



STATE OF ALASKA  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
555 Cordova Street  
Anchorage, AK 99501

**SOLID WASTE GENERAL PERMIT**  
**DRILLING WASTE STORAGE FACILITY**  
**FOR WASTE GENERATED ON THE NORTH SLOPE**

General Permit No. **SWGPDRILL-23**

Date Effective: **March 18, 2018**

Date Expires: **March 17, 2023**

The Alaska Department of Environmental Conservation (DEC), under authority of AS 46.03 and 18 AAC 60, issues this solid waste general permit for the operation and maintenance of a storage facility for drilling waste generated on the North Slope. This permit replaces General Permit #SWGPDRILL-18. The following criteria must be met to conduct disposal under this permit:

- Waste must be generated in the North Slope of Alaska, which includes those portions of the state north of 68 degrees north latitude.
- Material to be stored may include only waste from oil and gas exploration, development, enhancement, or production activities, and RCRA non-exempt, non-hazardous waste.
- The storage facility must be designed and intended for more than one year of operation.
- Municipal solid waste, putrescible waste, camp waste, or hazardous waste may not be stored under this permit.
- This permit is to be used only for the storage of waste prior to permanent disposal and/or remediation.

If the applicant is not able to meet the conditions of this general permit, either an individual permit may be applied for under 18 AAC 60.210, or the waste must be brought to an existing facility permitted for the storage or disposal of drilling waste.

A person who wishes to store drilling waste under the conditions of this general permit must fill out the appropriate application form and submit it to DEC. Waste may not be placed in the storage facility until DEC has approved coverage under the permit, in writing.

This permit is subject to the annual fee listed in 18 AAC 60.700, Table E-4.

For purposes of the permit, the term **“facility”** refers to all land, structures, other appurtenances, and improvements on the land used for the treatment or storage of drilling waste.

**The permit holder shall manage and operate the waste facility in accordance with 18 AAC 60 and the permit application materials submitted to and approved by DEC. In addition, the following general and specific permit conditions and stipulations are required:**

## **SPECIFIC CONDITIONS**

### **1. Facility Location**

- a) Ensure the storage facility is not constructed on unstable soils/materials which could cause uneven settlement and slippage.
- b) Ensure that the storage facility is a minimum of 200 feet from any public drinking water source, including surface water or well.

### **2. Facility Design and Construction**

- a) Ensure the storage facility is designed so that it will not be damaged by thermal instability, including subsurface degradation of soils/material due to thawing of permafrost or freeze-thaw cycles.
- b) New facilities or lateral expansion of existing facilities must include a thermal monitoring system, if required by DEC
- c) New waste cells or lateral expansions of existing facilities must have designs reviewed and approved by DEC prior to construction. [18 AAC 60.203]
- d) Construct and maintain diversion structures such as ditches or berms to ensure that surface water runoff, including snow melt, does not flow onto the storage facility, over, into, or through the waste.
- e) Design, construct, and install a lined waste cell(s) in accordance with approved application materials and the liner manufacturer's specifications. The waste cell liner must be:
  - i. Constructed of a synthetic material with a hydraulic conductivity of no more than  $1 \times 10^{-7}$  cm/second;
  - ii. Continuous over the pit side walls and bottom;
  - iii. Securely anchored to prevent slippage into the pit;
  - iv. Designed so that deterioration of the liner system does not result from the placement or removal of waste in the cell;
  - v. Protected from frost action damage, and other freeze/thaw effects; and
  - vi. Resistant to, and compatible with, hydrocarbon and drilling mud waste.
- f) Provide documentation to DEC showing that the liner installation specifications have been satisfied prior to placing drilling waste in the waste cell.
- g) Ensure the integrity of the liner is maintained during all phases of construction and operation of the waste facility.
- h) New waste cells, lateral expansions, and reconstructed cells require a physical barrier to be installed above the liner to prevent damage to the liner from operations.

- i) Install and maintain a readable sign at the waste facility entrance, which identifies the following information:
  - i. Name of the facility and the permittee;
  - ii. Emergency telephone numbers;
  - iii. Type of waste stored at the waste facility; and
  - iv. Specify that municipal waste and hazardous waste are prohibited.
- j) At the request of DEC, install and maintain a fence around the waste cell(s) if needed to restrict access by unauthorized persons and wildlife.

### 3. Facility Operations

- a) Ensure that only waste from oil and gas exploration, development, enhancement, or production activities, and RCRA non-exempt, non-hazardous waste are accepted and/or stored at this facility.
- b) Prohibit the storage of municipal waste, putrescible wastes, camp waste, construction and demolition debris, oily wastes (such as used oil filters, waste oil, shop rags, and absorbents), spent radioactive material, lead-acid batteries, polychlorinated biphenyl (PCB) fluids, explosives, and any hazardous waste defined and regulated under 40 CFR 261.
- c) Ensure that wastes are deposited and removed in a manner that will not damage the impermeability of the liner, or otherwise jeopardize the integrity of the liner.
- d) Manage fluids in the waste cell such that:
  - i. All pumpable liquids that are in or on the waste cell are removed as soon as possible to prevent ponding or accumulation of fluids;
  - ii. The liquids are disposed in accordance with all applicable state laws and regulations; and
  - iii. A minimum two feet of freeboard is maintained in the waste cells at all times during operation.
- e) Temporarily close any waste cell that has not received or will not receive any waste for a period of one year, ensuring that:
  - i. A temporary cover is placed within 15 months following the last waste deposition in the waste cell;
  - ii. The temporary cover consists of an impermeable flexible membrane liner placed over the waste cell;
  - iii. The temporary cover is graded or sloped to promote surface water runoff without erosion or ponding, and that ponding or accumulation of water on top of the cap is minimized; and
  - iv. All water ponding on top of the temporary cap is removed as soon as possible.

#### 4. Surface Water Monitoring, Reporting, and Corrective Action

- a) Conduct surface water monitoring in accordance with the approved monitoring plan included in the application materials, with the exception of storage facilities at offshore developments, which are exempt from surface water monitoring requirements in this section.
- b) Establish at least three water sampling sites:
  - i. Sampling sites must provide an accurate representation of surface water quality off site within 200 feet of the waste facility. If suitable surface water sites are not available within 200 feet of the waste facility, shallow wells should be installed to access supra permafrost water flow, or DEC may approve alternate locations;
  - ii. Surface water sample sites may not be located in areas that are impacted from winter snow storage or runoff from snow storage stockpile areas;
  - iii. Samples must be collected from at least three compliance sample sites located within 200 feet of the waste facility; and
  - iv. Each surface water sample site must be clearly marked in the field and on the waste facility plan.
- c) Collect and analyze water samples from each approved sampling site once each summer until the waste cell is removed and the facility closed.
- d) Analyze all surface water samples for the parameters listed in Appendix A, and Calcium, Magnesium, and Sodium.
- e) Submit a report on surface water results to DEC no later than November 30 of each calendar year until the waste facility is permanently closed. Reports must include:
  - i. A comparison to applicable surface water standards listed in Appendix A;
  - ii. Copies of the laboratory summary reports of the surface water test results;
  - iii. A map showing the location of the waste cell, property boundary, sampling sites, and direction of surface water flow or topographical gradient;
  - iv. An analysis of surface water quality trends over time; and
  - v. A determination whether contamination is occurring. Contamination is indicated by:
    - A. A sudden or significant increase in concentration of one or more constituents which can be attributed to facility operations; or
    - B. Concentrations of one or more constituents which exceed the applicable surface water standards listed in Appendix A.
- f) Initiate the following actions if contamination is indicated:
  - i. Determine the extent of contamination;
  - ii. Determine if the waste facility is the cause of the contamination;
  - iii. Submit a corrective action plan, including a proposed schedule or timeline, to DEC within 30 days of determining contamination is present;

- iv. Obtain written approval of corrective action plan from DEC;
- v. Implement corrective actions to remediate the contamination; and
- vi. Any additional actions required by DEC, up to and including closure of the facility or reconstructing the facility to meet the standards of 18 AAC 60.432(d).

## 5. Other Monitoring and Corrective Action

- a) Visually monitor and record observations at the facility each month during active operation, using the Visual Monitoring Checklist in Appendix B, or another form that records the information required by 18 AAC 60.800(a).
- b) For facilities with a thermal monitoring system, conduct thermal monitoring in the months of June, July, August, and September each year to ensure that the underlying permafrost remains frozen to the greatest extent practical.
- c) Upon identifying any permit or regulatory violations or damage to the waste facility, immediately notify DEC and initiate appropriate corrective action necessary to remediate the problem.
- d) Conduct any additional monitoring or analysis deemed necessary by DEC to determine the extent of any violations of permit conditions or regulations.

## 6. Record Keeping

- a) Maintain an operating record until the facility is permanently closed. The operating record must include a copy of:
  - i. Permit;
  - ii. Permit application;
  - iii. Operating Plan;
  - iv. Monitoring Plan;
  - v. Inspection records;
  - vi. Monitoring reports;
  - vii. Financial assurance documentation required under 18 AAC 60.265;
  - viii. Current as-built drawings of the waste facility; and
  - ix. Any other training records, notification records, demonstrations, certifications, findings, analytical data, or other records required by DEC.
- b) Make the operating record readily accessible for DEC review.

## 7. Waste Cell Removal

- a) Submit a waste cell removal plan to DEC at least thirty days before the waste facility is to be permanently closed. The closure plan must include:
  - i. Detailed procedures to remove all waste material from the waste cell and dispose at a permitted facility;

- ii. Detailed procedures to remove all timbers, liners, berms, and debris associated with the waste cell, and either reuse or dispose at a permitted facility;
  - iii. A detailed plan for performing confirmation sampling after the waste cell is removed that meets the requirements of Section 8a of this permit; and a proposed schedule or timeline for completing removal activities.
- b) Obtain written approval of the removal plan from DEC prior to commencing closure activities.
  - c) Close the waste facility in accordance with the approved plan.
  - d) Submit a statement verifying that the waste cell removal has been completed to DEC within 30 days of completing final closure and confirmation sampling. This closure verification must include:
    - i. A statement verifying that the facility was closed in accordance with the closure requirements of this permit and the approved closure plan;
    - ii. The date(s) the closure activity took place; and
    - iii. The signature of the person who supervised or performed the closure activity certifying that the information provided is true.

## **8. Confirmation Sampling**

- a) Within 10 days of waste cell removal, collect representative grab samples of:
  - i. Soil underlying the waste cell(s); and
  - ii. Water within the waste cell(s), if present.
- b) Analyze soil and water samples for the parameters listed in Appendix A.
- c) Submit a report on sample results to DEC within 30 days of receiving sample results from the laboratory. Reports must include;
  - i. A comparison between laboratory results for soil that was underlying the waste cell(s) and the standards in Appendix A;
  - ii. A comparison to applicable surface water standards listed in Appendix A for water that was underlying the waste cell(s), if present;
  - iii. Copies of the laboratory summary reports of the laboratory test results; and
  - iv. A map showing the location of the waste cell, property boundary, sampling sites, and direction of surface water flow or topographical gradient.
  - v. A determination whether contamination is present. Contamination is indicated by:
    - A. Concentrations of one or more constituents in soil that significantly exceed the standards in Appendix A, or alternatively, measured background levels at the facility; or
    - B. Concentrations of one or more constituents in surface water which exceed the applicable surface water standards listed in Appendix A.

- d) Initiate the following actions if contamination is indicated:
  - i. Determine the extent of contamination;
  - ii. Determine if the waste facility is the cause of the contamination;
  - iii. Submit a corrective action plan, including a proposed schedule or timeline, to DEC within 30 days of determining contamination is present;
  - iv. Obtain written approval of corrective action plan from DEC;
  - v. Implement corrective actions to remediate the contamination; and
  - vi. Any additional actions required by DEC.
- e) If no contamination is present after removal of the facility, discontinue all surface water and visual monitoring.
- f) If contamination is present after removal of the facility and its contents, continue all monitoring activities required during the time that the facility is active until the permittee completes corrective action to the satisfaction of DEC.
- g) Conduct any additional investigation, assessment, monitoring, and/or remediation required by DEC if new information regarding conditions at the facility indicates that further actions are necessary to protect human health or the environment.

## GENERAL CONDITIONS

1. **Access and Inspection** - The Permittee shall allow the Commissioner or representatives access to the permitted facilities at reasonable times to conduct scheduled or unscheduled inspections or tests to determine compliance with this permit, State laws, and regulations.
2. **Information Access** - Except for information relating to confidential processes or methods of manufacture, all records and reports submitted in accordance with the terms of this permit shall be available for public inspection at the State of Alaska, Department of Environmental Conservation, local area office.
3. **Civil and Criminal Liability** - Nothing in this permit shall relieve the Permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond his control, including, but not limited to, accidents, equipment breakdowns, or labor disputes.
4. **Availability** - The Permittee shall post or maintain a copy of this permit available to the public at the facility.
5. **Adverse Impact** - The Permittee shall take all necessary means to minimize any adverse impacts to the receiving waters or lands resulting from noncompliance with any limitation specified in this permit, including any additional monitoring needed to determine the nature and impact of the noncomplying activity. The Permittee shall clean up and restore all areas adversely impacted by the noncompliance.

6. **Cultural or Paleontological Resources** - Should cultural or paleontological resources be discovered as a result of this activity, work which would disturb such resources is to be stopped, and the State Historic Preservation Office, Division of Parks and Outdoor Recreation, Department of Natural Resources, is to be notified immediately (907-269-8721).
7. **Applications for renewal** - In accordance with 18 AAC 15.100(d), applications for renewal or amendment of this permit must be made no later than 30 days before the expiration date of the permit.
8. **Other Legal Obligations** - The requirements, duties, and obligations set forth in this permit are in addition to any requirements, duties, or obligations contained in any permit that the Alaska Department of Environmental Conservation or the U.S. Environmental Protection Agency has issued or may issue to the Permittee. This permit does not relieve the Permittee from the duty to obtain any and all necessary permits and to comply with the requirements contained in any such permit or with applicable state and federal laws and regulations. All activities conducted by the Permittee pursuant to the terms of this permit and all plans implemented by the Permittee pursuant to the terms of this permit shall comply with all applicable state and federal laws and regulations.
9. **Pollution Prevention** - In order to prevent and minimize present and future pollution, when making management decisions that affect waste generation, the Permittee shall consider the following order of priority options: waste source reduction; recycling of waste; waste treatment; and waste disposal.

This permit expires on **March 17, 2023**, and may be revoked or amended in accordance with 18 AAC 60.255. The permit can be renewed if the waste facility will operate beyond this date. To avoid expiration of this permit, a renewal application, on a form provided by DEC, must be submitted to DEC no later than February 17, 2023.

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*Robert J. Blankenburg, P.E.*  
*Solid Waste Program Manager*

Monitoring Parameters and Standards

Surface Water

Parameter	Standard <sup>(a)</sup> µg/L	Alternate Standards
Arsenic	10	Alternate standards may be proposed if analysis of a series of nearby locations, unaffected by the storage facility, indicate that the background concentration exceeds the standard.
Barium	2000	
Chromium (total)	100	
Lead	0.69 <sup>(b)</sup>	
Nickel	18.84 <sup>(b)</sup>	
Zinc	43.2 <sup>(b)</sup>	
Benzene	5	
Toluene	1000	
Ethylbenzene	700	
Xylene	10,000	
Total Aromatic Hydrocarbons (TAH)	10	
Diesel Range Organics (DRO)	1500 <sup>(c)</sup>	
Sodium Absorption Ratio (SAR) <sup>(d)</sup>	2.5	
pH	6.5-8.5	
Sheen test	No Hydrocarbon Sheen	

**(a) Source of standards:** 18 AAC 70.020(b) and the *Alaska Water Quality Criteria Manual for Toxic and Other Deleterious Organic and Inorganic Substances*, incorporated by reference, except where noted

**(b) Standard @** a hardness of 30 mg/L CaCO<sup>3</sup>. For a hardness dependent standard value, use the most stringent total recoverable (TR) standard in the calculator on the STDCalc tab of the Inorganic Toxics Criteria Worksheet at <http://dec.alaska.gov/water/wqsar/wqs/toxicsbook.xls>.

**(c) Source of Standard:** 18 AAC 75.345, Table C Groundwater Cleanup Criteria

**(d) SAR**= $[Na^+] / \sqrt{1/2([Ca^{2+}] + [Mg^{2+}])}$

Soil

Parameter	Standard mg/Kg	Alternate Standards
Arsenic	0.20	If the average of measured background concentrations exceeds the listed standard, then the average of measured background concentrations will replace the listed standard [18 AAC 60.490 (b)]
Barium	2100	
Chromium (total)	0.089	
Lead	400	
Nickel	340	
Zinc	4900	
Benzene	0.022	
Toluene	6.7	
Ethylbenzene	0.13	
Xylene	1.5	
Diesel Range Organics	230	

## Visual Monitoring Checklist

<b>Facility Name:</b>	
<b>Inspector:</b>	
<b>Date:</b>	

Evaluate each item, check whether acceptable (A) or unacceptable (U), fill in any required information, and make notes on the conditions observed and corrective actions taken.

A	U	Notes
		Access control measures are in good repair/functioning (fencing, gates, berms, or other barriers necessary to prevent unauthorized access or dumping).
		Damage to or slippage of the liner?
		Damage to surface water monitoring markers and/or points?
		Signs of erosion?
		Signs of thermal instability or frost action?
		Signs of settlement in covered areas?
		Any ponding or accumulation of standing water?
		Signs of leakage or leachate seeping?
		Signs of damage to any portion of the waste facility, including containment structure, retaining wall, erosion control, diversion structure, or other structures?
		Other signs of instability?
		Escape of waste (waste outside the storage area)?
		Unauthorized types of waste in <b>or near</b> the storage facility?
		Signs of fire or combustion in the waste cell?
		Evidence of death or stress to fish, wildlife, or vegetation that might be caused by the waste facility?
		Any other violations of permit conditions or regulations?