

AUTHORIZATION TO DISCHARGE UNDER THE ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR

GENERAL PERMIT AKG332000 – FACILITIES RELATED TO OIL AND GAS EXPLORATION, PRODUCTION, AND DEVELOPMENT IN THE NORTH SLOPE BOROUGH DRAFT

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Wastewater Discharge Authorization Program
555 Cordova Street
Anchorage, AK 99501

In compliance with the provisions of the Clean Water Act (CWA), 33 U.S.C. §1251 et seq., as amended by the Water Quality Act of 1987, P.L. 100-4, this permit is issued under provisions of Alaska Statutes (AS) 46.03; the Alaska Administrative Code (AAC) as amended; and other applicable State laws and regulations. The following discharges may be authorized by this permit:

DISCHARGE NUMBER	DISCHARGES DISCRIPTION
002	Graywater
003	Gravel Pit Dewatering
004	Excavation Dewatering
005	Hydrostatic Test Water
006	Storm Water
007	Mobile Spill Response
008	Contained Water (Formerly Secondary Containment)

Owners and operators of facilities related to oil and gas exploration, production, and development activities, located in the North Slope Borough or coastal marine waters of the U.S. offshore of the North Slope Borough and landward of the inner boundary baseline (Attachment 1 – Coverage Area Map), are authorized to discharge wastewater to waters of the United States, waters of the state, land disposals only in accordance with effluent limits, monitoring requirements, and other conditions set forth herein.

A COPY OF THIS GENERAL PERMIT MUST BE KEPT AT THE SITE WHERE DISCHARGES OCCUR

This permit is effective. **TBD**

This permit and the authorization to discharge shall expire at midnight on TBD.

The permittee shall reapply for a permit reissuance on or before **TBD**, 90 days before the expiration of this permit.

Draft	
Signature	Date
	Program Manager
Printed Name	Title

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SCHEDULE OF SUBMISSIONS

The Schedule of Submissions summarizes some of the required submissions and activities the permittee must complete and/or submit to the Alaska Department of Environmental Conservation (DEC or the Department) during the term of this permit. The applicant is responsible for submitting the Items in Table 1 to the Wastewater Discharge Authorization Program Permitting Section or DEC Division of Water – Compliance Section through the Environmental Data Management System (EDMS).

Table 1: Schedule of Application Submissions – Notices, Plans, and Reports

Permit Sections	Submittal ^a	Frequency	Due Date
1.5.1; 1.6.1.1	NOI for a new facility to obtain authorization to discharge that does not require a new waiver or plan submittal	As necessary	30 days prior to discharge
1.5.1; 1.6.1.1	NOI to revise existing permit authorization that does not require a new waiver or plan submittal	As necessary	30 days prior to discharge
1.5.1; 1.6.1.2	NOI for a new facility to obtain authorization to discharge that requires a new waiver or plan submittal	As necessary	45 days prior to discharge
1.5.1; 1.6.1.2	NOI to revise existing permit authorization that requires a waiver or plan submittal	As necessary	45 days prior to discharge
1.5.1; 1.6.1.4	NOI for permittees requesting an administrative extension under the Permit	1/Permit cycle	At least 90 days prior to permit expiration
1.6.2.2;	Notice of Termination Form for Authorization	As Necessary	Within 45 Days of Terminating Discharge
1.6.2.2;	Notice of Inactivation Form for Individual Outfalls	As Necessary	Within 45 Days of Terminating Discharge
1.6.3	Notice of Transfer	As Necessary	As Needed
2.11	Annual Reports	1/Year minimum	No Later than January 31 of each year.
Appendix A 1.12.3 & 1.12.4	Delegation of Authority	As Necessary	As Needed
2.1.9	Oral notification of noncompliance	As Necessary	Within 24 hours from the time the permittee becomes aware of the circumstances of noncompliance (i.e., MDL excursion)
Appendix A 3.4.1.2	Written documentation of noncompliance	As Necessary	Within 5 days after the permittee becomes aware of the circumstances

NOTES:

a) Submittals can be submitted in the EDMS. Alternative submittal methods are available upon request.

1.0 PERMIT COVERAGE

1.1 Coverage and Eligibility

- 1.1.1 AKG332000 Facilities Related to Oil and Gas Exploration, Production, and Development in the North Slope Borough general permit (NSGP or Permit) will authorize discharges to fresh waters located in the North Slope Borough and coastal marine waters of the United States (U.S.) offshore of the North Slope Borough and landward of the inner boundary baseline per 18 AAC 83. In addition, the NSGP will authorize discharges to waters of the state and disposals to land per 18 AAC 72.
- 1.1.2 **Existing Permittees:** Facilities with existing wastewater discharge authorizations that are administratively extended prior to the effective date of the reissued NSGP will be granted automatic coverage upon the effective date of the Permit. Existing North Slope permittees temporarily authorized under existing AKG002000 and AKG003000 may obtain automatic authorization, if appropriate.
- 1.1.3 **Administratively Extended Graywater Authorizations**: Existing Authorizations for Graywater Discharges under administrative extension will be terminated June 30, 2024. Thereafter, Graywater authorizations will be issued as short-term authorizations per winter season or project duration to be consistent with other short-term authorizations for excavation dewatering, hydrostatic test water.
- 1.1.4 Contained Water Discharges to Marine Water: Authorizations for Contained Water Discharges from onshore sedimentation basins containing dredge material may be issued after a 30-day public notice of a Statement of Basis that includes effluent characterization, limit derivation, mixing zone determinations, an antidegradation analysis, and other requirements needed to support the authorization. See Section 1.5.1.4.3 for Application Requirements.
- 1.1.5 Authorization to discharge requires written notification from the Department that coverage has been granted and will include, but not be limited to: 1) a specific general permit authorization number assigned to the facility; 2) a mixing zone (if requested); 3) a list of authorized discharges; and 4) other facility-specific requirements and information (See Sections 1.5.1.5 and 1.5.1.6).

1.2 Authorized Wastewater Discharges

- 1.2.1 This Permit authorizes and places conditions on wastewater discharges from facilities related to oil and gas exploration, development, and production that are located within a specified geographical area, both of which are described in Section 1.1. Per Section 1.5, the Department must determine if the information submitted by the applicant seeking coverage under this Permit, including submittals required by the most recent version of 18 AAC 72, is sufficient prior to authorization under this Permit. Specifically, airports are excluded from coverage under the NSGP.
 - 1.2.1.1 Limitations for discharges to state waters and waters of the U.S. (WOTUS) are the same. However, reporting requirements may differ unless a waiver from the electronic reporting (e-Reporting) rule per 40 CFR 127.15(b)(2) is requested by the applicant and granted by the Department.

- 1.2.1.2 Disposal to land will be considered on a case-by-case basis. The authorized disposal must be to an area with soils capable of infiltration at the maximum expected discharge rate and of adequate size to allow for complete infiltration with no off-site discharge.
- 1.2.1.3 Note that graywater is a subset of "domestic wastewater", specifically excluding blackwater, per 18 AAC 72.
- 1.2.2 This Permit authorizes the following discharges, or disposals, from oil and gas related facilities:

<u>DISCHARGE NUMBER</u>	DISCHARGES DISCRIPTION
002	Graywater (short-term, long-term on case-by-case basis)
003	Gravel Pit Dewatering (long or short-term)
004	Excavation Dewatering (short-term only)
005	Hydrostatic Test Water (short-term only)
006	Storm Water (long-term only)
007	Mobile Spill Response (long or short-term)
008	Contained Water (long or short-term)

1.3 Prohibitions

- 1.3.1 The discharge of any pollutant that is not expressly authorized in this Permit is prohibited.
- 1.3.2 This Permit prohibits the discharge of any waste streams, including spills and other unintentional or non-routine discharges of pollutants that are not part of the normal operation of the facility or any pollutants that are not ordinarily present.
- 1.3.3 This Permit does not authorize discharges from mobile offshore drilling units, lift boats, barges, or other floating facilities. This restriction does not include discharges originating from dredge projects that transfer material to onshore sedimentation ponds.
- 1.3.4 This Permit prohibits the discharge to any receiving water that is listed on the CWA Section 303(d) list as impaired for failure to meet a water quality standard (WQS) and the facility discharges a pollutant that causes or contributes to the impairment.
- 1.3.5 The discharge of maintenance waste such as removed paint and materials associated with surface preparation and coating application is prohibited. Prior to conducting sandblasting or similar maintenance activities, the permittee must develop and implement BMPs (Section 3.2) for the containment, collection (e.g., vacuum abrasive blasting, cover grated areas with plywood, use of canvas tarps in surrounding area, or other similar measures to capture materials to the extent practicable), and proper disposal of waste material.

1.4 Requiring an Individual Permit

- 1.4.1 The Department may require a permittee authorized to discharge under the NSGP to apply for and obtain an individual permit, or any interested person may petition the Department to take this action. Per 18 AAC 83.215, the Department may consider the issuance of an individual permit when:
 - 1.4.1.1 The single discharge or a cumulative number of discharges is/are a significant contributor of pollution;

- 1.4.1.2 The permittee is not in compliance with or could not meet the terms and conditions of the NSGP;
- 1.4.1.3 A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source;
- 1.4.1.4 Effluent limit guidelines are subsequently promulgated for the point sources covered by the NSGP;
- 1.4.1.5 A Total Maximum Daily Load and corresponding waste load allocation have been completed for a waterbody or a segment of a waterbody;
- 1.4.1.6 Circumstances have changed since the time of the request to be covered so that the permittee is no longer appropriately controlled under the NSGP, or either a temporary or permanent reduction or elimination of the authorized discharge is necessary.
- 1.4.2 The Department will notify the applicant in writing by certified mail that an individual permit application is required. If an applicant fails to submit an individual permit application by the date required in the notification, coverage under the NSGP is automatically terminated at the end of the day specified for application submittal.
- 1.4.3 Any permittee authorized under this Permit may request to be excluded from the coverage of the NSGP by applying for an individual permit. The permittee shall submit an individual permit application, comprised of APDES permit application Form 1 and Form 2C, as well as Form 2M (Mixing Zones) or 2G (Anti-Degradation) if necessary, with reasons supporting the request to the Department at the address in Appendix A, Section 1.1.1.
- 1.4.4 When an individual permit is issued to a permittee otherwise covered by this Permit, the applicability of this Permit to the permittee is automatically terminated on the effective date of the individual permit.
- 1.4.5 When an individual permit is denied to a permittee otherwise covered by this Permit, the permittee is automatically reinstated under this Permit on the date of such denial, unless the permittee cannot meet the conditions of the NSGP or otherwise specified by the Department.
- 1.4.6 An applicant excluded from the NSGP solely because it already has an individual permit may request that the individual permit be revoked and that it be covered by this Permit.

 Upon revocation of the individual permit, and if the permittee can comply with the terms of the NSGP, then this Permit shall apply to the permittee.

1.5 Notice of Intent Requirements, Review, and Authorization Process

- 1.5.1 Applicants shall submit a complete NOI form in EDMS for long-term authorization requests and short-term authorization requests. NOI Forms will provide details necessary to be submitted. At a minimum, the following must be attached to the NOI for it to be deemed administratively complete:
 - 1.5.1.1 **Vicinity Maps:** A legible area map and a chart of the receiving water(s) depicting the facility location(s) and latitude and longitude of proposed discharge locations must be submitted with the NOI. Vicinity maps for storm water and ice road discharges may be requested on a case-by-case basis at any time.

- 1.5.1.2 **Site Information and Detailed Plans:** Applicants are required to submit detailed site information or plans depicting waste streams from the facility including estimated flow rates, effluent flow paths, and other information necessary to characterize the discharges per the applicable NOI Form.
- 1.5.1.3 **e-Reporting Waiver Requests:** For any discharges to WOTUS, the applicant may request a waiver to the Electronic Reporting (e-Reporting) Rule per 40 CFR 127.15(b)(2). The applicant is responsible for verifying WOTUS designation, if not already defined, as described in 40 CFR part 120. Existing administratively extended authorizations receiving automatic renewals will be assumed to have requested a waiver unless the permittee provides a written request not to be granted a waiver, if applicable (i.e., WOTUS discharge).

1.5.1.4 **Mixing Zone Applications**

- 1.5.1.4.1 Applicants must submit a mixing zone request form with the NOI to be eligible for a 650-ft (200-meter) radius mixing zone for a temporary excursion from marine or freshwater quality criteria for fecal coliform bacteria in graywater discharges. Based on the mixing zone request submitted, DEC will make a determination as to whether the discharges associated with the request for 650-ft (200-meter) radius mixing zone for Graywater (Discharge 002) is consistent with Permit conditions and that the site conditions meet Permit requirements
- 1.5.1.4.2 Applicants must submit a mixing zone request form with the NOI to be eligible for a 500-ft (180-meter) mixing zone for a temporary excursion from freshwater quality criteria for turbidity in Gravel Pit Dewatering (Discharge 003) or Excavation Dewatering discharges (Discharge 004). Based on the mixing zone request submitted, DEC will make a determination as to whether the discharges associated with the request for 500-ft mixing zone is consistent with Permit conditions and that the site conditions meet Permit requirements
- 1.5.1.4.3 To be eligible for a temporary excursion from marine water quality criteria for turbidity in discharges from onshore sedimentation ponds treating marine dredge material, applicants may apply for an individual permit by submitting APDES permit application Forms 1 and 2C, with supporting documentation, as well as Form 2M (Mixing Zones) and Form 2G (Anti-Degradation) to DEC. The submittal must include effluent characterization information and an antidegradation analysis per 18 AAC 70.015 and 18 AAC 70.016. A 30-day public notice will be required to successfully obtain authorization.
- 1.5.1.5 **Plan submittals:** Per the most recent version of 18 AAC 72, plan submittals may be required for a non-domestic or domestic wastewater treatment systems prior to discharge authorization.
 - 1.5.1.5.1 The Department will review plan submittals and supporting documentation with the NOI to determine if discharges from domestic or non-domestic treatment system are likely to attain permit limits and are otherwise eligible for coverage under this Permit.
 - 1.5.1.5.2 Applicants who already have a Department approval for a domestic or non-domestic wastewater treatment system, must submit a copy of the approval to support the NOI.

- 1.5.1.6 **Waivers to Secondary Treatment:** Per the most recent version of 18 AAC 72.060, graywater discharges will be required to obtain a waiver from minimum treatment standards prior to discharging to surface waters.
 - 1.5.1.6.1 For new domestic wastewater treatment systems (graywater), the Department will review the engineering plan submittal, waiver request, and supporting documentation submitted with the NOI to determine if minimum treatment requirements of 18 AAC 72.050 should be waived and the if permittee is eligible for Graywater (Discharge 002) coverage under this Permit.
 - 1.5.1.6.2 If the treatment system or facility (e.g., sleigh camp) for which an existing plan review and/or waiver to minimum treatment standards has been significantly modified, DEC may require resubmittal of new engineer plans and/or waiver requests. DEC will make a determination on whether plan reviews are required in a pre-application meeting with the applicant.
 - 1.5.1.6.3 Applicants who already have a waiver from minimum treatment standards for Graywater (Discharge 002) and the system has not been significantly modified must include a copy of waiver approval to support the NOI and certify that there have been no significant modifications to the treatment system or facility or which the waiver request was originally granted. Contact DEC if unsure if modifications are significant prior to submitting the NOI.
- 1.5.1.7 **Payment:** New applicants must submit the application fee per 18 AAC 72 with the NOI. Permittees currently authorized under existing AKG332000 that receive automatic authorization renewals need only continue paying annual fees even if a revised authorization is requested. New applicants that submit an NOI in October and pay the application fee will not be required to pay the annual fee for the next year, typically invoiced in January. Fee amounts may be reassessed during the Permit term.
- 1.5.2 The Department will review a NOI for completeness and accuracy. If a NOI is found to be technically incomplete, the Department will notify the applicant of the needed additional information or changes to the NOI submittal.
- 1.5.3 The Department will make a determination regarding the appropriateness of granting Permit coverage at a proposed discharge traversing area of operation (e.g. ice roads or storm water) based on information received. Location coordinates provided in the NOI for each proposed discharge location or area of operation will be used to determine if a discharge is authorized by the NSGP or would require application for an individual permit.
- 1.5.4 Upon completion of the NOI review, or 30-day public notice for a Statement of Basis in the specific case of discharges from contained marine dredge material, or other contained water sources not considered in the public notice of the permit, the Department will do one of the following:
 - 1.5.4.1 Prepare and transmit a written authorization for coverage specifying:
 - 1.5.4.1.1 Permit authorization number, a list of authorized discharges and assigned outfall numbers, authorized discharge location or area of operation, and any other conditions necessary to comply with this Permit;

- 1.5.4.1.2 Whether submitted information required by the most recent version of 18 AAC 72 is sufficient to obtain coverage for graywater, if requested; and
- 1.5.4.1.3 Whether a regulatory mixing zone is authorized.
- 1.5.4.2 Notify the applicant of required revisions to the NOI submittal; or
- 1.5.4.3 Deny coverage under the North Slope GP and require an applicant to submit an individual permit application or an NOI for another applicable general permit.

1.6 Notification Requirements

- 1.6.1 **NOI:** All applicants for facilities related to oil and gas exploration, production, and development who are seeking authorization to discharge under this Permit must submit a timely and complete NOI to the Department through EDMS unless DEC approves another method of submittal.
 - 1.6.1.1 New applicants and existing permittees requesting a revision to an existing authorization that do not require a domestic or non-domestic plan submittal or minimum treatment waiver per the most recent version of 18 AAC 72, or applicants who already have DEC approval letters, must submit a complete NOI at least 30 days prior to discharge and must attach any applicable DEC approval letters.
 - 1.6.1.2 New applicants and existing permittees requesting a revision to an existing authorization that are required to submit plans for a non-domestic or graywater treatment system (Section 1.5.1.5) or a waiver request from minimum treatment (Section 1.5.1.6), must submit a complete NOI and supporting documentation to DEC at least 45 days prior to discharge. Incomplete NOIs or plan submittals may delay authorization timelines.
 - 1.6.1.3 Existing permittees who are administratively extended under previous AKG332000 are not required to submit an NOI unless they seek to revise their administratively extended authorization per Section 1.6.1.1.
 - 1.6.1.4 The NOI shall be signed by the owner, or other signatory authority per 18 AAC 83.385(a).
 - 1.6.1.5 Permittees requesting an administrative extension for an authorization under this reissued Permit must submit an NOI for renewal at least 90 days prior to the expiration of this Permit. DEC may extend short-term discharges under an administrative extension on a case-by-case basis.
- 1.6.2 **Termination of Authorizations and Inactivation of Outfalls:** All facilities wishing to inactivate an individual outfall or terminate an entire authorization must either submit an NOI for revising an authorization or a certified Notice of Termination (NOT) Form in EDMS, unless DEC approves another method of submittal.
 - 1.6.2.1 **Inactivation of Outfalls:** Specific outfalls in existing authorizations may be inactivated by submitting a certified NOI Form for revising an authorization and all required reports and certifications for that specific discharge to DEC within 30 days prior to inactivating the discharge. The inactivation of the outfall will be effective upon issuance of a revised authorization.

- 1.6.2.2 **Expedited Termination of Authorizations:** An existing authorization may be terminated by submitting a certified NOT Form and all required reports to DEC within 30 days of terminating all discharge activities. The permittee must certify that there are no pending legal actions affecting the termination of the authorization. Termination is effective upon receiving written notification (email unless otherwise requested) from the Department.
- 1.6.3 **Notice of Transfer.** A Permit authorization may be transferred from an existing owner and/or operator to a new owner and/or operator. This Permit authorizes a transfer only for an existing facility location designated in the original NOI. Discharge authorizations for a particular facility may not be transferred to another facility at the same site, nor will the transfer apply to the same facility at a new location. In these situations, the new applicant would have to apply for new coverage under this Permit.

1.7 Permit Expiration

This Permit will expire at midnight on **TBD**.

2.0 LIMITS AND MONITORING REQUIREMENTS

2.1 Requirements for all Discharges

- 2.1.1 During the effective period of this Permit, the permittee is authorized to discharge pollutants within the area of coverage set forth in 1.1.2, in accordance with the limits and conditions set forth herein.
- 2.1.2 This Permit authorizes the discharge of only those pollutants resulting from waste streams or operations which have been clearly identified in the NOI and this Permit, and issued a written authorization by the Department.
- 2.1.3 When applying effluent limits to commingled discharges, the more stringent effluent limits apply to the commingled discharge. If a commingled waste stream is not authorized per Section 2.1.2, then the commingled discharge is not authorized. Monitoring for compliance with technology-based effluent limits must be accomplished prior to commingling.
- 2.1.4 The permittee must collect all effluent samples from the effluent stream of each discharge after the last treatment unit prior to discharge into the receiving waters, except as otherwise required by discharge-specific sections of this Permit and/or authorization.
- 2.1.5 The permittee must comply with the effluent limits in this Permit at all times unless otherwise indicated, regardless of the frequency of monitoring or reporting required by other provisions of this Permit.
- 2.1.6 **Residues:** Discharges may not alone or in combination with other substances or wastes, make the water unfit or unsafe for the use; cause a film, sheen, or discoloration on the surface of the water or adjoining shorelines; cause leaching of toxic or other deleterious substances; or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.
- 2.1.7 The permittee must minimize the discharge of surfactants, dispersants, and detergents except as necessary to comply with the safety requirements of the Occupational Health and

- Safety Administration. This restriction applies to tank cleaning and other operations that do not directly involve the safety of workers.
- 2.1.8 If requested, the permittee must provide DEC with a sample of any waste stream in the manner specified by DEC as soon as practicable after the request.
- 2.1.9 The permittee must report exceedances of MDL's for flow volume, pH, BOD₅, TSS, TRC, and FC bacteria within 24 hours of the permittee becoming aware of the exceedance. The report must be made orally to the Department's Compliance and Enforcement Program in accordance with Appendix A, Part 3.4.

2.2 Effluent Limitations and Requirements for Graywater (Discharges 002)

In addition to the restrictions set out in Section 2.1, the permittee must comply with the following maximum daily limits (MDL) and average monthly limits (AML), and monitoring requirements and limitations.

Table 2: Effluent Limits and Requirements for Graywater (Discharge 002)

Donomoton (Unit)	Effluent Limits		Monitoring Requirements			
Parameter (Unit)	MDL AML		Frequency	Location	Sample Type	
Flow Volume (gallons per day (gpd))	5000	Report	daily	Effluent	Estimate or Measure ^a	
pH ^b (Standard Units (SU))	6.5 ≤ 1	$oH \le 8.5$	1/week	Effluent	Grab	
Five-day Biochemical Oxygen Demand (BOD ₅) (milligrams per liter (mg/L))	2,305	826	1/month	Effluent	Composite ^c or Grab	
Total Suspended Solids (TSS) (mg/L)	820	296	1/month	Effluent	Composite ^c or Grab	
Total Residual Chlorine (TRC) – Freshwater ^d (micrograms per liter (μg/L))	19	11	1/week	Effluent	Grab	
TRC – Marine ^d (µg/L)	13	7.5	1/week	Effluent	Grab	
Fecal Coliform (FC) Bacteria – Freshwater ^g (Fecal Coliform per 100 milliliter (FC#/100mL)) ⁱ	40 °	20 ^f	1/month	Effluent	Grab	
FC Bacteria – Fresh h(FC#/100mL)i	400 e	200 ^f	1/month	Effluent	Grab	
FC Bacteria – Marine ^g (FC#/100mL) ⁱ	40 ^e	14 ^f	1/month	Effluent	Grab	
FC Bacteria – Marine h (FC#/100mL)i	400 e	140 ^f	1/month	Effluent	Grab	

- a) Flow volume shall be measured or estimated.
- b) The effluent limit for pH shall not be less than 6.5 or greater than 8.5. Report maximum and minimum for each month.
- c) See Appendix C of the General Permit for composite sample definition.
- d) Sampling for chlorine is not required if chlorine is not used as a disinfectant or introduced elsewhere in the system. The method detection limit for TRC is $100 \,\mu\text{g/L}$ (using approved EPA analytical methods) and will be used as the compliance level for TRC.
- e) No more than 10% of the samples may exceed the MDL for FC bacteria. If less than 10 samples are collected, compliance can be determined by calculating 90th percentile of the sample set. If the calculated percentile is less than or equal to the MDL, the discharge is compliant.
- f) Average results for FC bacteria must be reported as the geometric mean. When calculating the geometric mean, replace all results of zero (0), with a one (1). The geometric mean of "n" quantities is the "nth" root of the quantities. For example, the geometric mean of 10, 20, and 30 is $(10 \times 20 \times 30)^{1/3} = 18.2$.
- g) Limits apply to discharges without an approved mixing zone.
- h) Limits apply to discharges with an approved mixing zone (See Section 7.2 for details).
- i) All bacterial limits are in the units of FC#/100 mL regardless of the method used. Permittee may use results in most probable number (mpn) or CFU as FC#/100 mL.
- 2.2.1 **FC Bacteria MDL Compliance:** Compliance with the MDL for FC bacteria may be determined using a calculated 90th percentile of a dataset. Statistical software or spreadsheet function (e.g., "=percentile.inc[array,k]") can substitute for hand calculation methods. The method must be included in the QAPP and noted in the monitoring report comments section.

- 2.2.2 **Discharge Location Limitation:** Graywater discharges to open waters are prohibited. Discharge activities shall only occur to frozen conditions during periods when tundra travel is allowed for mobile camps. Note: discharge to the marine environment is only acceptable on sea ice.
- 2.2.3 **Discharge Duration Limitation:** Graywater discharges may occur for a period of not more than 30 days at any given discharge location.
- 2.2.4 **Specific BMPs:** BMPs must be developed in accordance with Sections 3.2.5.1 and 3.2.5.4

2.3 Effluent Limitations and Requirements for Gravel Pit Dewatering (Discharge 003)

In addition to the restrictions set out in Section 2.1, the permittee must comply with the following effluent limitations and monitoring requirements.

Table 3: Effluent Limits and Requirements for Gravel Pit Dewatering (Discharge 003).

D(U	Effluent	Monitoring Requirements			
Parameter (Units)	Limits	Frequency	Location	Sample Type	
Flow Volume ^a (gpd)	Report	Daily	Effluent	Estimate or Measured	
pH ^b (S.U.)	$6.5 \le \mathrm{pH} \le 8.5$	Weekly	Effluent	Grab	
Freshwater Turbidity (Nephelometric Turbidity Units (NTU))	Report d	Weekly	Upstream ^c	Grab	
Freshwater Turbidity (NTU) With no Mixing Zone	Varies d,e,f	Weekly	Effluent	Grab	
Freshwater Turbidity (NTU) With Mixing Zone	Varies d,e,f	Weekly	Down Stream	Grab	
Suspended Solids (SS) ^g (milliliter per liter (mL/L))	0.2	Weekly	Effluent	Grab	
Oil and Grease (oily sheen) h	No Discharge	Daily	Effluent	Visual	
TAH ⁱ (µg/L)	Report	Event	Effluent	Grab	
TAqH ⁱ (μg/L)	Report	Event	Effluent	Grab	

- a) Record daily flow measurements or estimates in a daily log. Report daily maximum and total volume for each month
- b) The effluent limit for pH shall not be less than 6.5 or greater than 8.5. Report maximum and minimum for each month.
- c) Receiving water monitoring must be performed prior to discharge as it provides a measurement of ambient conditions and the limits. If receiving water turbidity monitoring is not possible, record "NODI T" for "Environmental Conditions Monitoring Not Possible" on the DMR and provide a comment indicating the reason an observation was not made (e.g., tundra, ice, or snow discharge).
- d) Turbidity monitoring is not required for gravel pit water used to construct ice roads or pads or for dust suppression.
- e) The permittee must meet water quality criteria at the point of discharge or at the boundary of a 500 ft mixing zone, if authorized. Freshwater discharges may not exceed 5 NTU above ambient conditions when the ambient turbidity is 50 NTU or less; and shall not have more than a 10% increase in turbidity when the ambient condition is greater than 50 NTU (not to exceed a maximum increase of 15 NTU); and shall not exceed 5 NTU above ambient conditions for all lake waters (See Appendix 3). Report the receiving water value prior to discharge and maximum value for effluent. The permittee must develop BMP and QAPP to address determining compliance with water quality criteria based on receiving water turbidity.
- f) Receiving water monitoring is required for freshwater discharges only and provides a measurement of ambient conditions prior to discharge. If receiving water turbidity monitoring for freshwater is not possible, the limit is not applicable (N/A). In these situations, the permittee records "NODI T" for "Environmental Conditions Monitoring Not Possible" on the DMR and provide a comment as to why it is not applicable (e.g., tundra or snow).
- g) As measured using volumetric Imhoff cone.
- h) A visual observation for sheen must be conducted and recorded in a daily log when discharging.
- i) Upon observation of an oily sheen, discharge must cease until hydrocarbons have been removed and effluent must be monitored for TAH and TAqH when discharge recommences (once per event).

- 2.3.1 **Specific BMPs:** BMPs must be developed and implemented to prevent sediment and erosion at the discharge site and downstream of the discharge location (Section 3.2.5.1). Specific BMPs shall also include measures which prevent thermokarsting or thermal erosion to tundra, permafrost, or ice. Where BMPs are insufficient to prevent sediment and erosion, additional discharge locations may be requested via revised NOI for Department consideration. In addition, the BMPs must include procedures to remove oil sheen. Other BMPS may be added to the authorization based on unique project components identified in the NOI and plan reviews.
- 2.3.2 **Specific QAPP Requirements:** Turbidity limits are based on background turbidity that can be highly variable. Therefore, it is important that the permittee monitors the receiving water daily and adjusts the limit to reflect the current background turbidity. If a daily turbidity limit is exceeded, the permittee may initiate a four-day average in order to demonstrate whether or not an instream excursion has occurred in the receiving water. Compliance with the WQBEL will be based on comparing the average of the criterion with the monitored turbidity, either at the point of discharge or at the mixing zone boundary, if authorized. The permittee must develop a QAPP and BMP to address this new requirement.
- 2.3.3 **Tracking Ice Features:** Permittees authorized to use gravel pit water to construct ice roads and ice pads, must maintain maps onsite that identify ice roads and ice pads from the most recently completed winter season construction activities. Copies of map figures from completion reports submitted to Department of Natural Resources (DNR) for Off-Road Travel may be used.
- 2.3.4 **Contaminated Site Clearance:** Permittees conducting subsurface activities within 1,500-feet of an active contaminated site as listed on the ADEC contaminated sites database must consult with DEC Contaminated Sites Program (CSP) and inform DEC Water during the NOI process if additional actions by CSP is required. Information regarding known contaminated sites can be found at: http://dec.alaska.gov/spar/csp/.

2.4 Effluent Limitations and Requirements for Excavation Dewatering (Discharge 004)

In addition to the restrictions set out in Section 2.1, the permittee must comply with the following effluent limitations and monitoring requirements.

Table 4: Effluent Limits and Requirements for Excavation Dewatering (Discharges 004).

D (II)	TIPE AT 1	Monitoring Requirements			
Parameter (Units)	Effluent Limits	Frequency	Location	Sample Type	
Flow Volume ^a (gpd)	Report	Daily	Effluent	Estimate or Measured	
pH ^b (S.U.)	$6.5 \le pH \le 8.5$	Daily	Effluent	Grab	
Freshwater Turbidity (NTU)	Report	Daily	Upstream ^c	Grab	
Turbidity (NTU)	Varies ^d	Daily	Effluent	Grab	
With no Mixing Zone	25 ^e	Dairy	Linucit	Grao	
Turbidity (NTU)	Varies d	Doile	Down	Grab	
With Mixing Zone	Observation ^e	Daily	Stream	Grab	
SS f (mL/L)	0.2 ^f	Daily	Effluent	Grab	
Oil and Grease (oily sheen) ^g	No Discharge	Daily	Effluent	Visual	
$TAH^{-h}(\mu g/L)$	Report	Event	Effluent	Grab	
TAqH h (µg/L)	Report	Event	Effluent	Grab	

- Record daily flow measurements or estimates in a daily log. Report daily maximum and total volume for each month.
- b) The effluent limit for pH shall not be less than 6.5 or greater than 8.5. Report maximum and minimum for each month.
- c) Receiving water monitoring must be performed prior to discharge as it provides a measurement of ambient conditions and the limits. If receiving water turbidity monitoring for freshwater is not possible, the limit is not applicable (N/A). In these situations, the permittee records "NODI T" for "Environmental Conditions Monitoring Not Possible" on the DMR and provides a comment as to why it is not applicable (e.g., tundra or snow).
- d) The permittee must meet water quality criteria at the point of discharge if there is no authorized mixing zone. If a mixing zone is authorized, the compliance point is 500 feet downstream. Freshwater discharges may not exceed 5 NTU above ambient conditions when the ambient turbidity is 50 NTU or less; and shall not have more than a 10% increase in turbidity when the ambient condition is greater than 50 NTU (not to exceed a maximum increase of 15 NTU); and shall not exceed 5 NTU above ambient conditions for all lake waters (See Appendix 3). Report the receiving water value prior to discharge and maximum value for effluent. The permittee must develop BMP and QAPP to address determining compliance with water quality criteria based on receiving water turbidity.
- e) Discharges to marine waters without an authorized mixing zone shall not exceed 25 NTU at the point of discharge. If a mixing zone is authorized in marine water, the plume must be observed 500 feet from discharge and if there is a distinguishable plume (i.e., cloudiness), the permittee must implement BMPs until the plume is no longer distinguishable.
- f) As measured using volumetric Imhoff cone.
- g) A visual observation for sheen must be conducted and recorded in a daily log when discharging.
- h) Upon observation of an oily sheen, discharge must cease until hydrocarbons have been removed and effluent must be monitored for TAH and TAqH when discharge recommences (once per event).

- 2.4.1 **Specific BMPs:** BMPs must be developed and implemented to prevent sediment and erosion at the discharge site and downstream of the discharge location (Section 3.2.5.1). Specific BMPs shall also include measures which prevent thermokarsting or thermal erosion to tundra, permafrost, or ice. Where BMPs are insufficient to prevent sediment and erosion, additional discharge locations may be requested via revised NOI for Department consideration. In addition, the permittee must develop BMPs to address procedures in the event of observing a sheen in the discharge (Section 3.2.5.3). may be added to the authorization based on unique project components identified in the NOI and plan reviews.
- 2.4.2 **Specific QAPP Requirements:** Turbidity limits are based on background turbidity that can be highly variable. Therefore, it is important that the permittee monitors the receiving water daily and adjusts the limit to reflect the current background turbidity. If a daily turbidity limit is exceeded, the permittee may initiate a four-day average in order to demonstrate whether or not an instream excursion has occurred in the receiving water. Compliance with the WQBEL will be based on comparing the average of the criterion with the monitored turbidity, either at the point of discharge or at the mixing zone boundary, if authorized. The permittee must develop a QAPP and BMP to address this new requirement.
- 2.4.3 **Contaminated Site Clearance:** Permittees conducting subsurface activities within 1,500-feet of an active contaminated site as listed on the ADEC contaminated sites database must consult with DEC Contaminated Sites Program (CSP) and inform DEC Water during the NOI process if additional actions by CSP is required. Information regarding known contaminated sites can be found at: http://dec.alaska.gov/spar/csp/.
- 2.4.4 **Non-Domestic Plan Reviews:** The use of large sedimentation basins, with or without chemical addition, must be submitted with the NOI for Department review.

2.5 Effluent Limitations and Requirements for Hydrostatic Test Water (Discharge 005)

In addition to the restrictions set out in Section 2.1, the permittee must comply with the following effluent limitations and monitoring requirements.

Table 5: Effluent Limitations and Requirements for Hydrostatic Test Water (Discharge 005)

D(II-:4-)	Ecc	Monitoring Requirements				Monitoring Requirements	quirements
Parameter (Units)	Effluent Limits	Frequency	Location	Sample Type			
Flow Volume ^a (gpd)	Report	Daily	Effluent	Estimate or Measure			
pH ^b (S.U.)	$6.5 \le \text{pH} \le 8.5$	Daily	Effluent	Grab			
SS (mL/L)	0.2 °	Daily	Effluent	Grab			
Oil and Grease (oily sheen) ^d	No Discharge	Daily	Effluent	Visual			
Total Aromatic Hydrocarbons (TAH) ^e (μg/L) Non-Exposed	Report	Event	Effluent	Composite ^g or Grab			
Total Aqueous Hydrocarbons (TAqH) ^e (µg/L) Non-Exposed	Report	Event	Effluent	Composite ^g or Grab			
TAH f (µg/L) Exposed	10	Daily	Effluent	Composite ^g or Grab			
TAqH f (µg/L) Exposed	15	Daily	Effluent	Composite ^g or Grab			

- a) Record daily flow measurements, or estimates in a daily log. Report daily maximum and total volume for each month.
- b) The effluent limit for pH shall not be less than 6.5 or greater than 8.5. Report maximum and minimum for each month.
- c) As measured using a volumetric Imhoff cone. Report maximum daily for the month.
- d) A visual observation for sheen must be conducted daily when discharging.
- e) Upon observation of an oily sheen, discharges must cease until hydrocarbons have been removed. When hydrocarbon removal is achieved, pipelines which have not previously been exposed to hydrocarbons must monitor effluent for TAH and TAqH (once per event).
- f) Effluent limits for TAH and TAqH apply to discharges from pipelines or other approved areas which have previously been exposed to hydrocarbons. Report maximum daily result for the month.
- g) For discharge volumes less than or equal to 500,000 gpd, a grab sample may be used to analyze effluent once daily while discharging. For discharges greater than 500,000 gpd representative composite sample (See Appendix C of the General Permit- Definitions) is required daily while discharging. Procedures for composite sampling large intermittent volumes of wastewater shall also be outlined in the QAPP (Section 3.1.3). Report maximum result.
- 2.5.1 **Specific BMPs:** BMPs must be developed and implemented to prevent sediment and erosion downstream of the discharge location (Section 3.2.5.1). Specific BMPs shall also include measures which prevent thermokarsting or thermal erosion to tundra, permafrost, or ice. The use of chemicals such as biocides or antifreeze agents are prohibited unless there has been a plan review per Section 2.5.2. In addition, the permittee must develop BMPs to address procedures in the event of observing a sheen in the discharge (Section 3.2.5.3).

- Other BMPs may be added to the authorization based on unique project components identified in the NOI and plan reviews.
- 2.5.2 **Plan Reviews:** If hydrostatic test water is to include chemical additions, the applicant must submit information during the NOI process that DEC can use to evaluate compliance with water quality criteria. If necessary, DEC may require additional BMPs to control chemicals or to treat chemicals necessary to comply with the effluent limits and water quality standards.

2.6 Effluent Limitations and Requirements for Storm Water (Discharge 006)

2.6.1 Applicability of Storm Water Coverage

The operation of an oil and gas exploration, production or development facility or activity may include supporting ancillary facilities and activities. Examples of common support activities and facilities can be found in the characterization section for storm water discharges (Section 4.5). These include but are not limited to, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas, equipment wash down areas, temporary camp areas, pump or compressor stations, and airstrips. Discharges of storm water, or allowable non-storm water, from these types of facilities may be eligible for coverage under the Permit if the following conditions are met:

- 2.6.1.1 The support activity or ancillary facility is directly related to the operation of an oil and gas exploration, production or development facility or activity in the NSB;
- 2.6.1.2 Storm water will not be discharged to a waterbody classified in State of Alaska Impaired Waterbody 303(d) List or Tier III Waters;
- 2.6.1.3 The support activity or ancillary facility is not a commercial operation serving multiple, unrelated projects or entities (e.g., commercial gravel pit operation or public airport or an airstrip with more than 1000 departures per year);
- 2.6.1.4 Based on the standard industrial code (SIC) for the industrial support facility additional storm water monitoring ELGs would not be triggered if the facility was covered under the Multi-Sector General Permit (MSGP) (e.g., Transportation Sector for airports that use 100,000 gallons of glycol or 100 tons of urea annually).
- 2.6.2 In addition to the restrictions set out in Section 2.1, Storm water discharges and allowable non-storm water discharges (See Appendix C Definitions) from industrial oil and gas facilities must comply with the following effluent limitations and monitoring requirements.
 - 2.6.2.1 Storm water compliance under the NSGP relies on visual monitoring and observations which must be performed by a qualified person as defined in Appendix C.
 - 2.6.2.2 Discharges of reportable quantities of petroleum hydrocarbon (sheen), other hazardous substances, or discharges that exceed water quality criteria are prohibited.
 - 2.6.2.3 To prevent storm water runoff from coming into contact with sources of pollution, each facility must develop and implement a SWPPP (Section 3.3) composed of a series of standard operating procedures, materials management practices, and

structural and non-structural pollutant control measures. The SWPPP satisfies the specific BMPs (Section 3.2.5) for the discharges of storm water.

2.7 Effluent Limitations and Requirements for Mobile Spill Response (Discharge 007)

In addition to the restrictions set out in Section 2.1, the permittee must comply with the following effluent limitations and monitoring requirements.

Table 6: Effluent Limitations and Requirements for Mobile Spill Response (Discharge 007)

Parameter (Units)	Effluent	Monitoring Requirements			
Turumeter (emis)	Limits	Frequency	Location	Sample Type	
Volume a (gpd)	Report	Daily	Effluent	Estimate	
Oil and Grease (oily sheen) b	No Discharge	Daily	Effluent	Visual	

Notes:

- a) The Permittee must record discharges greater than 25 gallons in daily operating logs. Report total estimated volume discharged per month.
- b) A visual observation for sheen must be conducted daily when discharging.
- 2.7.1 **Dissolved Hydrocarbon Treatment:** Discharge of Mobile Spill Response wastewater requires use of an approved treatment procedure or system (e.g., scrubber unit). The applicant must submit treatment processes or system information that demonstrates adequate removal of free-phased and dissolved-phase hydrocarbons to the Department (Section 1.5.1.5). The BMP must also address proper operation and maintenance to sustain treatment performance. In addition, the permittee must develop BMPs which address cessation of discharge and treatment system correction in the event a sheen is observed (Section 3.2.5.3).

2.8 Effluent Limitations and Requirements for Contained Water (Discharge 008)

Discharges from uncontaminated SCAs may be discharged as storm water and managed through BMP controls developed in the SWPPP (Sections 3.2 or 3.3). If a secondary containment area (SCA) is deemed contaminated (Appendix C – Definitions) by a spill of any volume or observation of a sheen, the water in the SCA is no longer considered a stormwater discharge. In this instance, the permittee must notify DEC and submit a NOI for contained water coverage and monitor, limit, and report discharges as described below. A permittee may request removal of the authorization for Contained Water (Discharge 008) once the SCA is determined to be uncontaminated (Appendix C - Definitions) for four consecutive months. Other contained water authorizations are authorized as applicable based on meeting the broad definition provided in Appendix C. In addition to the restrictions set out in Section 2.1, the permittee must comply with the following effluent limitations and monitoring requirements.

Table 7: Effluent Limitations and Requirements for Contained Water (Discharge 008)

D(II-:4-)	Effluent Limits	Monitoring Requirements		
Parameter (Units)	(Or Report)		Location	Sample Type
Flow Volume ^a (gpd)	Report	Daily	Effluent	Estimate or Measure
pH ^b (S.U.)	$6.5 \le \mathrm{pH} \le 8.5$	Daily	Effluent	Grab
SS (mL/L)	0.2 °	Daily	Effluent	Grab
Oil and Grease (oily sheen) ^d	No Discharge	Daily	Effluent	Visual
TAH (µg/L)	10 ^e (Or Report) ^f	Monthly (Or Sheen)	Effluent	Grab
TAqH (μg/L)	15 ^e (Or Report) ^f	Monthly (Or Sheen)	Effluent	Grab
Marine Turbidity (NTU)	25 ^{g,i}	Daily	Effluent	Grab
Total/Dissolved Barite Metals (µg/L)	Report	With NOI h	Effluent	Four – Grab Composite
Chronic WET (TUc)	Report i	Once per Authorization	Effluent	Composite

- a) Record daily flow measurements, or estimates, in a daily log. Report daily maximum and total volume for each month.
- b) The effluent limit for pH shall not be less than 6.5 or greater than 8.5. Report maximum and minimum.
- c) As measured using a volumetric Imhoff cone. Report maximum for each month.
- d) A visual observation for sheen must be conducted daily when discharging.
- e) Effluent limits for TAH and TAqH apply to discharges which are known to have previously been exposed to hydrocarbons. Report maximum result.
- f) If TAH and TAqH are not limited for the discharge, an observation of an oily sheen establishes a trigger to remove the sheen and monitor effluent for TAH and TAqH (once per trigger event).
- g) For discharges from sedimentation basins using chemical additions, the permittee must collect a representative composite sample (See Appendix C of the General Permit Definitions) while discharging. Procedures for composite sampling shall be outlined in the QAPP (Section 11.4). Report maximum result.
- h) A filtration BMP on the discharge from RPs is mandatory. Prior to obtaining authorization to discharge from Open RPs, the applicant must submit dissolved and total recoverable barite metals with the NOI using a four-grab composite in the area surrounding the proposed pump intake. DEC may require additional monitoring of barite metals during discharge on a case-by-case basis.
- i) The authorized mixing zone will be based on turbidity or chronic WET per the Statement of Basis. Compliance of turbidity will be based on observation of no distinguishable turbidity plume at the boundary of the mixing zone. A limit for Chronic WET will be developed based on the authorized dilution factor of the mixing zone as described in the Statement of Basis.
- 2.8.1 Specific BMPs: BMPs must be developed and implemented which prevent sediment, erosion, and thermokarsting at the point of discharge and downstream of the discharge location (Section 3.2.5.1). In addition, the permittee must develop BMPs to address dissolved hydrocarbon removal procedures in the event of a sheen is observed in the discharge or the secondary containment area (Section 3.2.5.3). The permittee must report observation of a sheen or a spill of any volume to alert DEC WDAP that the secondary containment system has been contaminated. Other BMPs may be added to the authorization based on unique project components identified in the NOI and plan reviews.

- 2.8.2 **BMPs for Discharges from Open Reserve Pits**: To ensure compliance with the prohibition to no discharge of drilling fluids and drill cuttings, the permittee must implement filtration and other precautions per Section 3.2.5.5
- 2.8.3 **BMPs Included in Authorization to Marine Water:** In the case of an onshore marine dredge sedimentation basins, DEC will evaluate the potential need for unique BMPs in to support compliance with limitations. Like the limitations and mixing zone, the BMPs will be included in the Statement of Basis issued for a 30-day public notice period. The BMPs will then be included in the authorization.

2.9 Land Disposal Limitations

Land disposals under the Permit may include Gravel Pit Dewatering (Discharge 003), Excavation Dewatering (Discharge 004), Hydrostatic Test Water (Discharge 005), and certain Contained Water (Discharge 008). For this Permit only, land disposal is considered a location where water is placed such that complete infiltration into the ground occurs and does not represent a surface water feature (e.g., wetland, dry stream channel, or uplands area that does not infiltrate to ground water) and that is located at least 1,500 feet from the nearest surface water feature. Under the reissued NSGP, land disposal is primarily based on the ability of the disposal location to infiltrate to groundwater (i.e., sand or gravel) while intentionally reducing situations where a disposal area may not infiltrate fast enough for the volume of disposal such that overland flow (i.e. runoff) to an existing waterbody or wetland is possible. Please note that land disposal is not associated with underground injection for disposal, storage, or enhanced oil recovery.

To obtain coverage for the applicable land disposals (Disposals 003, 004, 005, and 008), the applicant is responsible for ensuring the disposal does not result in a discharge to WOTUS or state waters, as described in 40 CFR part 120. To protect public and private water systems, human health, and the environment, DEC establishes narrative effluent limits for the disposal of these nondomestic wastewaters into groundwater. The following conditions must be demonstrated in a plan review to obtain authorization for land disposals:

- 1. Subsurface has, or is expected to have, coarse material that allows for rapid infiltration;
- 2. Subsurface has, or is expected to have, the ability to accept the estimated volume without significant overland flow (i.e., not on a slope and preferably to an area where water may impound while percolating into soil); and
- 3. Disposal location does not have a well, wetland, or waterbody within 1,500 feet.

Table 8 provides the limits and monitoring for disposal of Gravel Pit Dewatering, Excavation Dewatering, Hydrostatic Test Water, and Contained Water (Disposals 003, 004, 005, and 008).

Table 8: Disposal Limitations and Monitoring Requirements

Parameter (Units)	Effluent Limits	Monitoring Requirements		
		Frequency	Location	Sample Type
Flow Volume 1 (gpd)	Report	Daily	Effluent	Estimate or Measured
Oil and Grease Visual	No Discharge	Daily	Effluent	Visual
Settleable Solids (m//L)	0.2	Daily	Effluent	Grab

Notes:

- 1. Flow rates and volumes may be measured or estimated and must be reported in a daily log. Report daily maximum for each month and total monthly volumes for each disposal location to DEC.
- 2. For Excavation Dewatering or Contained Water on case-by-case basis.

Based on Plan Review, additional requirements may be added to the authorization. Reporting for land disposals is the same as for the waterbody discharges, annually or upon notice of termination.

2.10 Monitoring Requirements

- 2.10.1 Test procedures used for sample analysis shall conform to methods cited in 18 AAC 70.020(c), as amended unless otherwise noted in the permit tables. For discharges to WOTUS, permittees must use sufficiently sensitive methods (See Appendix C Definitions). The permittee may substitute alternative methods of monitoring or analysis upon receipt of prior written approval from the Department.
- 2.10.2 The permittee shall use equipment calibrated in accordance with the manufacturer's recommendations when taking field measurements (i.e., pH and turbidity). The permittee shall use bottles and may use sampling procedures provided by a laboratory when collecting samples for laboratory analysis.
- 2.10.3 Samples and measurements shall be representative of the volume and nature of the monitored discharge.
- 2.10.4 Additional monitoring parameters and increased monitoring frequency may be required by the Department on a case-by-case basis.
- 2.10.5 If the permittee monitors any influent, effluent, or surface water characteristic identified in this Permit more frequently than required, the results of such monitoring shall be reported to the Department on the discharge monitoring report required under Section 2.11.1.
- 2.10.6 During periods of no discharge activity, monthly monitoring for Discharges 002-005 and 007-008 is not required (See reporting requirements in Section 2.11.2).
- 2.10.7 Data collected for monitoring and observations for Discharges 002-005, 007-008, and land disposals must be recorded in a daily operating log and made available upon request by DEC. Data includes but is not limited to: daily flow monitoring results, visual inspections, documentation of visual observation for residues and oily sheen.

2.11 Reporting of Monitoring Requirements

- 2.11.1 Monitoring required in Sections 2.1 2.5 and 2.7 2.8 (Tables 3 8) shall be summarized for each month on the DEC report form in EDMS. The form is submitted annually or upon NOT.
- 2.11.2 This Permit requires the Permittee to identify in the EDMS report whether or not a discharge has occurred for a given month of reporting. EDMS will automatically display only the months where discharges occurred.
- 2.11.3 The report in EDMs must be submitted prior to January 31 following the year of monitoring. Reports may be submitted earlier if associated with a NOT per Section 1.6.2.2 or a revision per Section 1.6.2.1. Submittals via email, fax, or mail are no longer being accepted unless there are extenuating circumstances.
 - 2.11.3.1 The instructions for reporting in Standard Conditions Sections 1.1.1 or 1.1.2 are superseded by this permit. The Standard Conditions will be modified to reflect the new reporting restrictions at a later time.
- 2.11.4 The permittee must sign and certify all reports and other submittals in accordance with 18 AAC 83.385(b).
- 2.11.5 For all effluent monitoring, with the exception of total residual chlorine, the permittee must use EPA-approved methods under 40 CFR Part 136, adopted by reference at 18 AAC 83.010(f), that can achieve a method detection limit less than the effluent limit. For a parameter without an effluent limit in this Permit, the permittee must use the most sensitive method detection limit from an EPA-approved analytical test method necessary for compliance monitoring. The permittee must use an EPA-approved test method for total residual chlorine monitoring, but in this Permit, sample concentrations below the method detection limit of the EPA-approved method used or 0.1 mg/L, whichever is lower, will be considered the compliance limit.
- 2.11.6 For purposes of reporting for a single sample, if a value is less than the method detection limit, the permittee must report "less than [numeric value of the method detection limit]," and if a value is less than a minimum level (ML), the permittee must report "less than [numeric value of ML]."
- 2.11.7 For purposes of calculating a monthly average (unless otherwise stated in Sections 2.1 2.5 and 2.7 2.8), zero (0) may be assigned for a value less than the method detection limit, and [numeric value of the method detection limit] may be assigned for a value between the method detection limit and the ML. If the average value is less than the method detection limit, the permittee must report "less than [numeric value of the method detection limit]," and if the average value is less than the ML, the permittee must report "less than [numeric value of ML]." If the average value is equal to or greater than the ML, the permittee must report and use the actual average value. The resulting average value must be compared to the compliance level, ML, in assessing compliance.
- 2.11.8 For purposes of reporting for a single sample for TAH or TAqH where the parameter is a summation of results of individual analytes, estimated (e.g., "J" estimates) are considered as nondetectable. When all individual analytes are nondetectable, or estimates, the permittee must report the categorical summation of the common method detection limits with a "less

- than [categorical summation of method detection limits]." If any of the analytes are detectable, the permittee must report the summation of only the detected analytes on the DMR without a less than symbol. See Permit Attachment 2 for TAH/TAqH reporting guidelines.
- 2.11.9 For Storm Water (Discharge 006), the permittee must acknowledge in the annual report the understanding that certification of SWPPP and documenting biannual inspections is their responsibility (See Section 3.3.2.4.1).
- 2.11.10 For Discharges 002-005 and 007-008 the permittee must acknowledge in the annual report the understanding that certification of BMP and QAPP and documenting biannual inspections and maintaining these documents onsite is their responsibility (See Section 3.2.6).

2.12 Mixing Zone Determinations

- 2.12.1 Per 18 AAC 70.240, as amended through June 23, 2003, a regulatory mixing zone may be authorized as follows:
 - 2.12.1.1 Discharge 002 Graywater: A standard size 650-foot (200-meter) radius regulatory mixing zone for discharges with total residual chlorine, fecal coliform bacteria, and residues may be authorized per Section 2.12.2.
 - 2.12.1.2 Discharge 003 Gravel Pit Dewatering to flowing freshwater: A standard size 500-foot (150 meters) long regulatory mixing zone for discharges with turbidity and residues may be authorized per Section 2.12.2.
 - 2.12.1.3 Discharge 004 Excavation Dewatering to flowing freshwater: A standard size 500-foot long regulatory mixing zone for discharges with turbidity and residues may be authorized per Section 2.12.2.
 - 2.12.1.4 Discharge 008 Contained Water to marine water: A project specific mixing zone may be authorized for turbidity and chronic whole effluent toxicity may be authorized upon completing a 30-day public notice of a Statement of Basis as described in Sections 1.1.4 and 1.5.1.4.3.
- 2.12.2 The Department will review the NOI information and authorize a mixing zone and include parameters listed in Section 2.12.1.
 - 2.12.2.1 The Department will authorize a mixing zone if the proposed discharges listed in the NOI are consistent with conditions in this Permit or Statement of Basis in Section 2.12.1.4.
 - 2.12.2.2 Within an authorized mixing zone, the Department may authorize exceedances of the water quality criteria of 18 AAC 70.020 per Section 2.12.1. All water quality criteria must be met at the boundary of the mixing zone.
- 2.12.3 The written authorization from the Department will specify authorized discharges and the parameters for which water quality criteria may be exceeded within an authorized mixing zone.
- 2.12.4 If the Department determines that a mixing zone is not appropriate to protect and maintain existing uses of the waterbody outside of an authorized mixing zone, a permittee may

submit additional information to supplement the NOI or may submit an individual permit application Form 1, Form 2C, and Form 2M.

3.0 SPECIAL CONDITIONS

3.1 Quality Assurance Project Plan

- 3.1.1 The permittee must develop a QAPP outlining sampling and monitoring requirements and procedures for Discharges 002-005 and 007-008 in this Permit. The QAPP should be completed and ready to implement before any discharges take place. In the NOI, the applicant must indicate the QAPP will have been developed and be available for implementation. The authorization effective date may be determined based on a future date when completion has been accomplished. The date of the QAPP must be prior to the effective date of the authorization. In addition, the QAPP must be reviewed, revised if necessary, and certified annually thereafter per Section 3.4.2.
- 3.1.2 The QAPP must be designed to assist in planning for the collection and analysis of effluent and receiving water samples in support of the NSGP and in explaining data anomalies when they occur.
- 3.1.3 To support specific requirements for hydrostatic test water in this Permit, the QAPP must include procedures to conduct composite sampling (e.g., timed series of grab samples) for large discharges of hydrostatic test water (greater than 500,000 gallons).
- 3.1.4 To support specific requirements for graywater in this Permit, the QAPP must include methods of calculating the 90th percentile of FC bacteria samples to comply with the MDL when the MDL is based on water quality criteria at the point of discharge.
- 3.1.5 If applicable to the authorized discharge, the permittee must monitor background turbidity daily for limit at the mixing zone boundary or end of pipe. Turbidity limits are based on a four-day exposure period. The Permittee may develop BMP and QAPP procedures for the purpose of demonstrating compliance with instream turbidity when considering averages of instream turbidity and effluent turbidity over a four-day excursion period. The Permittee must report each of the four days and indicate in discharge reports when the averaging approach was used for compliance.
- 3.1.6 Throughout all sample collection and analysis activities, the permittee must use the EPA-approved quality assurance/quality control and chain-of-custody procedures described in *Requirements for Quality Assurance Project Plans* (EPA/QA/R-5) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5). The QAPP must be prepared in the format which is specified in these documents.
- 3.1.7 The permittee must amend the QAPP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAPP and maintain a log of modifications.
- 3.1.8 Copies of the QAPP must be kept on site and made available to DEC upon request.

3.2 Best Management Practices Plan and Implementation

The following BMP Plan requirements apply to all permittees authorized for Discharge(s) 002-005 or 007-008. A permittee must develop and implement a BMP Plan which achieves the objectives and the general requirements listed in Section 3.2.4. Any existing BMP Plans may be modified under provisions outlined in Section 3.2.8. The BMP Plan should be ready to implement at the time of submitting an NOI prior to the initiation of

- discharge. The authorization effective date may be determined based on a future date when completion is anticipated; the date of the BMP must be prior to the effective date of the authorization. For subsequent years of operation, permittees must acknowledge in the annual report that the revision and recertification of the BMP Plan is their obligation.
- 3.2.1 Through implementation of the BMP Plan, the permittee must prevent or minimize the generation and the potential for the release of pollutants from the facility to the waters of the U.S. through normal operations and ancillary activities; and
- 3.2.2 Ensure that methods of pollution prevention, control, and treatment will be applied to all wastes and other substances discharged.
- 3.2.3 The number and quantity of pollutants and the toxicity of effluent generated, discharged, or potentially discharged by the facility must be minimized by the permittee to the extent feasible by managing each waste stream in the most appropriate manner.
 - 3.2.3.1 Each facility component or system must be examined for its waste minimization opportunities and its potential for causing a release of significant amounts of pollutants to waters of the US due to equipment failure, improper operation, or natural phenomena, such as rain or snowfall, etc. The examination must include all normal operations and ancillary activities including material storage areas, storm water, in-plant transfer, material handling and process handling areas, loading or unloading operations, spillage or leaks, sludge and waste disposal, or drainage from raw material storage.
- 3.2.4 The BMP Plan should be consistent with the general guidance contained in *Guidance Manual for Developing Best Management Practices* (EPA 833-B-93-004, October 1993) or any subsequent revision. Electronic copies of BMPs are acceptable provided they may be accessed upon request. The BMP Plan must include, at a minimum, the following items:
 - 3.2.4.1 Statement of BMP policy. The BMP Plan must include a statement of management commitment to provide the necessary financial, staff, equipment, and training resources to develop and implement the BMP Plan on a continuing basis.
 - 3.2.4.2 Current copies of the NSGP, the signed and certified NOI submitted to DEC, authorization letters issued by the Department, and the previous 3 years of annual BMP Plan review certifications. Alternatively, permittees may reference within the BMP plan where these documents can be found.
 - 3.2.4.3 Description, location, and sequence of activities, BMP control measures, any stabilization measures, final constructed site plans, drawings, and maps.
 - 3.2.4.4 A log of BMP modifications which documents maintenance and repairs of control measures, including date(s) of regular maintenance, date(s) of discovery of areas in need of repair/maintenance, and date(s) that the control measure(s) returned to full function (Section 3.2.7);
 - 3.2.4.5 Description of any corrective action taken at the facility, including the event that caused the need for corrective action (include notice of non-compliance if reporting was required) and dates when problems were discovered and modifications occurred (Section 3.2.7);

- 3.2.4.6 Structure, functions, and procedures of the BMP Committee. The BMP Plan must establish a BMP Committee chosen by the permittee responsible for developing, implementing, and maintaining the BMP Plan.
- 3.2.4.7 A description of potential pollutant sources and their associated discharge numbers.
- 3.2.4.8 An identification and assessment of risks associated with accidental pollutant releases.
- 3.2.4.9 Standard Operating Procedures that include but are not limited to:
 - Good Housekeeping.
 - Security.
 - Materials compatibility.
 - Record keeping and reporting.
 - Operation and maintenance plans for wastewater treatment systems and BMP controls. Elements should include preventative maintenance and repair procedures that are developed in accordance with good engineering practices.
 - Use of local containment devices such as liners, dikes, and drip pans where chemicals, wastes, and other products are unpackaged, unloaded, stored, and transferred.
 - Apply chemical compounds and disinfectants in accordance with manufacturer instructions and suggested application rates.
 - Employee training and records of employee training date(s), etc.
 - Inspections and regular evaluation of BMP controls including evaluation of planned facility modifications to ensure that BMP Plan is considered and adjusted accordingly.
- 3.2.5 **Specific BMPs.** The BMP Plan must establish specific BMPs or other measures to ensure that the following objectives or specific requirements are met:
 - 3.2.5.1 **Graywater Controls**. For graywater discharges, provide control measures which ensure: discharges reduce residues in discharges; the use of phosphate free and non-toxic soaps and detergents; minimal use of chlorine and other disinfections products; chemical cleaning compounds and disinfectants used will minimize the addition of nitrogen and phosphorous-based chemicals; chemical cleaning compounds and disinfectants are applied in accordance with manufacturer's instructions; surface discharge point is relocated as necessary and at a minimum frequency of once per 30-days; access to the surface discharge area is prevented through signage, remote location and/or fencing; kitchen oils are not introduced to the graywater system and provide alternate waste receptacles or holding tanks for these materials; use of nontoxic degreasers; all toxic or hazardous material, unused soaps, detergents, or pharmaceuticals have alternate waste receptacles or holding tanks and are prohibited from entering into the graywater system.
 - 3.2.5.2 **Sediment, Erosion, and Thermokarsting Controls**. Provide a variety of erosion and sediment controls (i.e. Energy dissipation devises) which also address installation. BMPs which require the use of flocculants or coagulants may require plan submittal prior to implementation in the BMP Plan (Section 1.5.1.5). BMPs

for sediment and erosion control should specifically include methods or techniques for controlling sediment and erosion from high volume or high velocity discharges. Where applicable, BMPs shall address thermokarsting and thermal erosion of ice features, tundra, and permafrost. All sediment and erosion BMPs shall prevent sediment accumulation which could adversely impact sensitive vegetation areas (e.g., tundra). Refer to the following manuals for guidance: *Alaska Storm Water Guide*.

http://dec.alaska.gov/water/wnpspc/stormwater/Guidance.htm.

- 3.2.5.3 **Hydrocarbon Controls.** Provide control measures which help ensure compliance with Permit limits for discharges with the potential for hydrocarbon contamination including sheen and dissolved hydrocarbon removal, when applicable. These may include operating procedures which prevent contamination from operating equipment, assessment of nearby contaminated sites, tools (e.g., absorbent pads, spill kit, etc.) or onsite treatment systems that remove hydrocarbons from water. Treatment systems shall also include preventative maintenance and operating procedures and may require plan submittal to the Department prior to implementing in the BMP plan.
- 3.2.5.4 **Optimization of Chemical Use.** Provide control of chemicals either by optimizing the chemical use or implementing treatment BMPs to reduce impacts associated with chemical use. Specific BMPs may be imposed through the plan review process for various applications requiring use of chemicals.
- 3.2.5.5 **Prevention of Resuspension and Discharge of Sediment:** If applicable for the authorized discharge, provide velocity control for pump intakes to prevent the resuspension and discharge of sediment. BMPs include, but are not limited to, limiting intake velocity into the pump suction, maintaining safe distances from sediment sources, filtration techniques. Discharges from open RPs require mandatory filtration BMPs.
- 3.2.6 Annual Certification. The BMP Plan must be reviewed annually by the permittee and a BMP Committee to result in certification that the annual review has been completed. The certification must be dated and signed by each BMP Committee member and be retained on site for DEC inspection. The permittee must acknowledge in the annual report submitted by January 31st that revision and recertification of the BMP is their responsibility per Section 3.4.2.
- 3.2.7 Documentation. BMP documents do not require submission to DEC. They may be submitted to request input from permitting staff. The permittee must maintain a current copy of the BMP Plan at the facility and make it available to DEC or an authorized representative upon request for review or copying, during any on-site inspection. Electronic storage of documents can be used so long as they are accessible when a DEC inspector conducts an onsite inspection.

3.2.8 BMP Plan Modification

3.2.8.1 The permittee must amend the BMP Plan whenever there is a change in the facility or in the operation of the facility, which materially increases the generation of pollutants or their release or potential release to waters of the US.

- 3.2.8.2 The permittee must amend the BMP Plan whenever it is found to be ineffective in achieving the general objective of preventing and minimizing the generation and the potential for the release of pollutants from the facility to waters of the US and/or the specific requirements of Section 3.2.5.
- 3.2.8.3 Any changes to the BMP Plan must be consistent with the objectives and specific requirements listed in Section 3.2.

3.3 Storm Water Pollution Prevention Plan (SWPPP) Requirements

Permittees requesting authorization for storm water discharges from industrial facilities (Discharge006) are required to develop a SWPPP to address specific control measures for an individual facility. A permittee may develop a multi-facility SWPPP for multiple project related facilities so long as the permittee can demonstrate a nexus between the project facilities and SWPPP includes adequate details for each individual facility (e.g., site maps, snow storage areas, contaminated and uncontaminated SCAs, potential contaminant sources identified, control measures, etc.), and implementation of the SWPPP is not impracticable due to distance separating the facilities. Any revisions to the multifacility SWPPP must be distributed to each facility prior to implementation.

- 3.3.1 SWPPP Contents. The SWPPP must be consistent with EPA Guidance document, Developing Your Stormwater Pollution Prevention Plan – A Guide for Industrial Operators (February 2009, EPA 833-B-09-002) or any subsequent revision of the guidance document http://www.epa.gov/npdes/pubs/industrial_swppp_guide.pdf. The following must be incorporated within the SWPPP and must be developed by a qualified person.
 - 3.3.1.1 The SWPPP must include a narrative that provides descriptions of the following items:
 - BMP measures to clean up reportable quantity releases (Contaminated storm water is storm water associated with a discharge of a reportable quantity for which notification is or was required per 40 CFR 117.21, 40 CFR 302.6, or 40 CFR 110.6 or any storm water that contributes to a violation of a water quality standard [40 CFR 122.26(c)(1)(iii)]);
 - Vehicle and equipment storage, cleaning, and maintenance areas;
 - Snow handling procedures and erosion controls; and
 - Any provisions necessary to meet the BMP Plan requirements (Section 3.2) of this Permit.
 - 3.3.1.2 Description, location, and sequence of activities, control measures, and stabilization measures;
 - 3.3.1.3 Documentation of maintenance and repairs of control measures, including date(s) of regular maintenance, date(s) of discovery of areas in need of repair/maintenance, and date(s) that the control measure(s) returned to full function;
 - 3.3.1.4 Manufacturer information (i.e. Material Safety Data Sheet, manufacturer and/or supplier test results, or installation instructions);

- 3.3.1.5 Description of any corrective action taken at the facility, including the event that caused the need for corrective action and dates when problems were discovered and modifications occurred;
- 3.3.1.6 Records of employee training, including the date(s) training was received; and
- 3.3.1.7 Copies of biannual inspection reports, non-compliance notices, annual SWPPP certifications, monitoring reports, and annual reports.
- 3.3.2 SWPPP Implementation and Administrative Requirements
 - 3.3.2.1 SWPPP Modifications. The permittee must update the SWPPP and site maps with any relevant new information, within seven calendar days of a response to any following triggering conditions:
 - 3.3.2.1.1 Changes in facility or operation of facility which materially increases the generation of pollutants or their release or potential release to surface water.
 - 3.3.2.1.2 Changes to control measures, good housekeeping measures, or other activities that render the exiting SWPPP obsolete.
 - 3.3.2.1.3 Changes made in response to corrective actions, or maintenance procedures.
 - 3.3.2.1.4 An inspection or investigation reveal changes are necessary to comply with this Permit.
 - 3.3.2.1.5 The permittee must revise its SWPPP to reflect the new maintenance procedures and include documentation of the corrective action to return to full compliance. The permittee must maintain a log showing the dates of all SWPPP modifications, including name of the person authorizing each change and a brief summary.
 - 3.3.2.2 **Annual Certification**. Permittee must perform biannual inspections, review the SWPPP, make necessary modifications, and certify these actions have been completed. The certification is to be retained onsite with the SWPPP. The permittee must acknowledge in their annual report that these actions are their responsibility to complete by January 31st per Section 3.4.2.
 - 3.3.2.3 **SWPPP Documentation and Availability**. Copies of the NSGP, the signed and certified NOI submitted to DEC, Permit authorization letter, copy of any plan approvals for treatment systems used, and a log of SWPPP modifications must be included with the SWPPP. A permittee must make a copy of the SWPPP and documentation available to DEC upon request, for review or copying, during any on-site inspection. Electronic storage of documents can be used so long as they are accessible when a DEC inspector conducts an onsite inspection. A copy of the SWPPP must be kept at the facility at all times. The SWPPP must identify any alternative off-site location for available access if there is a seasonal shut down for a facility. The SWPPP must be returned to the facility once the shutdown is over.
 - 3.3.2.4 **Inspection Requirements**. Recommended requirements for reporting results of storm water monitoring inspections are specified at 40 CFR §122.44(i)(4). Specifically this Permit requires:

- 3.3.2.4.1 **Bi-annual inspection of the facility site.** One inspection should be conducted prior to breakup to assess whether there are any areas which may contribute to storm water discharges associated with the industrial facility or activity and could be addressed with BMPs to minimize contact with contamination sources. The second inspection should be conducted during or after the breakup period is over to assess whether there are any areas which contributed to storm water discharge associated with the industrial facility or activity that were unanticipated and unaddressed by the SWPPP. The SWPPP should be modified to include the necessary practices to minimize future contact or contamination. Bi-annual inspections must be reported to the Department with other annual reporting requirements (Section 3.4).
- 3.3.2.4.2 Maintain inspection reports and compliance certification for a period of three years.
- 3.3.2.4.3 Certifications must be signed by established signatory authority per 18 AAC 83.385; and for inactive sites where annual inspections are impracticable, or otherwise unwarranted, a certification once every 3 years that the facility is in compliance with this Permit or alternative requirements.

3.4 Annual Reporting Requirements for Special Conditions [Emphasis]

- 3.4.1 Effluent Monitoring and Compliance Reporting must be submitted through the EDMS annually no later than January 31 of each year.
- 3.4.2 Other documents that require review and certification annually (e.g., BMPs, QAPP, SWPPP, etc.) are not to be submitted with the Annual Report due by January 31 of each year. Instead, the permittee must acknowledge in the annual report that these actions are the responsibility of the permittee, with the documents retained on site and made available to DEC upon request.

Appendix A

Standard Conditions

(Portions of the Standard Conditions may be superseded by the Permit)

Appendix A

Standard Conditions

STANDARD CONDITIONS APDES GENERAL PERMIT NONDOMESTIC

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Appendix A, Standard Conditions is an integral and enforceable part of the permit. Failure to comply with a Standard Condition in this Appendix constitutes a violation of the permit and is subject to enforcement.

1.0 Standard Conditions Applicable to All Permits

1.1 Contact Information and Addresses

1.1.1 Permitting Program

Documents, reports, and plans required under the permit and Appendix A are to be sent to the following address:

State of Alaska
Department of Environmental Conservation
Division of Water
Wastewater Discharge Authorization Program
555 Cordova Street
Anchorage, Alaska 99501
Telephone (907) 269-6285
Fax (907) 269-7508

 $\pmb{Email: \underline{DEC.Water.WQPermit@alaska.gov}}\\$

1.1.2 Compliance and Enforcement Program

Documents and reports required under the permit and Appendix A relating to compliance are to be sent to the following address:

State of Alaska
Department of Environmental Conservation
Division of Water
Compliance and Enforcement Program
555 Cordova Street
Anchorage, Alaska 99501
Telephone Nationwide (877) 569-4114
Anchorage Area / International (907) 269-4114
Fax (907) 269-4604
Email: dec-wgreporting@alaska.gov

1.2 Duty to Comply

A permittee shall comply with all conditions of the permittee's APDES permit. Any permit noncompliance constitutes a violation of 33 U.S.C 1251-1387 (Clean Water Act) and state law and is grounds for enforcement action including termination, revocation and reissuance, or modification of a permit, or denial of a permit renewal application. A permittee shall comply with effluent standards or prohibitions established under 33 U.S.C. 1317(a) for toxic pollutants within the time provided in the regulations that establish those effluent standards or prohibitions even if the permit has not yet been modified to incorporate the requirement.

1.3 Duty to Reapply

If a permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee must apply for and obtain a new permit. In accordance with 18 AAC 83.105(b), a permittee with a currently effective permit shall reapply by submitting a new application at least 180 days before the existing permit expires, unless the Department has granted the permittee permission to submit an application on a later date. However, the Department will not grant permission for an application to be submitted after the expiration date of the existing permit.

1.4 Need to Halt or Reduce Activity Not a Defense

In an enforcement action, a permittee may not assert as a defense that compliance with the conditions of the permit would have made it necessary for the permittee to halt or reduce the permitted activity.

1.5 Duty to Mitigate

A permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

1.6 Proper Operation and Maintenance

- 1.6.1 A permittee shall at all times properly operate and maintain all facilities and systems of treatment and control and related appurtenances that the permittee installs or uses to achieve compliance with the conditions of the permit. The permittee's duty to operate and maintain properly includes using adequate laboratory controls and appropriate quality assurance procedures. However, a permittee is not required to operate back-up or auxiliary facilities or similar systems that a permittee installs unless operation of those facilities is necessary to achieve compliance with the conditions of the permit.
- 1.6.2 Operation and maintenance records shall be retained and made available at the site.

1.7 Permit Actions

A permit may be modified, revoked and reissued, or terminated for cause as provided in 18 AAC 83.130. If a permittee files a request to modify, revoke and reissue, or terminate a permit, or gives notice of planned changes or anticipated noncompliance, the filing or notice does not stay any permit condition.

1.8 Property Rights

A permit does not convey any property rights or exclusive privilege.

1.9 Duty to Provide Information

A permittee shall, within a reasonable time, provide to the Department any information that the Department requests to determine whether a permittee is in compliance with the permit, or whether cause exists to modify, revoke and reissue, or terminate the permit. A permittee shall also provide to the Department, upon request, copies of any records the permittee is required to keep under the permit.

1.10 Inspection and Entry

A permittee shall allow the Department, or an authorized representative, including a contractor acting as a representative of the Department, at reasonable times and on presentation of credentials establishing authority and any other documents required by law, to:

- 1.10.1 Enter the premises where a permittee's regulated facility or activity is located or conducted, or where permit conditions require records to be kept;
- 1.10.2 Have access to and copy any records that permit conditions require the permittee to keep;
- 1.10.3 Inspect any facilities, equipment, including monitoring and control equipment, practices, or operations regulated or required under a permit; and
- 1.10.4 Sample or monitor any substances or parameters at any location for the purpose of assuring permit compliance or as otherwise authorized by 33 U.S.C. 1251-1387 (Clean Water Act).

1.11 Monitoring and Records

A permittee must comply with the following monitoring and recordkeeping conditions:

- 1.11.1 Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity.
- 1.11.2 The permittee shall retain records in Alaska of all monitoring information for at least three years, or longer at the Department's request at any time, from the date of the sample, measurement, report, or application. Monitoring records required to be kept include:
 - 1.11.2.1 All calibration and maintenance records,
 - 1.11.2.2 All original strip chart recordings or other forms of data approved by the Department for continuous monitoring instrumentation,
 - 1.11.2.3 All reports required by a permit,
 - 1.11.2.4 Records of all data used to complete the application for a permit,
 - 1.11.2.5 Field logbooks or visual monitoring logbooks,
 - 1.11.2.6 Quality assurance chain of custody forms,
 - 1.11.2.7 Copies of discharge monitoring reports, and
 - 1.11.2.8 A copy of this APDES permit.
- 1.11.3 Records of monitoring information must include:
 - 1.11.3.1 The date, exact place, and time of any sampling or measurement;
 - 1.11.3.2 The name(s) of any individual(s) who performed the sampling or measurement(s);
 - 1.11.3.3 The date(s) and time any analysis was performed;
 - 1.11.3.4 The name(s) of any individual(s) who performed any analysis;
 - 1.11.3.5 Any analytical technique or method used; and
 - 1.11.3.6 The results of the analysis.

1.11.4 Monitoring Procedures

Analyses of pollutants must be conducted using test procedures approved under 40 CFR Part 136, adopted by reference at 18 AAC 83.010, for pollutants with approved test procedures, and using test procedures specified in the permit for pollutants without approved methods.

1.12 Signature Requirement and Penalties

- 1.12.1 Any application, report, or information submitted to the Department in compliance with a permit requirement must be signed and certified in accordance with 18 AAC 83.385. Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, or other document filed or required to be maintained under a permit, or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be subject to penalties under 33 U.S.C. 1319(c)(4), AS 12.55.035(c)(1)(B), (c)(2), and (c)(3) and 46.03.790(g).
- 1.12.2 In accordance with 18 AAC 83.385, an APDES permit application must be signed as follows:
 - 1.12.2.1 For a corporation, by a responsible corporate officer.
 - 1.12.2.2 For a partnership or sole proprietorship, by the general partner or the proprietor, respectively.
 - 1.12.2.3 For a municipality, state, federal, or other public agency, by either a principal executive officer or ranking elected official.
- 1.12.3 Any report required by an APDES permit, and a submittal with any other information requested by the Department, must be signed by a person described in Appendix A, Part 1.12.2, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - 1.12.3.1 The authorization is made in writing by a person described in Appendix A, Part 1.12.2;
 - 1.12.3.2 The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, including the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility; or an individual or position having overall responsibility for environmental matters for the company; and
 - 1.12.3.3 The written authorization is submitted to the Department to the Permitting Program address in Appendix A, Part 1.1.1.
- 1.12.4 If an authorization under Appendix A, Part 1.12.3 is no longer effective because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Appendix A, Part 1.12.3 must be submitted to the Department before or together with any report, information, or application to be signed by an authorized representative.
- 1.12.5 Any person signing a document under Appendix A, Part 1.12.2 or Part 1.12.3 shall certify as follows:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

1.13 Proprietary or Confidential Information

- 1.13.1 A permit applicant or permittee may assert a claim of confidentiality for proprietary or confidential business information by stamping the words "confidential business information" on each page of a submission containing proprietary or confidential business information. The Department will treat the stamped submissions as confidential if the information satisfies the test in 40 CFR §2.208, adopted by reference in 18 AAC 83.010, and is not otherwise required to be made public by state law.
- 1.13.2 A claim of confidentiality under Appendix A, Part 1.13.1 may not be asserted for the name and address of any permit applicant or permittee, a permit application, a permit, effluent data, sewage sludge data, and information required by APDES or NPDES application forms provided by the Department, whether submitted on the forms themselves or in any attachments used to supply information required by the forms.
- 1.13.3 A permittee's claim of confidentiality authorized under Appendix A, Part 1.13.1 is not waived if the Department provides the proprietary or confidential business information to the EPA or to other agencies participating in the permitting process. The Department will supply any information obtained or used in the administration of the state APDES program to the EPA upon request under 40 CFR §123.41, as revised as of July 1, 2005. When providing information submitted to the Department with a claim of confidentiality to the EPA, the Department will notify the EPA of the confidentiality claim. If the Department provides the EPA information that is not claimed to be confidential, the EPA may make the information available to the public without further notice.

1.14 Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any action or relieve a permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under state laws addressing oil and hazardous substances.

1.15 Cultural and Paleontological Resources

If cultural or paleontological resources are discovered because of this disposal activity, work that would disturb such resources is to be stopped, and the Office of History and Archaeology, a Division of Parks and Outdoor Recreation of the Alaska Department of Natural Resources (http://www.dnr.state.ak.us/parks/oha/), is to be notified immediately at (907) 269-8721.

1.16 Fee

A permittee must pay the appropriate permit fee described in 18 AAC 72.

1.17 Other Legal Obligations

This permit does not relieve the permittee from the duty to obtain any other necessary permits from the Department or from other local, state, or federal agencies and to comply with the requirements contained in any such permits. All activities conducted and all plan approvals implemented by the permittee pursuant to the terms of this permit shall comply with all applicable local, state, and federal laws and regulations.

2.0 Special Reporting Obligations

2.1 Planned Changes

- 2.1.1 The permittee shall give notice to the Department as soon as possible of any planned physical alteration or addition to the permitted facility if:
 - 2.1.1.1 The alteration or addition may make the facility a "new source" under one or more of the criteria in 18 AAC 83.990(44); or
 - 2.1.1.2 The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged if those pollutants are not subject to effluent limitations in the permit or to notification requirements under 18 AAC 83.610.
- 2.1.2 If the proposed changes are subject to plan review, then the plans must be submitted at least 30 days before implementation of changes (see 18 AAC 15.020 and 18 AAC 72 for plan review requirements). Written approval is not required for an emergency repair or routine maintenance.
- 2.1.3 Written notice must be sent to the Permitting Program address in Appendix A, Part 1.1.1.

2.2 Anticipated Noncompliance

- 2.2.1 A permittee shall give seven days' notice to the Department before commencing any planned change in the permitted facility or activity that may result in noncompliance with permit requirements.
- 2.2.2 Written notice must be sent to the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.

2.3 Transfers

- 2.3.1 A permittee may not transfer a permit for a facility or activity to any person except after notice to the Department in accordance with 18 AAC 83.150. The Department may modify or revoke and reissue the permit to change the name of the permittee and incorporate such other requirements under 33 U.S.C. 1251-1387 (Clean Water Act) or state law.
- 2.3.2 Written notice must be sent to the Permitting Program address in Appendix A, Part 1.1.1.

2.4 Compliance Schedules

- 2.4.1 A permittee must submit progress or compliance reports on interim and final requirements in any compliance schedule of a permit no later than 14 days following the scheduled date of each requirement.
- 2.4.2 Written notice must be sent to the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.

2.5 Corrective Information

- 2.5.1 If a permittee becomes aware that it failed to submit a relevant fact in a permit application or submitted incorrect information in a permit application or in any report to the Department, the permittee shall promptly submit the relevant fact or the correct information.
- 2.5.2 Information must be sent to the Permitting Program address in Appendix A, Part 1.1.1.

2.6 Bypass of Treatment Facilities

2.6.1 Prohibition of Bypass

Bypass is prohibited. The Department may take enforcement action against a permittee for any bypass, unless:

- 2.6.1.1 The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- 2.6.1.2 There were no feasible alternatives to the bypass, including use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. However, this condition is not satisfied if the permittee, in the exercise of reasonable engineering judgment, should have installed adequate back-up equipment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and
- 2.6.1.3 The permittee provides notice to the Department of a bypass event in the manner, as appropriate, under Appendix A, Part 2.6.2.

2.6.2 Notice of bypass

- 2.6.2.1 For an anticipated bypass, the permittee submits notice at least 10 days before the date of the bypass. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the conditions of Appendix A, Parts 2.6.1.1 and 2.6.1.2.
- 2.6.2.2 For an unanticipated bypass, the permittee submits 24-hour notice, as required in 18 AAC 83.410(f) and Appendix A, Part 3.4, Twenty-four Hour Reporting.
- 2.6.2.3 Written notice must be sent to the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.
- 2.6.3 Notwithstanding Appendix A, Part 2.6.1, a permittee may allow a bypass that:
 - 2.6.3.1 Does not cause an effluent limitation to be exceeded, and
 - 2.6.3.2 Is for essential maintenance to assure efficient operation.

2.7 Upset Conditions

- 2.7.1 In any enforcement action for noncompliance with technology-based permit effluent limitations, a permittee may claim upset as an affirmative defense. A permittee seeking to establish the occurrence of an upset has the burden of proof to show that the requirements of Appendix A, Part 2.7.2 are met.
- 2.7.2 To establish the affirmative defense of upset, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that:
 - 2.7.2.1 An upset occurred and the permittee can identify the cause or causes of the upset;
 - 2.7.2.2 The permitted facility was at the time being properly operated;
 - 2.7.2.3 The permittee submitted 24-hour notice of the upset, as required in 18 AAC 83.410(f) and Appendix A, Part 3.4, Twenty-four Hour Reporting; and
 - 2.7.2.4 The permittee complied with any mitigation measures required under 18 AAC 83.405(e) and Appendix A, Part 1.5, Duty to Mitigate.

2.7.3 Any determination made in administrative review of a claim that noncompliance was caused by upset, before an action for noncompliance is commenced, is not final administrative action subject to judicial review.

2.8 Existing Manufacturing, Commercial, Mining, and Silvicultural Discharges

- 2.8.1 In addition to the reporting requirements under 18 AAC 83.410, an existing manufacturing, commercial, mining, and silvicultural discharger shall notify the department as soon as that discharger knows or has reason to believe that any activity has occurred or will occur that would result in:
 - 2.8.1.1 The discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
 - 2.8.1.1.1 One hundred micrograms per liter (100 μ g/L);
 - 2.8.1.1.2 Two hundred micrograms per liter ($200 \mu g/L$) for acrolein and acrylonitrile, 500 micrograms per liter ($500 \mu g/L$) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol, and one milligram per liter (1 mg/L) for antimony;
 - 2.8.1.1.3 Five times the maximum concentration value reported for that pollutant in the permit application in accordance with 10 AAC 83.310(c)-(g); or
 - 2.8.1.1.4 The level established by the department in accordance with 18 AAC 83.445.
 - 2.8.1.2 Any discharge, on a non-routine or infrequent basis, of a toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
 - 2.8.1.2.1 Five hundred micrograms per liter (500 μ g/L);
 - 2.8.1.2.2 One milligram per liter (1 mg/L) for antimony;
 - 2.8.1.2.3 Ten times the maximum concentration value reported for that pollutant in the permit application in accordance with 18 AAC 83.310(c)-(g); or
 - 2.8.1.2.4 The level established by the department in accordance with 18 AAC 83.445.

3.0 Monitoring, Recording, and Reporting Requirements

3.1 Representative Sampling

A permittee must collect effluent samples from the effluent stream after the last treatment unit before discharge into the receiving waters, or as otherwise required in the permit. Samples and measurements must be representative of the volume and nature of the monitored activity or discharge.

3.2 Reporting of Monitoring Results

At intervals specified in the permit, monitoring results must be reported on the APDES discharge monitoring report (DMR) form, as revised as of March 1999, adopted by reference.

3.2.1 Monitoring results shall be summarized each month on the DMR or an approved equivalent report. The permittee must record the lab result on the DMR by the 15th day of the month following when the samples were taken.

- 3.2.2 The permittee shall provide copies of the DMR and summarize all other monitoring results on the annual report form or approved equivalent. The permittee shall submit its annual report at the interval specified in the permit. The permittee must sign and certify all DMRs and all other reports in accordance with the requirements of Appendix A, Part 1.12, Signatory Requirements and Penalties. All signed and certified, legible, original DMRs and all other documents and reports must be submitted to the Department at the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.
- 3.2.3 If, during the period when this permit is effective, the Department makes available electronic reporting, the permittee may, as an alternative to the requirements of Appendix A, Part 3.2.2, submit monthly DMRs electronically by the 15th day of the following month in accordance with guidance provided by the Department. The permittee must certify all DMRs and other reports, in accordance with the requirements of Appendix A, Part 1.12, Signatory Requirements and Penalties. The permittee must retain the legible originals of these documents and make them available to the Department upon request.

3.3 Additional Monitoring by Permittee

If the permittee monitors any pollutant more frequently than the permit requires using test procedures approved in 40 CFR Part 136, adopted by reference in 18 AAC 83.010, or as specified in this permit, the results of that additional monitoring must be included in the calculation and reporting of the data submitted in the DMR. All limitations that require averaging of measurements must be calculated using an arithmetic means unless the Department specifies another method in the permit. Upon request by the Department, the permittee must submit the results of any other sampling and monitoring regardless of the test method used.

3.4 Twenty-four Hour Reporting

A permittee shall report any noncompliance event that may endanger health or the environment as follows:

- 3.4.1 A report must be made:
 - 3.4.1.1 Orally within 24 hours after the permittee becomes aware of the circumstances, and
 - 3.4.1.2 In writing within five days after the permittee becomes aware of the circumstances.
- 3.4.2 A report must include the following information:
 - 3.4.2.1 A description of the noncompliance and its causes, including the estimated volume or weight and specific details of the noncompliance;
 - 3.4.2.2 The period of noncompliance, including exact dates and times;
 - 3.4.2.3 If the noncompliance has not been corrected, a statement regarding the anticipated time the noncompliance is expected to continue; and
 - 3.4.2.4 Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
- 3.4.3 An event that must be reported within 24 hours includes:
 - 3.4.3.1 An unanticipated bypass that exceeds any effluent limitation in the permit (see Appendix A, Part 2.6, Bypass of Treatment Facilities).
 - 3.4.3.2 An upset that exceeds any effluent limitation in the permit (see Appendix A, Part 2.7, Upset Conditions).

- 3.4.3.3 A violation of a maximum daily discharge limitation for any of the pollutants listed in the permit as requiring 24-hour reporting.
- 3.4.4 The Department may waive the written report on a case-by-case basis for reports under Appendix A, Part 3.4 if the oral report has been received within 24 hours of the permittee becoming aware of the noncompliance event.
- 3.4.5 The permittee may satisfy the written reporting submission requirements of Appendix A, Part 3.4 by submitting the written report via e-mail, if the following conditions are met:
 - 3.4.5.1 The Noncompliance Notification Form or equivalent form is used to report the noncompliance.
 - 3.4.5.2 The written report includes all the information required under Appendix A, Part 3.4.2;
 - 3.4.5.3 The written report is properly certified and signed in accordance with Appendix A, Parts 1.12.3 and 1.12.5.;
 - 3.4.5.4 The written report is scanned as a PDF (portable document format) document and transmitted to the Department as an attachment to the e-mail; and
 - 3.4.5.5 The permittee retains in the facility file the original signed and certified written report and a printed copy of the conveying email.
- 3.4.6 The e-mail and PDF written report will satisfy the written report submission requirements of this permit provided the e-mail is received by the Department within five days after the time the permittee becomes aware of the noncompliance event and the e-mail and written report satisfy the criteria of Part 3.4.5. The e-mail address to report noncompliance is: dec-wqreporting@alaska.gov

3.5 Other Noncompliance Reporting

A permittee shall report all instances of noncompliance not required to be reported under Appendix A, Parts 2.4 (Compliance Schedules), 3.3 (Additional Monitoring by Permittee), and 3.4 (Twenty-four Hour Reporting) at the time the permittee submits monitoring reports under Appendix A, Part 3.4 (Reporting of Monitoring Results). A report of noncompliance under this part must contain the information listed in Appendix A, Part 3.4.2 and be sent to the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.

4.0 Penalties for Violations of Permit Conditions

Alaska laws allow the State to pursue both civil and criminal actions concurrently. The following is a summary of Alaska law. Permittees should read the applicable statutes for further substantive and procedural details.

4.1 Civil Action

Under AS 46.03.760(e), a person who violates or causes or permits to be violated a regulation, a lawful order of the Department, or a permit, approval, or acceptance, or term or condition of a permit, approval or acceptance issued under the program authorized by AS 46.03.020 (12) is liable, in a civil action, to the state for a sum to be assessed by the court of not less than \$500 nor more than \$100,000 for the initial violation, nor more than \$10,000 for each day after that on which the violation continues, and that shall reflect, when applicable:

- 4.1.1 Reasonable compensation in the nature of liquated damages for any adverse environmental effects caused by the violation, that shall be determined by the court according to the toxicity, degradability, and dispersal characteristics of the substance discharged, the sensitivity of the receiving environment, and the degree to which the discharge degrades existing environmental quality;
- 4.1.2 Reasonable costs incurred by the state in detection, investigation, and attempted correction of the violation;
- 4.1.3 The economic savings realized by the person in not complying with the requirements for which a violation is charged; and
- 4.1.4 The need for an enhanced civil penalty to deter future noncompliance.

4.2 Injunctive Relief

- 4.2.1 Under AS 46.03.820, the Department can order an activity presenting an imminent or present danger to public health or that would be likely to result in irreversible damage to the environment be discontinued. Upon receipt of such an order, the activity must be immediately discontinued.
- 4.2.2 Under AS 46.03.765, the Department can bring an action in Alaska Superior Court seeking to enjoin ongoing or threatened violations for Department-issued permits and Department statutes and regulations.

4.3 Criminal Action

Under AS 46.03.790(h), a person is guilty of a Class A misdemeanor if the person negligently:

- 4.3.1 Violates a regulation adopted by the Department under AS 46.03.020(12);
- 4.3.2 Violates a permit issued under the program authorized by AS 46.03.020(12);
- 4.3.3 Fails to provide information or provides false information required by a regulation adopted under AS 46.03.020(12);
- 4.3.4 Makes a false statement, representation, or certification in an application, notice, record, report, permit, or other document filed, maintained, or used for purposes of compliance with a permit issued under or a regulation adopted under AS 46.03.020(12); or
- 4.3.5 Renders inaccurate a monitoring device or method required to be maintained by a permit issued or under a regulation adopted under AS 46.03.020(12).

4.4 Other Fines

Upon conviction of a violation of a regulation adopted under AS 46.03.020(12), a defendant who is not an organization may be sentenced to pay a fine of not more than \$10,000 for each separate violation (AS 46.03.790(g)). A defendant that is an organization may be sentenced to pay a fine not exceeding the greater of: (1) \$200,00; (2) three times the pecuniary gain realized by the defendant as a result of the offense; or (3) three times the pecuniary damage or loss caused by the defendant to another, or the property of another, as a result of the offense (AS 12.55.035(c)(B), (c)(2), and (c)(3).

Appendix B

Acronyms

The following acronyms are common terms that may be found in an Alaska Pollutant Discharge Elimination System (APDES) permit.

18 AAC 15	Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 15: Administrative Procedures
18 AAC 60	Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 60: Solid Waste Management
18 AAC 70	Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 70: Water Quality Standards
18 AAC 72	Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 72: Wastewater Disposal
18 AAC 83	Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 83: Alaska Pollutant Discharge Elimination System

All chapters of Alaska Administrative Code, Title 18 are available at the Alaska Administrative Code database https://dec.alaska.gov/Commish/regulations/index.htm

40 CFR Code of Federal Regulations Title 40: Protection of Environment

AAC Alaska Administrative Code

ADF&G Alaska Department of Fish and Game

ADNR Alaska Department of Natural Resources

AML Average Monthly Limit

APDES Alaska Pollutant Discharge Elimination System

AS Alaska Statutes

AS 46.03 Alaska Statutes Title 46, Chapter 03: Environmental Conservation. Available at

http://www.legis.state.ak.us/default.htm

BAT Best Available Technology Economically Achievable

BCT Best Conventional Pollutant Control Technology

BOD₅ Biochemical Oxygen Demand, 5-day

BMP Best Management Practice

BPJ Best Professional Judgment

BPT Best Practicable Control Technology Currently Available

CFR Code of Federal Regulations

COD Chemical Oxygen Demand

CSP Contaminated Sites Program

CWA Clean Water Act

CV Coefficient of Variation

DEC Alaska Department of Environmental Conservation

DMR Discharge Monitoring Report

EFH Essential Fish Habitat

ELG Effluent Limit Guidelines

EPA U.S. Environmental Protection Agency

ESA Endangered Species Act

FC Fecal Coliform Bacteria

GP General Permit

GPD or gpd Gallons Per Day

GPM or gpm Gallons Per Minute

IP Individual Permit

LDA Legislatively Designated Areas

LTA Long Term Average

MDL Maximum Daily Limit

ML Minimum Level

mg/L Milligrams Per Liter

μg/L Micrograms Per Liter

MSGP Multi-Sector General Permit

Appendix C

Definitions

The following are common definitions of terms associated with APDES permits. Not all the terms listed may appear in a permit. Consult the footnote references for a complete list of terms and definitions.

Alaska **Pollutant** Discharge Elimination System

(APDES)^a

Means the state's program, approved by EPA under 33 U.S.C. 1342(b), for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits and imposing and enforcing pretreatment requirements under 33 U.S.C. 1317, 1328, 1342, and 1345

Storm Water Discharges

Allowable Non- Fire fighting flows, fire water storage vessel and fire hydrant flushing discharges, including periodic fire suppression test discharges, and fire training discharges; Waters used to wash vehicles where detergents are not used; Water used for dust control; Potable water sources including uncontaminated waterline flushes and drinking fountain water; Landscape watering and irrigation drainage used on occasion for re-vegetation projects; Routine external building, pipeline, and power line wash down that does not use detergent or other compounds; Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids; Uncontaminated, non-turbid discharges springs or groundwater; Uncontaminated foundation or footing drains; and Electrical insulator steaming; Other uncontaminated discharges meeting water quality criteria that the Department approves on a case-by-case basis.

Annual

Means once per calendar year

Average

Means an arithmetic mean obtained by adding quantities and dividing the sum by the number of quantities

Average Monthly Limit^a Means the highest allowable average of "daily discharges" over a calendar month calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured for that month

Ballast water

Means harbor or seawater added or removed to maintain the proper ballast floater level and ship draft and to conduct jack-up rig related sea bed support capability tests (e.g. jack-up rig preload water).

a) See 18 AAC 83

b) See 18 AAC 70.990

c) See 18 AAC 72.990

d) See 40 CFR Part 136

e) See EPA Technical Support Document

f) See Standard Methods for the Examination of Water and Wastewater 18th Edition

g) See EPA Permit Writers Manual

Means schedules of activities, prohibitions of practices, maintenance procedures, and other Best Management management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site **Practices** (BMPs)a runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage areas. Biochemical Means the amount, in milligrams per liter, of oxygen used in the biochemical oxidation of Oxygen organic matter in five days at 20°C Demand (BOD)c **Biocide** Means any chemical agent used for controlling the growth of or destroying nuisance organisms (e.g., bacteria, algae, and fungi) Means the intentional diversion of waste streams from any portion of a treatment facility Bypass^a Categorical The term categorical sum refers to the summation of methodology MDLs that are unique within Sum a suite of analytes, i.e. no duplications of methodologies. Cessation or to Means to completely stop or discontinue an activity Cease Clean Water Means the federal law codified at 33 U.S.C. 1251-1387, also referred to as the Federal Water Act (CWA)^a Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972 Coastal Waters Means any location in or on a water of the United States landward of the inner boundary of the territorial seas. Color^b Means the condition that results in the visual sensations of hue and intensity as measured after turbidity is removed Commissioner^a Means the commissioner of the Alaska Department of Environmental Conservation or the commissioner's designee Composite Composite samples must consist of at least eight equal volume grab samples. 24 hour composite sample means a combination of at least eight discrete samples of equal volume collected at Samples equal time intervals over a 24-hour period at the same location. A "flow proportional composite" sample means a combination of at least eight discrete samples collected at equal time intervals over a 24-hour period with each sample volume proportioned according to the flow volume. The sample aliquots must be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for the Examination of Water and Wastewater. Contact Means activities in which there is direct and intimate contact with water. Contact recreation

includes swimming, diving, and water skiing. Contact recreation does not include wading.

a) See 18 AAC 83b) See 18 AAC 70.990c) See 18 AAC 72.990d) See 40 CFR Part 136

Recreation^b

- e) See EPA Technical Support Document
- f) See Standard Methods for the Examination of Water and Wastewater 18th Edition
- g) See EPA Permit Writers Manual

Contained Water Stored water potentially contaminated with hydrocarbons and metals, including contaminated SCAs, water from open RPs, and various discharges previously included under hydrostatic test water.

Contaminated Secondary Containment Areas (SCA) Means a secondary containment area where a sheen, discoloration, or odor has been observed, or a spill has occurred.

Criterion^b

Means a set concentration or limit of a water quality parameter that, when not exceeded, will protect an organism, a population of organisms, a community of organisms, or a prescribed water use with a reasonable degree of safety. A criterion might be a narrative statement instead of a numerical concentration or limit.

Daily Discharge^a Means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants measured in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with a limitation expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Deck Drainage

Means any waste resulting from deck washings, spillage, rainwater, and runoff from gutters and drains including drip pans and work areas within facilities

Department^a

Means the Alaska Department of Environmental Conservation

Design Flow^a

Means the wastewater flow rate that the plant was designed to handle. Typically the maximum monthly flow rate for the treatment system.

Director^a

Means the commissioner or the commissioner's designee assigned to administer the APDES program or a portion of it, unless the context identifies an EPA director

Discharge^a

When used without qualification, discharge means the discharge of a pollutant

Discharge of a Pollutant^a

Means any addition of any pollutant or combination of pollutants to waters of the United States from any point source or to waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft that is being used as a means of transportation. Discharge includes any addition of pollutants into waters of the United States from surface runoff that is collected or channeled by humans; discharges through pipes, sewers, or other conveyances owned by a state, municipality, or other person that do not lead to a treatment works; discharges through pipes, sewers, or other conveyances leading into privately owned treatment works; and does not include an addition of pollutants by any indirect discharger.

Domestic Wastewater^c Means waterborne human wastes or graywater derived from dwellings, commercial buildings, institutions, or similar structures. "Domestic wastewater" includes the contents of individual removable containers used to collect and temporarily store human wastes.

a) See 18 AAC 83

b) See 18 AAC 70.990

c) See 18 AAC 72.990

Mean

d) See 40 CFR Part 136

e) See EPA Technical Support Document

f) See Standard Methods for the Examination of Water and Wastewater 18th Edition

g) See EPA Permit Writers Manual

Effluent^b Means the segment of a wastewater stream that follows the final step in a treatment process and

precedes discharge of the wastewater stream to the receiving environment

Estimated Means a way to estimate the discharge volume. Approvable estimations include, but are not

limited to, the number of persons per day at the facility, volume of potable water produced per

day, lift station run time, etc.

Excluded area Means an area not authorized as a receiving water under a permit

Facilities Means any a facility or activity that is directly related to the operation of an oil and gas

exploration, production or development facility, including service companies, on the North

Slope Borough.

Fecal Coliform Bacteria that can ferment lactose at 44.5° + 0.2°C to produce gas in a multiple tube procedure.

Bacteria (FC)^b Fecal coliform bacteria also means all bacteria that produce blue colonies in a membrane

filtration procedure within 24 ± 2 hours of incubation at $44.5^{\circ} + 0.2^{\circ}$ C in an M-FC broth.

Fish^b Means any of the group of cold-blooded vertebrates that live in water and have permanent gills

for breathing and fins for locomotion

Free Oil Any oil contained in a waste stream that when discharged will cause a film or sheen upon or a

discoloration of the surface of the receiving water

Garbage Means all kinds of victual, domestic, and operational waste, excluding fresh fish and part

thereof, generated during the normal operation and liable to be disposed of continuously or periodically except dishwater, graywater, and those substances that are defined or listed in other

Annexes to MARPOL 73/78

Geometric The geometric mean is the Nth root of the product of N. All sample results of zero will use a

value of 1 for calculation of the geometric mean. Example geometric mean calculation:

 $\sqrt[4]{12x23x34x990} = 55$

Grab Sample Means a single instantaneous sample collected at a particular place and time that represents the

composition of wastewater only at that time and place

Graywater^b Means wastewater from a laundry, kitchen, sink, shower, bath, or other domestic source that

does not contain excrement, urine, or combined storm water

Hydrostatic Means water used for pressure testing to verifies leaks are not present in pipelines and tanks as

Test Water well as contained water associated with valve vault discharges, basement discharges, non-

hydrocarbon bearing lines, water tanks, ancillary pipelines related to oil and gas facilities, and utilidor discharges.

Influent Means untreated wastewater before it enters the first treatment process of a wastewater

treatment works

Means the highest allowable "daily discharge" Maximum

Daily Limit (MDL)^a

a) See 18 AAC 83

b) See 18 AAC 70.990

c) See 18 AAC 72.990

d) See 40 CFR Part 136

e) See EPA Technical Support Document

f) See Standard Methods for the Examination of Water and Wastewater 18th Edition

Meanb Means the average of values obtained over a specified period and, for fecal coliform analysis, is

computed as a geometric mean

Measured Means the actual volume of wastewater discharged using appropriate mechanical or electronic equipment to provide a totalized reading. Measure does not provide a recorded measurement of

instantaneous rates.

Method **Detection Limit** Means the minimum concentration of a substance (analyte) that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.

Milligrams per Liter (mg/L)^b

Means the concentration at which one thousandth of a gram (10⁻³ g) is found in a volume of one liter. It is approximately equal to the unit "parts per million (ppm)," formerly of common use.

(ML)

Minimum Level Means the concentration at which the entire analytical system must give a recognizable signal and an acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes, and processing steps have been followed.

Mixing Zone^b

Means a volume of water adjacent to a discharge in which wastes discharged mix with the receiving water

Mobile Spill Response Discharge

Means discharges associated with treated snowmelt, rain, or other water that has come into contact with hydrocarbons such as motor oil, diesel, gasoline, transmission, hydraulic oil from small leaks that are collected from motorized vehicles and equipment. Other sources include, but may not be limited to, drip pan water and shop melt water. Only water impacted by petroleum hydrocarbons is considered under mobile spill response discharge and a treatment system must be used that is capable of removing free-phase and dissolved-phase hydrocarbons from the wastewater.

Month Means the time period from the 1st of a calendar month to the last day in the month Monthly Average Means the average of daily discharges over a monitoring month calculated as the sum of all daily discharges measured during a monitoring month divided by the number of daily discharges measured during that month

New Facility

Means a facility that has not operated in the area specified in the Notice of intent (NOI) prior to the submission of the NOI.

a) See 18 AAC 83

b) See 18 AAC 70.990

c) See 18 AAC 72.990

d) See 40 CFR Part 136

- e) See EPA Technical Support Document
- f) See Standard Methods for the Examination of Water and Wastewater 18th Edition
- g) See EPA Permit Writers Manual

North Slope Borough Means the NSB encompasses the entire northern coast and most of the northeastern coast of Alaska along the Arctic Ocean and contains approximately 89,000 sq. miles of land and 5,900 sq. miles of water. The southern boundary runs in an east - west direction at 68° North latitude, about 105 miles north of the Arctic Circle, which is at latitude 66° 30' North. The NSB extends east to the border with Canada, west to the Chukchi Sea, and north to the Beaufort Sea.

Offshore

Means offshore of the inner boundary of the territorial seas.

Open waters

Means ponds, lakes, streams, rivers, tundra, wetlands, and marine waters not covered by ice.

Permittee

Means a company, organization, association, entity, or person who is issued a wastewater permit and is responsible for ensuring compliance, monitoring, and reporting as required by the permit

 pH^g

Means a measure of the hydrogen ion concentration of water or wastewater; expressed as the negative log of the hydrogen ion concentration in mg/L. A pH of 7 is neutral. A pH less than 7 is acidic, and a pH greater than 7 is basic.

Primary
Treatment ^c

Means wastewater treatment that: (a) will subsequently discharge wastewater to land or waters that are not waters of the United States and substantially removes all floating and settleable solids; or uses fine screens with 0.04-inch or smaller openings; or (b) will subsequently discharge wastewater to waters of the United States and uses screening, sedimentation, and skimming adequate to remove at least 30 percent of the biochemical oxygen demanding material and of the suspended solids in the treatment works influent; and disinfection, where appropriate.

Principal Executive Officer^a

Means the chief executive officer of the agency or a senior executive officer having responsibility for the overall operations of a principal geographic unit of division of the agency

Pollutant^a

Means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under 42 U.S.C. 2011), heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, or agricultural waste discharged into water

Qualified Person

Qualified personnel are those who possess the knowledge and skills to assess conditions and activities that could impact storm water quality at your facility or BMPs necessary to achieve permit compliance and who can also evaluate the effectiveness of control measures.

Receiving Waterbody

Means lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, straits, passages, canals, the Pacific Ocean, Gulf of Alaska, Bering Sea, and Arctic Ocean, in the territorial limits of the state, and all other bodies of surface water, natural or artificial, public or private, inland or coastal, fresh or salt, which are wholly or partially in or bordering the state or under the jurisdiction of the state. (See "Waters of the U.S." at 18 AAC 83.990(77))

a) See 18 AAC 83b) See 18 AAC 70.990c) See 18 AAC 72.990

d) See 40 CFR Part 136

e) See EPA Technical Support Document

Recommencing Facilities

Those facilities that may have let permit coverage lapse but still meet the coverage requirements of the GP.

Report

Report results of analysis.

Residual Chlorine

Means chlorine remaining in water or wastewater at the end of a specified contact period as combined or free chlorine.

Residues

Residues are defined in 18 AAC 70.990(49) as any floating solids, debris, sludge, deposits, foam, scum, or other material or substance remaining in a waterbody as a result of direct or nearby human activity.

Responsible Corporate Officer^a Means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function or any other person who performs similar policy or Decision making functions for the corporation

The Responsible Corporate Officer can also be the manager of one or more manufacturing, production, or operating facilities if the requirements of 18 AAC 83.385(a)(1)(B)(i)-(iii) are met.

Secondary Containment Discharge Discharges of uncontaminated precipitation or snow melt water that has accumulated in the diked areas around hydrocarbon tanks, tank farms, fuel transfer stations and tanker truck loading racks which provide an emergency storage area and help to prevent accidental spills from reaching the environment or Waters of the U.S. These areas are typically constructed of steel, synthetic liners or synthetic lines with a layer of gravel on top to protect the liner and are required by 40 CFR 112 – Oil Pollution Prevention or 18 AAC 75 – Oil and Other Hazardous Substances Pollution Control, Article 1.

Secondary Recreation^b Means activities in which incidental water use can occur. Secondary recreation includes boating, camping, hunting, hiking, wading, and recreational fishing. Secondary contact recreation does not include fish consumption.

Sensitive **Biological** Areas or **Habitats**

Means significant or unique biological communities, including areas of high biological productivity, diversity, or vulnerability, as well as important habitat areas for Arctic species

Settleable **Solids**

means solid material of organic or mineral origin that is transported by and deposited from water, as measured by the volumetric Imhoff cone method and at the method detection limits specified in method 2540(F), in any edition of Standard Methods for the Examination of Water and Wastewater, adopted by reference in 18 AAC 70.020(c)(1).

a) See 18 AAC 83

b) See 18 AAC 70.990

c) See 18 AAC 72.990

d) See 40 CFR Part 136

e) See EPA Technical Support Document

f) See Standard Methods for the Examination of Water and Wastewater 18th Edition

g) See EPA Permit Writers Manual

Damage^a

Severe Property Means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

Sheenb

Means an iridescent appearance on the water surface

Shellfish^b

Means a species of crustacean, mollusk, or other aquatic invertebrate with a shell or shell-like exoskeleton in any stage of its life cycle

Stable Ice

Means landfast or bottom-fast ice that becomes stationary, or stable, enough to support activities on the ice surface (e.g., winter ice programs).

Static Sheen **Test**

A test intended to indicate the presence of free oil when drilling fluid, drilled cuttings, deck drainage, well treatment fluids, completion and workover fluids, produced water or sand or excess cement slurry are discharged into offshore waters.

Storm Water Discharge

Storm water discharges consist of runoff water resulting from precipitation, snow, and snowmelt events that has not come into contact with contaminates and certain allowable nonstorm water sources that are discharged with storm water from oil and gas related industrial areas or activities.

Sufficiently Sensitive Method

Per 40 CFR 122.21(a)(3), a method approved under 40 CFR 136 is sufficiently sensitive when:

(A) The method minimum level (ML) is at or below the level of the applicable water quality criterion for the measured parameter, or

- (B) The method ML is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in the discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge, or
- The method has the lowest ML of the analytical methods approved under 40 CFR 136 for the measured pollutant or pollutant parameter.

Territorial Seas

Means the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the off shore limit of inland waters, and extending off shore a distance of three miles.

Total Suspended Solids (TSS)^g Means a measure of the filterable solids present in a sample, as determined by the method specified in 40 CFR Part 136

Twice per year

Means two time periods during the calendar year: October through April and May through September

Secondary Containment Area (SCA)

Uncontaminated Means a secondary containment area (SCA) where a spill has not occurred and a sheen, odor, or discoloration has not been observed. A contaminated SCA may be deemed uncontaminated after 12 months without a spill, observation of a sheen, discoloration, or odor, or an exceedance of TAH and TAqH. o

Upset^a

Means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

a) See 18 AAC 83

b) See 18 AAC 70,990

c) See 18 AAC 72.990

d) See 40 CFR Part 136

e) See EPA Technical Support Document

f) See Standard Methods for the Examination of Water and Wastewater 18th Edition

g) See EPA Permit Writers Manual

Wastewater Treatment

Means any process to which wastewater is subjected in order to remove or alter its objectionable constituents and make it suitable for subsequent use or acceptable for discharge to the environment

Waters of the United States or Waters of the U.S.

Has the meaning given in 18 AAC 83.990(77)

Water See contact recreation or secondary recreation

Recreation^b

Water Supply^b

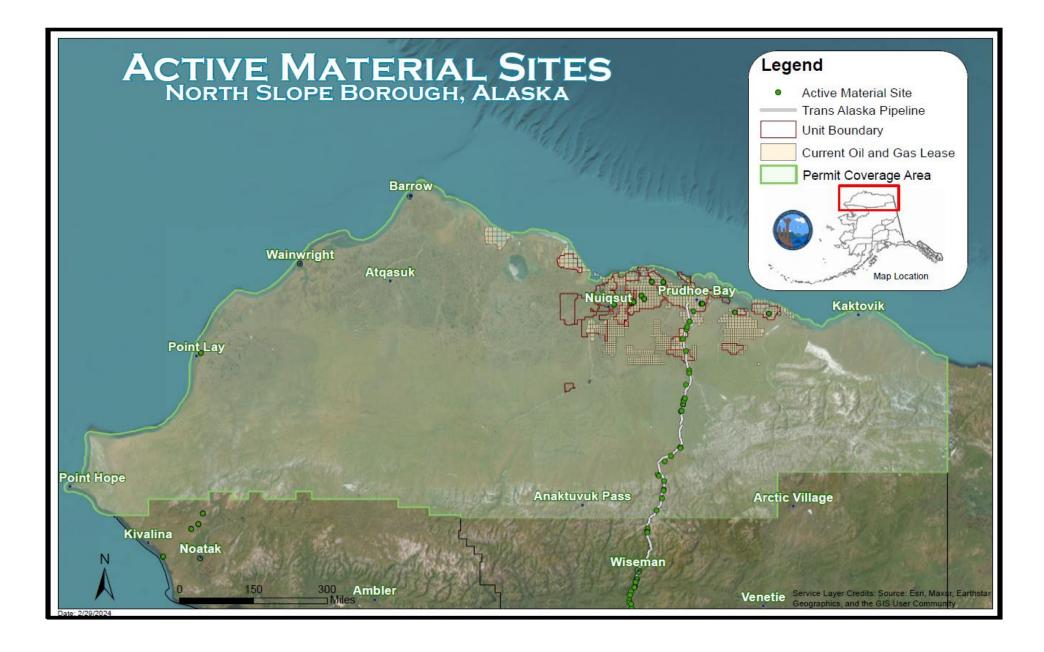
Means any of the waters of the United States that are designated in 18 AAC 70 to be protected for fresh water or marine water uses. Water supply includes waters used for drinking, culinary, food processing, agricultural, aquacultural, seafood processing, and industrial purposes. Water supply does not necessarily mean that water in a waterbody that is protected as a supply for the uses listed in this paragraph is safe to drink in its natural state.

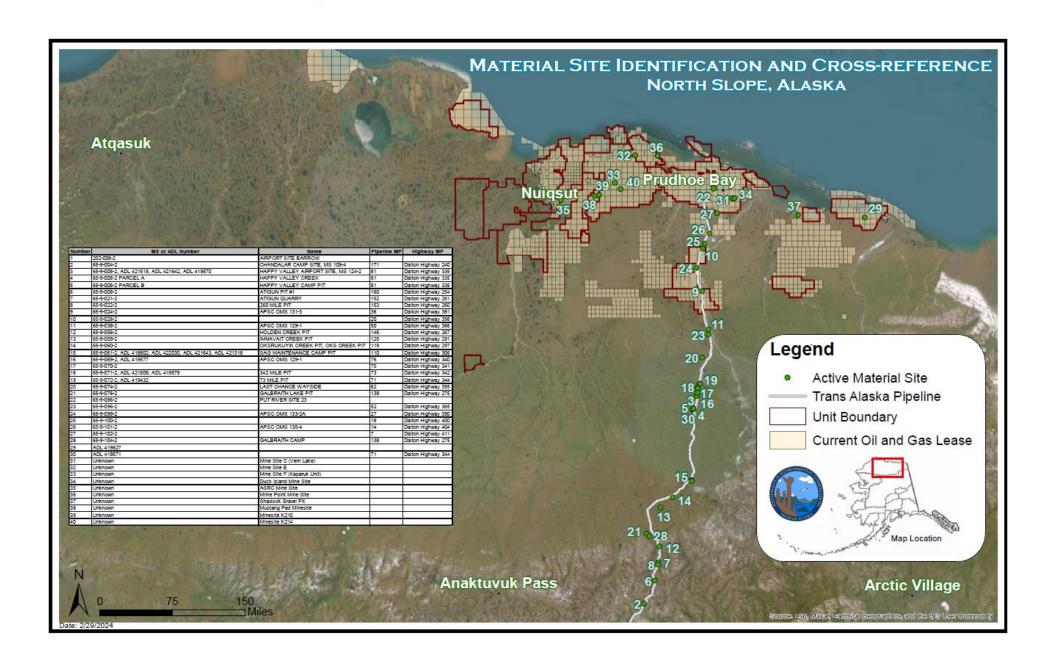
- a) See 18 AAC 83
- b) See 18 AAC 70.990
- c) See 18 AAC 72.990
- d) See 40 CFR Part 136
- e) See EPA Technical Support Document
- f) See Standard Methods for the Examination of Water and Wastewater 18th Edition
- g) See EPA Permit Writers Manual

Attachment 1

Area of Coverage Map

Figure 1: Map of the Area of Coverage for the Permit





Attachment 2

DMR Reporting Guidelines for TAH/TAqH

Standard DMR Reporting Procedures for Total Aromatic Hydrocarbons and Total Aqueous Hydrocarbons

Purpose:

There is presently a lack of clear and implementable procedures on how to report analytical results for Total Aromatic Hydrocarbons (TAH) and Total Aqueous Hydrocarbons (TAqH) on Discharge Monitoring Reports (DMRs) required to be submitted for permits issued by the Alaska Pollutant Discharge Elimination System (APDES). Without a procedure specific to the APDES DMRs, permittees may misapply procedures from other Programs (i.e., Contaminated Sites Program) that are not aligned with APDES requirements. The Environmental Protection Agency (EPA) Region 10 (R10) issued a memo dated April 25, 2005 (2005 EPA R10 Policy) which provided guidance on how to report analytical results that are less than the minimum level (ML) to provide guidance for reporting a single parameter. While the 2005 EPA R10 Policy addressed reporting parameters analyzed using a single test method (e.g., copper, ammonia etc.), it does not address reporting analytical data pertaining to a parameter comprised of a composition of multiple analytes that are analyzed using different methods or the same method but with different sensitivities among the analytes. For example, TAH and TAqH are the summation of several analytes with up to two different methodologies to generate a single value for that parameter. The proposed procedure will provide a simple, repeatable procedure for reporting Maximum Daily Limit (MDL) and Average Monthly Limit (AML) values on DMRs for TAH and TAqH that include results that are below the ML. The procedure must also support enforcement of limit violations, data evaluation during permit development including effluent characterization and reasonable potential analyses (RPA), Water Quality Based Effluent Limit (WQBEL) derivations, and whether sufficiently sensitive methods were used.

Objectives:

For the procedure to be the most effective, it will:

- a) Be consistent with the 2005 EPA R10 Policy;
- b) Be simple to understand and implementable across a wide variety of permits, permittees, and stakeholders;
- c) Be enforceable and definitively identify when a violation of an MDL or AML has occurred;
- d) Be accepted as a Department policy among analytical chemists, permittees, and other stakeholders:
- e) Support permit development by ensuring effluent characterization, RPA, and WQBEL derivation and other interrelated procedures are streamlined and not compromised; and
- f) Translate to standardized language for use in permits covering multiple industrial sectors.

List of TAH and TAqH Analytes:

TAH	TAqH
Benzene	TAH, plus
Toluene	Acenaphthene
Ethyl Benzene	Acenaphthylene
Total Xylenes	Anthracene

Benzo(a)Anthracene
Benzo[a]Pyrene
Benzo[b]Fluoranthene
Benzo[g,h,i]Perylene
Benzo[k]Fluoranthene
Chrysene
Dibenzo[a,h]Anthracene
Fluoranthene
Fluorene
Indeno[1,2,3-c,d]Pyrene
Napthene
Phenanathrene
Pyrene

following provides a listing of the analytes included in TAH and TAqH, respectively:

Background:

The method detection limit (DL) is defined as the minimum concentration of an analyte that can be measured with 99 percent (%) confidence that the analyte concentration is distinguishable from the method blank results as determined by the procedure. However, the DL does not establish a level of confidence for how much of a substance is present in a sample. The minimum level (ML) is the concentration at which the entire analytical system must give a recognizable signal and an acceptable calibration point. For TAH and TAqH, laboratories have discretion on setting MLs but it is typically established as approximately 3.2 times the DL based upon the limited data reviewed. Hence, the ML, the minimum amount of an analyte that can be reliably quantified, is established by the laboratory using a multiplier applied to the DL. When the amount of the analyte is somewhere between the DL and the ML, analytical laboratories may report an estimate, typically referred to as a "j-flagged" estimate. Because these values are considered estimates, the Wastewater Discharge Authorization Program (WDAP), like many

state permitting programs, consider these estimates to be indeterminate and could be disputed if used for developing limits or assessing violation of a limit. Therefore, WDAP treats "j-flagged" estimates the same as undetected results. WDAP believes this is prudent to ensure reported values are enforceable and defensible. Another use of data reported below the ML is to assess whether sufficiently sensitive methods have been used to derive results. The definition of "sufficiently sensitive" varies depending on what the analytical results are being compared to, permit limits or water quality criteria, and the

concentration in the effluent.

Per 40 CFR 122.21(e)(3), a method approved under 40 CFR 136 is sufficiently sensitive when:

- a) The ML is at or below the level of the applicable water quality criterion for the measured parameter, or
- b) The ML is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in the discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge (e.g., not applicable to effluent or receiving water monitored for characterization), or
- c) The method has the lowest ML of the analytical methods approved under 40 CFR 136 for the measured pollutant or pollutant parameter (e.g., the receiving water concentration or the criteria for a given pollutant or pollutant parameter is at or near the method with the lowest ML).

The determination of sufficiently sensitive becomes complicated with TAH and TAqH due to the summation of multiple analytes and how to determine an appropriate ML to compare to the

The

criterion. Because the TAH and TAqH criteria are based on a summation of multiple analytes, it stands to reason that the applicable ML should also reflect a similar principle. WDAP conducted an alternative analysis to evaluate various methods for reporting TAH or TAqH for single data results, averaging with several results, and how to make a reasonable assessment of whether sufficiently sensitive methods were used.

Alternative Analyses:

While more defensible methods such as fitting a distribution to the data or other statistically robust methods exist, WDAP did not consider these to be appropriate in this case based on the rigor of mathematics required. WDAP's objective for this alternative analysis is to be simple to use; the additional level of defensibility that would be gained from a more robust statistical approach did not justify imposition of mathematics that would be inconsistent with the level of training of the stakeholders. Instead, WDAP concluded that the best method would be one based on some form of substitution that meets the objectives for the procedure. WDAP eliminated "j-flagged" values based on the objective of defensibility and enforcement of limit violations or developing effluent characterizations and RPA results that are not biased high. Because of this decision, the TAH/TAgH procedure utilized by WDAP differs slightly from the 2005 EPA R10 Memo by not using "j-flagged" values when reporting. Eliminating "j-flagged" data in reporting results in only two possible reporting scenarios: an outcome where there is at least one detected analyte above the ML or one where there is nothing detected above the ML and the reported less than value is related to some form of a composite of the individual DLs. To evaluate what form of compositing DLs should be used, WDAP considered three alternatives: straight summation of each individual DL, averaging the DLs, or summing representative DLs so repetitive DLs are included only once (termed "Categorical Summation"). To evaluate these alternatives, WDAP applied each composite method to a set of analytical data to compare their outcomes. The analytical data set is presented below in **Table** 1.

Table 1. Analytical Data Set Used to Evaluate Alternative Methods for Compositing DLs

Parameter (µg/L)	Qualified Results	ML	DL
Benzene	0.200 U*	0.400	0.120
Ethylbenzene	0.350 J**	1.00	0.310
o-Xylene	0.400 J	1.00	0.310
P & M -Xylene	1.00 U	2.00	0.620
Toluene	0.430 J	1.00	0.310
acenaphthene	0.0250 U	0.0500	0.0150
acenapthylene	0.0250 U	0.0500	0.0150
anthracene	0.0250 U	0.0500	0.0150
benzo(a)anthracene	0.0250 U	0.0500	0.0150
benzo(a)pyrene	0.0250 U	0.0500	0.0150
benzo(b)fluoranthene	0.0250 U	0.0500	0.0150
benzo(g,h,i)perylene	0.0250 U	0.0500	0.0150
benzo(k)fluoranthene	0.0250 U	0.0500	0.0150
chrysene	0.0250 U	0.0500	0.0150
dibenzo(a,h)anthracene	0.0250 U	0.0500	0.0150
fluoranthene	0.0250 U	0.0500	0.0150
fluorene	0.0250 U	0.0500	0.0150
indeno(1,2,3-c,d)pyrene	0.0250 U	0.0500	0.0150
naphthalene	0.0500 U	0.100	0.0310
phenanthrene	0.0250 U	0.0500	0.0150

pyrene	0.0212 J	0.0500	0.0150

^{* -} U = neither identified or quantified (Nondetectable).

Comparing the total sum of the DLs and the average of the total sum of the DLs with the "Categorical Sum" of the DLs shows the following:

Table 2. Alternative Methods for Compositing DLs

Straight Sum	Categorical Sum	Average
Sum of all individual DLs	Sum of unique DLs = (0.120+0.310+ 0.620+0.0150)	The average of the individual DLs
< 1.926	< 1.096	< 0.096

As seen in the comparisons above, the straight summation of all individual DLs is higher than the Categorical Sum while the average is lower. In a comparison using several data sets, the Categorical Sum consistently generates values that are between the straight summation and the average of the DLs. WDAP believes the Categorical Summation values address the individual sensitivities of the analytes and will result in fewer false positive limit violations while not under estimating effluent characteristics. While the procedure appears reasonable, WDAP acknowledges that using Categorical Summation for reporting nondetectable values of TAH and TAqH is a method of substitution that appears to provide the most reasonable outcome when compared to the objectives established for the procedure. Hence, the procedure is based more on WDAP policy than on mathematical or chemical principles.

Procedure:

The following procedures are presented based on the Categorical Sum comparative alternative analysis:

Single Value Reporting

• If values of individual analytes making up a parent compound (e.g., TAH or TAqH) are reported as "detected and quantified" by the testing laboratory the value, or sum of all detected values, is reported on the DMR as the concentration of the parent compound. If analytes within a suite of analytes making up a parent compound are all nondetectable or "j estimates", the "categorical sum" is recorded as the MDL on the DMR as a "less than" categorical sum [< "Categorical Sum"]. If there are multiple sample results that are below detection, report the highest [< "Categorical Sum"] as the MDL.

Average Value Reporting

• For the purpose of averaging multiple single sample results for TAH or TAqH that include results below detection, zero may be used instead of the [< "Categorical Sum"] in the average. If all single samples are below detection, an average cannot be calculated and the permittee reports on the DMR "No Data Indicator (NODI) Code B", which indicates the results are below detection. If one of the single sample results is detectable, report the average without a less than symbol ["Average of Categorical Sum and Detected Results"].

Sufficiently Sensitive Methods (Optional)

• For evaluating whether sufficiently sensitive methods were used for nondetectable results, the permit writer may apply the default multiplier of 3.2 to the categorical summation to

^{** -}J = estimated. For this procedure, J-estimates are considered nondetectable.

estimate an ML for comparison to the water quality criteria for TAH and TAqH. If the estimated ML exceeds the criteria, the permit writer may request the analytical results to evaluate whether the results are valid prior to communicating concerns with the permittee.

Examples:

1. Single Sample Detectable Concentration of TAH.

Consider the following laboratory report for TAH and calculate the value to be reported as an MDL on the DMR. The MDL is equal to the water quality criteria of 10 µg/L.

Table 3. Example 1 TAH Results

Parameter (µg/L)	Qualified Results	ML	DL
Benzene	0.200 U	0.400	0.120
Ethylbenzene	1.94	1.00	0.310
o-Xylene	3.16	1.00	0.310
P & M -Xylene	8.23	2.00	0.620
Toluene	0.500 U	1.00	0.310

 $MDL_{TAH} = 1.94 + 3.16 + 8.23 = 13.33~\mu g/L.$ Therefore, the TAH MDL of 10 $\mu g/L$ was exceeded.

2. Single Sample Detectable Concentration of TAqH.

For the same sample for TAH shown in Example 1, the following polycyclic aromatic hydrocarbon (PAH) results were obtained. Calculate the single sample value to be reported for the MDL for TAqH. The MDL is the water quality criterion for TAqH, 15 μ/L .

Table 4. Example 2 TAqH Results

Parameter (µg/L)	Qualified Results	ML	DL
acenaphthene	0.0250 U	0.0500	0.0150
acenapthylene	0.0250 U	0.0500	0.0150
anthracene	0.0250 U	0.0500	0.0150
benzo(a)anthracene	0.0250 U	0.0500	0.0150
benzo(a)pyrene	0.0250 U	0.0500	0.0150
benzo(b)fluoranthene	0.0250 U	0.0500	0.0150
benzo(g,h,i)perylene	0.0250 U	0.0500	0.0150
benzo(k)fluoranthene	0.0250 U	0.0500	0.0150
chrysene	0.0250 U	0.0500	0.0150
dibenzo(a,h)anthracene	0.0250 U	0.0500	0.0150
fluoranthene	0.0250 U	0.0500	0.0150
fluorene	0.321	0.0500	0.0150
indeno(1,2,3-c,d)pyrene	0.0250 U	0.0500	0.0150
naphthalene	0.247	0.100	0.0310
phenanthrene	0.168	0.0500	0.0150
pyrene	0.0250 U	0.0500	0.0150

The value for TAqH includes the concentration of TAH calculated in Example 1 plus any detected concentrations for the PAHs.

MDL_{TAqH} = $13.33 + 0.321 + 0.247 + 0.168 = 14.066 \,\mu\text{g/L}$. Therefore, the results are compliant with the TAqH MDL.

3. Single Sample Nondetectable TAqH

For an example of a nondetectable result for TAH and TAqH, refer to the sample results shown below.

Table 5. Example 3 Nondetectable TAH and TAqH Results

Parameter (µg/L)	Qualified Results	ML	DL
Benzene	0.200 U	0.400	0.120
Ethylbenzene	0.500 U	1.00	0.310
O-Xylene	0.500 U	1.00	0.310
P & M -Xylene	1.00 U	2.00	0.620
Toluene	0.500 U	1.00	0.310
acenaphthene	0.0288 U	0.0575	0.0172
acenapthylene	0.0288 U	0.0575	0.0172
anthracene	0.0288 U	0.0575	0.0172
benzo(a)anthracene	0.0288 U	0.0575	0.0172
benzo(a)pyrene	0.0115 U	0.0230	0.0172
benzo(b)fluoranthene	0.0288 U	0.0575	0.0172

benzo(g,h,i)perylene	0.0288 U	0.0575	0.0172
benzo(k)fluoranthene	0.0288 U	0.0575	0.0172
chrysene	0.0288 U	0.0575	0.0172
dibenzo(a,h)anthracene	0.0115 U	0.0230	0.0172
fluoranthene	0.0288 U	0.0575	0.0172
fluorene	0.0288 U	0.0575	0.0172
indeno(1,2,3-c,d)pyrene	0.0288 U	0.0575	0.0172
naphthalene	0.0575 U	0.115	0.0356
phenanthrene	0.0288 U	0.0575	0.0172
pyrene	0.0288 U	0.0575	0.0172

All values are below detection so the Categorical Sum is applicable.

The value for TAH includes the summation of the unique BTEX DLs. TAH Categorical Sum = 0.120 + 0.310 + 0.620 = 1.05.

The value for TAqH includes the summation of all the unique DLs. TAqH Categorical Sum = 0.120 + 0.310 + 0.620 + 0.0172 + 0.0356 = 1.103.

Therefore, the reported MDL_{TAH} = $< 1.05 \mu g/L$ and the MDL_{TAQH} = $< 1.10 \mu g/L$.

4. Average of Multiple Samples of TAqH with Only Nondetectable Results

For this example, assume the result from Example 3 TAqH (< 1.10~g/L) is being averaged with the result from the "Alternative Analysis" **Table 2** - Categorical Sum(< $1.096~\mu g/L$). Because both results are nondetectable, each is assigned a value of zero resulting in zero for an average. In this situation, the appropriate value to report as the AML on the DMR is no value. The permittee must enter a NODI Code indicating the results were below the detection limit (NODI "B"). Note that the NODI B is not applicable for reporting the MDL as the MDL would be reported as "< $1.10~\mu g/L$ for Sample 3." Furthermore, the combination of the MDL being reported as < $1.10~\mu g/L$ with the NODI B for the AML indicates that all the samples collected were below detection.

5. Average of Multiple Samples of TAqH with Detectable and Nondetectable Results

Using the single sample results provided in Examples 2 and 3, calculate the value to be reported as an AML on the DMR. Assume the AML for TAqH is $\frac{1}{2}$ the criterion, 7.5 µg/L.

Example 2 Reported MDL 14.066 µg/L

Example 3 Reported MDL < 1.10 µg/L.

Examples 2 and 3 AML_{TAqH} = $(14.066 + 0)/2 = 7.03 \,\mu\text{g/L}$. Therefore, the AML limit is not exceeded.

Discussion: Note that in this particular example, assigning zero to a sample that has only jestimates and nondetectable analytes in calculating the average results in no violation. However, consider what would have happened if the value of 1.10 μg/L was used instead because the sample results include j-estimates; the average would be 7.58 μg/L and suggests a violation has occurred. However, because the categorical summation value was used in calculating the average and this value cannot be quantified based on principles of analytical, the violation could be contested. Hence, assigning a value of zero in the average helps ensure such a violation can be

defended by WDAP and demonstrates the rationale for not giving consideration to estimated values in the Procedure.

References:

- United States Environmental Protection Agency, Guidance on Water Quality Based Effluent Limits Set Below Analytical Detection/Quantitation Limits, R10 Memo, April 25, 2005.
- United States Geological Survey, Helsel, D.R., Hirsch, R.M., Statistical Methods in Water Resources, Chapter 13, September 2002.
- Office of Air Quality Planning and Standards, Stef Johnson, More Ado About Next to Nothing, June 12, 2016.
- 40 CFR 136 Guidelines Establishing Test Procedures for the Analysis of Pollutants, August 28, 2017.

Definitions and Terminology Crosswalk:

The following provides definitions and what terms are considered equivalent for this procedure.

- Categorical Sum (CS) refers to the summation of method DLs that are unique within a suite of analytes and represent similar sensitivities of the analytes with respect to the method, (i.e., no duplication of method DLs).
- Method Detection Limit (DL) –refers to the minimum concentration of a substance (analyte) that can be measured and reported with 99 percent confidence that the analyte concentration is distinguishable from the method blank results as determined by the procedure.
- Limit of Quantization (LOQ) refers to the smallest amount of an analyte that can be reliably quantitated.
- Practical Quantitation Limit (PQL) refers to the minimum concentration of an analyte that can be measured with a high degree of confidence that the analyte is present at or above that concentration.
- Minimum Level (ML) refers to the concentration at which the entire analytical system must give a recognizable signal and an acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes and processing steps have been followed. The ML is identified as the compliance level below which values are considered to be in compliance unless monitoring information indicates a violation. The ML is calculated by multiplying the laboratory generated DL by a factor of approximately three (usually 3.20 but may vary per laboratory).

Note – For all practical purposes, the LOQ is considered to be equivalent to the PQL. Recent reviews of literature cite that the PQL is being phased out of use. Consequently, the PQL is not discussed above.

Attachment 2

Freshwater Turbidity Criteria

