittee make emergency spill procedures are available in a written format to all personnel when working on-site and shall familiarize all associated personnel with those procedures.

PART 11. REPORTING AND RECORD KEEPING

1. The permittee shall maintain current records detailing:
 - a) the origin of all contaminated material being stored and treated;
 - b) the volume of contaminated material accepted from each source;
 - c) a figure(s) showing the entire facility including the location within the facility of contaminated material from each source;
 - d) for soil combined in accordance with condition 6.2, the original source and volume of each component stockpile;
 - e) the total volume of contaminated material in the facility;
 - f) soil analysis results for samples from any contaminated material accepted for treatment or removed from the facility;
 - g) soil analysis results for any interim samples taken in order to assess remediation progress;
 - h) results of any water analyses conducted on runoff from the facility;
 - i) details of any nutrients added (including type, dates, quantity and location of application);
 - j) soil analysis results for any confirmatory samples taken for the purpose of determining if the soil was remediated;
 - k) groundwater elevations for all wells at the facility and the date of each elevation reading;
 - l) original analytical results of all groundwater analyses conducted;
 - m) details of any handling of highly contaminated material (including volumes accepted and/or removed from the facility);
 - n) the volume of material removed from the facility, the location and applicable land use(s) of the receiving site(s), and the written approval of an environmental protection analyst for removal of the material;
 - o) summaries of all inspections carried out under part 4.1 of this permit (including the name of the person conducting the inspection, the date of each inspection, any observations recorded during the inspection, actions taken as a result of those observations, and the date each action was taken);
 - p) notes concerning any spills or leaks occurring at the site, including substance involved, estimated quantity, date of observation of the spill or leak, spill reports made, and clean-up procedures implemented; and
 - q) any and all deficiencies observed and remedied in accordance with condition 4.2, and details describing how and when they were remedied.
2. The permittee shall submit an annual report to an environmental protection analyst on or before March 31 of each year, including the March 31 following the expiry of this permit, which includes but need not be limited to:
 - a) a description of all activities undertaken at the facility in the previous calendar year;

- b) all records required to be maintained under condition 11.1 as they pertain to the previous calendar year and reflective of conditions as of the end of that year, including original laboratory reports for all sample results reported;
 - c) a figure showing the entire facility, including the location of contaminated material from each source within the facility;
 - d) a sampling and monitoring plan for the current calendar year, pursuant to condition 7.1 of this permit; and
 - e) a workplan for the entire facility for the current calendar year.
3. Notwithstanding the reporting requirements listed in condition 11.2, analytical results for samples from contaminated or remediated material accepted for treatment or removed from the facility need not be included in the annual report where these results have previously been submitted to the Branch. Additionally, authorizations received from an environmental protection analyst (such as for the removal of treated soil) need not be included in the annual report. The permittee shall still include all other applicable information pertaining to this material (e.g. volumes, sources, etc.) in the report.
 4. The permittee shall include in the annual report described in condition 11.2 an explanation of any case where a requirement of condition 11.1 does not apply (for example, if no nutrients were added in the previous calendar year). The permittee shall submit the annual report described in condition 11.2 even if no activity was undertaken in the previous calendar year.
 5. The permittee shall keep all records required under this permit in a format acceptable to an environmental protection officer for a minimum of three years and make them available for inspection by an environmental protection officer upon request.

PART 12. DECOMMISSIONING

1. At least three months prior to the intended closure of the facility or any individual cells, the permittee shall submit a detailed decommissioning plan to an environmental protection analyst for approval which includes:
 - a) a schedule for decommissioning the facility or cell(s);
 - b) the results of sampling demonstrating the levels of contaminants in all soil in the facility or cell(s);
 - c) details of the intended use and receiving location of all soil in the facility or cell(s);
 - d) a description of the methods to be used to restore the site, or portion thereof, or to prepare the site location or portion thereof for its future uses; and
 - e) any other information required by the Branch.
2. If the permittee does not anticipate closure of the facility but closure is required, the permittee shall submit the information listed in 12.1 as soon as practicable.
3. The permittee shall obtain written approval of the decommissioning plan from an environmental protection analyst prior to the commencement of any work to decommission the facility or any individual cells.

4. The permittee shall obtain approval from an environmental protection analyst for all amendments to the decommissioning plan.
5. Following submission of the decommissioning plan as in condition 12.1, the permittee shall ensure that no additional contaminated material is accepted into the facility or individual cells to be closed.
6. The permittee shall conduct all work to decommission the facility or any individual cells in accordance with the decommissioning plan approved by an environmental protection analyst, including any conditions applicable to the approval.
7. The permittee shall commence decommissioning the cell(s) or facility within six months of receiving approval from an environmental protection analyst or as directed by an environmental protect analyst.
8. During decommissioning of the facility, the permittee shall have confirmatory samples collected from the bases of all cells in the facility, the berm material and any other area(s) of the site location that may have been impacted due to the operation of the facility. The permittee shall have these samples collected and analyzed for all contaminants of concern in accordance with *Protocol 11: Sampling Procedures for Land Treatment Facilities* as updated from time to time.
9. The permittee shall relocate any contaminated material excavated during implementation of the decommissioning plan to another cell, in the case of the closure of one or more cells, or another facility permitted to accept the material in accordance with the CSR, in the case of closure of the facility.
10. The permittee shall decommission all groundwater monitoring wells in accordance with *Protocol 7: Groundwater Monitoring Well Installation, Sampling and Decommissioning* as updated from time to time.
11. Within 120 days of implementation of the decommissioning plan, the permittee shall submit a report to an environmental protection analyst describing the effectiveness of the implementation of the approved decommissioning plan, including confirmatory sampling results which demonstrate that contaminant concentrations at the former cell or at the land treatment facility site location are below applicable CSR standards.