DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AIR QUALITY CONTROL MINOR GENERAL PERMIT
OIL OR GAS DRILLING RIGS

Minor General Permit 2 Public Comment Date: March 15, 2018

The Alaska Department of Environmental Conservation (Department), under the authority of AS 46.14 and 18 AAC 50, issues this minor general permit to be used for the construction, operation, or relocation of a Portable Oil and Gas Operation (POGO), as described in 18 AAC 50.990(124). This minor general permit satisfies the obligation of the Permittee to obtain a minor permit under 18 AAC 50 and AS 46.14.120(g). As required by AS 46.14.120(c) the Permittee shall comply with the terms and conditions of this permit.

Technical support for permit conditions can be found in the Technical Analysis Report. This permit authorizes the Permittee to operate any emissions unit that meets the requirements listed in this permit. The owner must comply with the applicable requirements at the location where the emissions units operate.

This minor general permit does not expire and is valid until the Department terminates, modifies, reopens, or revokes and reissues the permit. The letter of authorization is in effect until withdrawn, modified, revoked and reissued, or if the source no longer qualifies for this permit. The use of sample forms provided with this permit are not a reporting requirement, however, any independently developed form must contain all the reporting requirements listed within this permit.

Permittee: [Portable Oil and Gas Operation]
[Address]

_____
James R. Plosay, Manager
Air Permits Program

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Section 1 Emissions Unit Inventory

Emissions Unit (EU) Authorization. The Permittee is authorized to install or relocate, and operate a POGO in accordance with the terms and conditions of this permit. The POGO may consist of one or more drill rigs, along with miscellaneous support equipment. The possible EUs authorized under this permit are listed in Table 1. Except as noted elsewhere in this permit, the information in Table 1 is for identification purposes only. The specific EU descriptions do not restrict the Permittee from replacing an EU identified in Table 1.

Table 1: EU Inventory

EU	EU Name	EU Description	Total Rating/Size
1	Drill Rig Reciprocating Engines	Diesel-fired Nonroad Engines	Varies
2	Drill Rig Heaters and Boilers	Diesel-fired Heaters and Boilers	Varies
3	Well Venting/Flow Backs	N/A	90 tons VOC (25 new wells)
4	Miscellaneous POGO Reciprocating Engines Not On Drill Rig	Diesel-fired Nonroad Engines	Varies
5	Miscellaneous POGO Heaters and Boilers Not On Drill Rig	Diesel-fired Heaters and Boilers	Varies
6	POGO Portable Flares	Fuel Gas	Varies

Note: The Permittee is also authorized to concurrently conduct well servicing activities, as defined in 18 AAC 50.990(124), and operate nonroad engines associated with construction activities, in accordance with the terms and conditions of this permit.

1. The Permittee shall comply with all applicable provisions of AS 46.14 and 18 AAC 50 when installing a replacement EU, including any applicable minor or construction permit requirements**.**

2. **Verification of Equipment Specifications and Maintenance of Equipment.** The Permittee shall install and maintain the equipment listed in Table 1 according to the manufacturer's or operator's maintenance procedures. Keep a copy of the manufacturer's or operator's maintenance procedure onsite and make records available to the Department personnel upon request. The records may be kept in electronic format.

Section 2 Emission and Compliance Fees

3. **Administration Fees.** The Permittee shall pay to the Department all assessed permit administration fees. Administration fee rates are set out in 18 AAC 50.400-499.

4. **Assessable Emissions**. The Permittee shall pay to the Department annual emission fees based on the POGO's assessable emissions as determined by the Department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. Notwithstanding 18 AAC 50.410(a) – (d), for the POGO projected annual rate of emissions under a general minor permit under 18 AAC 50.560, the emission fee is allocated to the emission control permit receipts accounts under AS 46.14.265, and the Permittee shall pay the emission fee:

   4.1 At the time of application or notification for operation that will occur during that state fiscal year;

   4.2 For operation under a single application or notification during subsequent state fiscal years, after annual emission fee billing under 18 AAC 50.420 for each subsequent state fiscal year; and

   4.3 For a single POGO for which the owner or operator submits a new application or notification for operation under the general minor permit, at the following rates:

      a. $1,414 for operation at one or more ice pads during a winter drilling season;

      b. $4,241 for operation during a state fiscal year at one or more sites not including a seasonal ice pad.

   4.4 For subsequent state fiscal years, the Department will assess fees[1] per ton of each air pollutant that the POGO emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of:

      a. the POGO's assessable potential to emit of 252 tpy; or

      b. the POGO's projected annual rate of emissions that will occur from July 1st to the following June 30th, based upon actual annual emissions emitted during the most recent calendar year or another 12 month period approved in writing by the Department, when demonstrated by:

         (i) an enforceable test method described in 18 AAC 50.220;

         (ii) material balance calculations;

         (iii) emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or

         (iv) other methods and calculations approved by the Department**.**

[1] Assess Title V fees if planning to operate POGO contiguous/adjacent on a Title V source. Assess Title I fees if separate.

5. **Assessable Emission Estimates.** Emission fees will be assessed as follows:

   5.1 no later than March 31 of each year, the Permittee may submit an estimate of the POGO's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., PO Box 111800, Juneau, AK 99811-1800; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the Department can verify the estimates; or

   5.2 if no estimate is received on or before March 31st of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in condition 4.4a.

6. **Annual Compliance Fee.** For a POGO not classified as needing a Title V permit, the Permittee shall pay an annual compliance fee as set out in 18 AAC 50.400(d), to be paid for each period from July 1st through the following June 30th.

Section 3 Applicability Criteria

7. This minor general permit applies to a POGO that:

   7.1 contains fuel-burning equipment;

   7.2 is not located in a non-attainment area;

   7.3 does not concurrently operate under an MG-1 permit at a given well pad or drill site;

   7.4 operates at a given well pad or drill site identified by the application or relocation notification;

   7.5 does not operate on a platform[2] surrounded by open water;

   7.6 operates north of 69 degrees, 30 minutes North latitude; and

   7.7 maintains the nonroad engine status of EUs 1 and 4 as defined in 40 C.F.R. 89.2.

[2] The restriction described in Condition 7.3 only applies to platforms. Minor General Permit 2 is applicable to POGOs operating on island developments within the Beaufort Sea.

Section 4 State Emission Standards

8. **Industrial Process and Fuel-Burning Equipment Visible Emissions.** The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from all fuel-burning equipment[3] listed in Table 1, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.

8.1 For each heater or boiler operated as EU 2, verify compliance with Condition 8 by performing one of the following:

a. Obtaining a certified manufacturer guarantee, prior to the POGO becoming fully operational,[4] that the heaters and boilers operating as EU 2 will comply with the visible emission standard;

b. Conducting a visible emissions observation following 40 C.F.R. 60, Appendix A-4, Method 9, for 18 minutes to obtain 72 consecutive 15-second opacity observations, within 90 days after the POGO becomes fully operational and within 12 consecutive months of the previous Method 9 observation; or

c. Including documentation with the first operating report required by Condition 20, that is submitted after the POGO becomes fully operational, to show that a Method 9 observation was completed on each heater and boiler operating as EU 2 within 12 months prior to the POGO becoming fully operational and that the results of those observations show compliance with the standard in Condition 8.

8.2 When using Condition 8.1a to verify initial compliance of a heater or boiler operated as EU 2, attach a copy of the guarantee obtained under Condition 8.1a to the first operating report required by Condition 20 after the POGO becomes fully operational.

8.3 When using Condition 8.1b or 8.1c to verify initial compliance of a heater or boiler operated as EU 2, submit a copy of the observation records developed under Condition 8.1b or 8.1c (use the form in Attachment 1), as applicable, to the first operating report submitted under Condition 20 for the period that covers the 30th day after the unit becomes fully operational. Attach a copy of the observation records developed under Condition 8.1b, if applicable, to the operating report that covers the period when the observations were completed.

8.4 For each flare operated as EU 6, while it is onsite, observe one daylight flare event[5] annually, on a calendar year basis. If there is no qualifying flare event within the

[3] "Fuel-burning equipment" does not include equipment operated as a nonroad engine, per 18 AAC 50.990(39).

[4] "Fully operational", for purposes of this permit and as it applies to EU 2, is defined as when drilling begins at a given well pad.

[5] For purposes of this permit, a "*flare event*" is flaring of gas for greater than one hour as a result of scheduled release operations, i.e. maintenance or well testing activities. It does not include non-scheduled release operations, i.e. process upsets, emergency flaring, or de-minimis venting of gas incidental to normal operations.

12-month period, then the Permittee shall observe the next daylight flare event for that flare when it is operated onsite.

a. Monitor the flare for VE for 18 minutes during flare events using Method 9.

b. Record the following information for observed events:

(i) the flare's EU number;

(ii) results of the Method-9 observations;

(iii) reason(s) for flaring;

(iv) date, beginning and ending time of event; and

(v) volume of gas flared.

c. Monitoring of a flare event may be postponed for safety or weather reasons, or because a qualified observer is not available. If monitoring of a flare event is postponed for any of the reasons described in this condition, the Permittee shall include in the next operating report required by Condition 20 an explanation of the reason the event was not monitored.

d. Include copies of the records required by Condition 8.4b in the first operating report submitted under Condition 20 for the period that covers the 30th day after the observation was conducted.

8.5 Report as a permit deviation under Condition 19 if any of Conditions 8.1 through 8.4 are not met.

8.6 If the results of Method 9 observations completed under Condition 8 exceed the standard in Condition 8, report as excess emissions in accordance with Condition 19, take corrective actions, and conduct follow-up Method 9 observations until the standard in Condition 8 is met.

9. **Particulate Matter for Industrial Process and Fuel-Burning Equipment.** The Permittee shall not cause or allow particulate matter emitted from all fuel-burning equipment listed in Table 1, to exceed 0.05 grains per dry standard cubic foot of exhaust gas corrected to standard conditions and averaged over three hours. For each heater/boiler operated as EU 2, conduct a particulate matter source test according to the requirements set out in Section 8 no later than 90 calendar days after any time corrective maintenance fails to eliminate visible emissions greater than the 20 percent opacity threshold for two or more 18-minute observations in a consecutive six-month period.

10. **Sulfur Compound Emissions.** The Permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from each fuel-burning equipment listed in Table 1 to exceed 500 parts per million averaged over three hours. Monitor, record, and report in accordance with Conditions 11 and 12.

Section 5 Ambient Air Quality Protection Requirements

11. To protect the 1-hour and annual nitrogen dioxide (NO_2); 24-hour particulate matter with an aerodynamic diameter of 10 microns or less (PM-10); 24-hour and annual particulate matter with an aerodynamic diameter of 2.5 microns or less (PM-2.5); 1-hour, 3-hour, 24-hour, and annual sulfur dioxide (SO_2), and 1-hour and 8-hour carbon monoxide (CO) Alaska Ambient Air Quality Standards (AAAQS), the Permittee shall:

    11.1 Construct and maintain vertical, uncapped exhaust stacks on all nonroad engines operated as EU 1 and all heaters/boilers operated as EU 2. This condition does not preclude the use of flapper-style rain covers, or other similar designs, that do not hinder the vertical momentum of the exhaust plume.

        a. Confirm in each operating report required under Condition 20 that the exhaust stack for each nonroad engine operated as EU 1, and each heater/boiler operated as EU 2, complies with Condition 11.1; or state that no unit was operated as EU 1 or 2 during the reporting period.

        b. Report as described in Condition 19, if a requirement under Condition 11.1 was not met.

    11.2 Prohibit the hydraulic fracturing (fracing) of unconventional resources[6] while operating at a given well pad. Report as described in Condition 19 if fracing of unconventional resources occurs.

    11.3 Limit the combined daily diesel fuel consumption for all nonroad engines operated as EU 1 and all heaters/boilers operated as EU 2 on a given well pad or drill site, as specified in Table 2. The Permittee may exceed the applicable limits in Table 2 by up to 25 percent on any six or fewer days in any thirty consecutive days. The not to exceed values (excursion limits) for each daily fuel limit identified in Table 2 are as follows:

    14,700 x 1.25 = 18,375 gallons per day;
    11,400 x 1.25 = 14,250 gallons per day; and
    10,700 x 1.25 = 13,375 gallons per day.

[6] For the purposes of this permit, *unconventional resources* is differentiated from conventional hydrocarbon resources based on the state of the hydrocarbon, nature of the geologic reservoirs and the types of technologies required to extract the hydrocarbon. Conventional oil and gas deposits have a well-defined areal extent, the reservoirs are porous and permeable, the hydrocarbon is produced easily through a wellbore, and reservoirs generally do not require extensive well stimulation to produce. Unconventional hydrocarbon deposits in general are often lower in resource concentration, dispersed over large areas, and require well stimulation or additional extraction or conversion technology.

Table 2 – EUs 1 and 2 Daily Fuel Consumption Limits (gallons per day)

Fuel Consumption Operational Scenarios	Routine Drilling Isolated (RDi)[7]	Routine Drilling Collocated (RDc)[8]	Developmental Drilling Isolated (DDi)[9]	Developmental Drilling Collocated (DDc)[10]
POGO Without Concurrent Hydraulic Fracturing of a Conventional Resource	14,700	11,400	14,700	10,700
POGO With Concurrent Hydraulic Fracturing of a Convenational Resource	11,400	11,400	10,700	10,700

Table Notes:

Daily fuel consumption thresholds apply to the drill rig only and do not apply to other emissions units that may be a part of the POGO or operating on the well pad, such as stationary well pad equipment, portable power generators, or well servicing equipment (as defined in 18 AAC 50.990(125)) – these activities are represented by the background values added to the modeled impacts.

11.4 In each operating report required under Condition 20, the Permittee shall record the drill rig identification, pad identification and pad category (collocated[11] or isolated), dates occupied by the rig(s), the drilling category(s) (routine or developmental), and the start and end dates when any nonroad engine operated as EU 1 and/or any heater/boiler operated as EU 2, operate concurrently with fracing during the reporting period.

[7] Routine Infill Drilling at an Isolated Well Pad: Drilling that lasts less than 24 consecutive months at a well pad that is not adjacent to, adjoining, or abutting a Title V major production facility. For the purpose of this permit the term production facility includes production centers, gathering centers, flow stations, or equivalent.

[8] Routine Infill Drilling at a Collocated Well Pad: Drilling that lasts less than 24 consecutive months at a well pad that is adjacent to, adjoining, or abutting a Title V major production facility.

[9] Developmental Drilling at an Isolated Well Pad: Drilling that lasts greater than 24 consecutive months at a well pad that is not adjacent to, adjoining, or abutting a Title V major production facility.

[10] Developmental Drilling at a Collocated Well Pad: Drilling that lasts greater than 24 consecutive months at a well pad that is adjacent to, adjoining, or abutting a Title V major production facility.

[11] For the purpose of this permit, collocated means that drill rig(s) and/or existing stationary sources are located on one or more contiguous or adjacent properties that are under the control of the same person (or persons under common control) and shall be considered part of a single "building, structure, or facility." Pollutant emitting activities (SIC Major Group 13) shall be considered adjacent if they are located on the same surface site; or if they are located on surface sites that are located within 1⁄4 mile of one another (measured from the center of the equipment on the surface site) and they share equipment. Shared equipment includes, but is not limited to, produced fluids storage tanks, phase separators, natural gas dehydrators, or emissions control devices. Drill sites that are not physically adjacent to or contiguous with a Title V production facility should be treated as isolated pads for ambient air quality protection purposes.

11.5 For each nonroad engine operated as EU 1 and each heater/boiler operated as EU 2, determine the maximum possible fuel consumption for that engine/heater/boiler as described in Condition 11.5a, or measure the actual daily fuel consumption for that engine/heater/boiler as described in Condition 11.5b. The Permittee may use Condition 11.5a for some units and Condition 11.5b for the other units, as long as the combined total daily fuel consumption for EUs 1 and 2 is either determined or measured. Make this determination for each well pad/drill site identified in the annual notification submitted under Condition 13 or the revision submitted through Attachment 2.

a. Determine the maximum possible fuel consumption for a unit as follows:

(i) Determine the maximum hourly fuel consumption in gal/hr for the given unit from either vendor data, or a back-calculation from the rated capacity using standard engineering techniques and thermal efficiencies. Keep a copy of your determination and all supporting data, assumptions, and/or calculations, as required under Condition 18; and

(ii) Calculate the maximum daily fuel consumption for the unit by multiplying the maximum hourly fuel consumption determined under Condition 11.5a(i) by 24. Record the result, in units of gal/day.

b. Monitor and record the actual fuel consumption for a unit or a group of units as follows:

(i) Monitor the fuel consumption using one of the following methods:

(A) Install, maintain, and operate totaling fuel flow meters that are accurate to within ± 5 percent;

(B) Tank strapping;

(C) Delivery truck fuel dispensing meters;

(D) Runtime (hours) and full load fuel consumption rate in gal/hr provided by the manufacturer; or

(E) Methods similar to those described in the Sample Fuel Consumption Monitoring Plan[12] in Attachment 3.

(ii) Record the daily fuel consumption in gal/day using one of the following methods:

(A) Fuel flow meters – record the total amount of diesel fuel fired during the calendar day;

[12] The Permittee may develop a custom fuel monitoring and recordkeeping plan using the Sample Plan as guidance. This plan shall be submitted with the permit application and is subject to Department review. If the Department determines that the plan does not produce accurate and precise results, the Permittee shall adjust the plan to ensure accuracy and precision.

(B) Tank strapping:

(1) At a consistent time each day, record the diesel fuel height in the tank and the time of the reading.

(2) For each fuel delivery

1. Initial diesel fuel height;

2. Final diesel fuel height;

3. Tank identification; and

4. Method of volume calculation (chart, site glass, mathematical equation, etc.).

(3) Maintain a copy of the manufacturer height to volume calculation chart on site for each tank;

(C) Delivery truck fuel dispensing meters – record the diesel fuel dispensed to the units subject to Condition 11.5b during each calendar day;

(D) Runtime and full load assumption:

(1) Use a non-resettable hour meter to determine the runtime of the unit;

(2) For each day the unit operates, record at a consistent time each day, the daily hours of operation; and

(3) Calculate and record the daily fuel usage of the unit using the hours of operation recorded in Condition 11.5b(ii)(D)(2) and the manufacturer's full load fuel consumption rate.

(E) Methods similar to those described in the Sample Fuel Consumption Monitoring Plan[11] in Attachment 3

c. Record the total daily fuel consumption, in gal/day, as described below:

(i) If solely using Condition 11.5a for determining the daily fuel consumption for all nonroad engines operated as EU 1 and all heaters/boilers operated as EU 2 during the reporting period, sum the maximum possible daily fuel consumptions determined under Condition 11.5a(ii) for each unit. Record the total maximum fuel consumption in gal/day.

(ii) If using Condition 11.5b for determining the actual daily fuel consumption for one or more nonroad engines operated as EU 1 or one or more heaters/boilers operated as EU 2 during the reporting period, do the following at the end of each day:

(A) Sum the total fuel consumed during the day by all units that are being tracked under Condition 11.5b;

(B) If applicable, add the maximum possible daily fuel consumption determined under Condition 11.5a for the remaining units, to the sum determined under Condition 11.5c(ii)(A);

(C) Record, in gal/day, the value determined under Condition 11.5c(ii)(A), and if applicable, the value determined under Condition 11.5c(ii)(B).

d. Report in each operating report required under Condition 20 one of the following for each well pad/drill site identified in the annual notification submitted under Condition 13 or the revision submitted through Attachment 2:

(i) The maximum possible combined daily fuel consumption, in gal/day, of all nonroad engines operated as EU 1 and all heaters/boilers operated as EU 2 during the reporting period, as determined under Condition 11.5c(i);

(ii) The largest maximum combined daily fuel consumption for the reporting period, in gal/day, of all nonroad engines operated as EU 1 and all heaters/boilers operated as EU 2, as determined under Condition 11.5c(ii); or

(iii) That no POGO activity occurred at the given well pad/drill site during the reporting period.

e. Report in each operating report required under Condition 20 the start and end dates that EU 1 and/or EU 2 operated concurrently with fracing.

f. Report as described in Condition 19, anytime the daily combined fuel consumption limits for EUs 1 and 2 listed in Table 2 are exceeded (except as provided under the excursion limits listed in Condition 11.3), or if Condition 11 or its sub-conditions are not met.

g. Upon request by the Department, demonstrate how the fuel consumption has been tracked/ estimated for all nonroad engines identified as EU 1 and/or all heaters and boilers identified as EU 2. These records may include but are not limited to: recorded data from fuel tracking devices or procedures, calculations used to estimate fuel consumption based on operating time, review of fuel tracking standards, and/or inspection of the fueling operation and volume tracking.

12. **SO_2 Ambient Air Quality Protection.** To protect the 1-hour, 3-hour, 24-hour, and annual SO_2 AAAQS, the Permittee shall:

12.1 Combust only diesel fuel that meets the specifications of ultra low sulfur diesel (ULSD) (i.e., less than 0.0015 percent sulfur by weight) in each nonroad engine operated as EU 1.

Monitor, record, and report as follows:

a. Obtain and keep certified receipts from the fuel suppliers that confirms that all diesel fuel combusted in the units listed in Condition 12.1 meets the specifications of ULSD.

b. Report in each operating report required by Condition 20, for the period covered by that report, a statement indicating whether all fuel combusted in the units listed in Condition 12.1 during the reporting period was ULSD.

c. Report as described in Condition 19 if any fuel combusted in the units listed in Condition 12.1 exceeds the sulfur content limit required by Condition 12.1.

12.2 Combust only diesel fuel that contains a sulfur content of 0.15 percent by weight or less in the heaters/boilers identified as EU 2.

Monitor, record, and report as follows:

a. For diesel fuel delivered from a North Slope topping plant, obtain from the topping plant the results of a monthly fuel sulfur analysis.

b. For fuel delivered by third-party suppliers, obtain and keep certified receipts from fuel suppliers to document the sulfur content of the delivered fuel.

c. Include in the operating report required by Condition 20, for the period covered by that report, a copy of all records obtained under Conditions 12.2a and 12.2b.

d. Report as required under Condition 19 if any fuel combusted in EU 2 exceeds the fuel sulfur content limit required by Condition 12.2.

13. The Permittee shall notify the Department annually by December 31st for the following annual period, identifying which well pads or drill sites they plan to operate on, under the MG-2 permit for the following annual period. The Permittee may submit one annual notification per Unit.[13]

14. The Permittee shall notify the Department if there is a revision to the well pads/drill sites identified in the notification submitted under Condition 13 at least 10 days prior to operating at the new well pad/drill site. Use the form in Attachment 2 to make this notification.

[13] Units are identified by the Alaska Department of Natural Resources Division of Oil and Gas on state land and by the Bureau of Land Management on federal lands.

Section 6 Recordkeeping, Reporting, and Certification Requirements

15. **Certification.** The Permittee shall certify all reports, or other documents submitted to the Department and required under the permit by including the signature of a responsible official for the permitted stationary source following the statement: "*Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete*." Excess emissions reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal.

    15.1 The Department may accept an electronic signature on an electronic application or other electronic record required by the Department if

        a. A certifying authority registered under AS 09.25.510 verifies that the electronic signature is authentic; and

        b. The person providing the electronic signature has made an agreement with the certifying authority described in Condition 15.1a that the person accepts or agrees to be bound by an electronic record executed or adopted with that signature.

16. **Submittals.** Unless otherwise directed by the Department or this permit, the Permittee shall submit one copy of each report, compliance certification, and/or other submittal required by this permit, certified in accordance with Condition 15, to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician. The Permittee shall submit the documents either by hard copy or electronically.

    16.1 Provide electronic submittals, either by:

        a. E-mail under a cover letter using dec.aq.airreports@alaska.gov; or

        b. the Department's Air Online Services at http://dec.alaska.gov/applications/air/airtoolsweb/.

17. **Information Requests.** The Permittee shall furnish to the Department, within a reasonable time, any information the Department requests in writing to determine whether cause exists to modify, revoke, reissue, or terminate the permit or to determine compliance with the permit. Upon request, the Permittee shall furnish to the Department copies of records required to be kept by the permit. The Department may require the Permittee to furnish copies of those records directly to the Federal Administrator.

18. **Recordkeeping Requirements.** The Permittee shall keep all records required by this permit for at least five years after the date of collection, including:

    18.1 copies of all reports and certifications submitted pursuant to this section of the permit.

18.2 records of all monitoring required by this permit, and information about the monitoring including (if applicable):

a. calibration and maintenance records, original strip chart or computer-based recordings for continuous monitoring instrumentation;

b. sampling dates and times of sampling or measurements;

c. the operating conditions that existed at the time of sampling or measurement;

d. the date analyses were performed;

e. the location where samples were taken;

f. the company or entity that performed the sampling and analyses;

g. the analytical techniques or methods used in the analyses; and

h. the results of the analyses.

19. **Excess Emissions and Permit Deviation Reports.**

19.1 The Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:

a. In accordance with 18 AAC 50.240(c), as soon as possible after the event commenced or is discovered, report

(i) emissions that present a potential threat to human health or safety; and

(ii) excess emissions that the Permittee believes to be unavoidable;

b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or nonroutine repair that caused emissions in excess of a technology based emissions standard;

c. report all other excess emissions and permit deviations

(i) within 30 days of the end of the month in which emissions or deviation occurs, except as provided in Conditions 19.1c(ii) and 19.1c(iii);

(ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the Department provides written permission to report under Condition 19.1c(i); and

(iii) for failure to monitor, as required in other applicable conditions of this permit.

19.2 The Permittee must report using either the Department's on-line form, which can be found at http://www.dec.state.ak.us/air/ap/site.htm or http://dec.alaska.gov/applications/air/airtoolsweb, or if the Permittee prefers, the form

contained in Attachment 4. The Permittee must provide all information called for by the form that is used.

19.3 If requested by the Department, the Permittee shall provide a more detailed written report as requested to follow up an excess emissions report.

20. **Operating Reports.** Submit to the Department an operating report by August 1 for the period January 1 through June 30 of the current year and by February 1 for the period July 1 through December 31 of the previous year. The report shall be submitted under a cover letter certified in accordance with Condition 15.

20.1 The operating report must include all information required to be in operating reports by other conditions of this permit, for the period covered by the report.

20.2 When excess emissions or permit deviations that occurred during the reporting period are not reported under Condition 20.1, the Permittee shall identify

a. the date of the deviation;

b. the equipment involved;

c. the permit condition affected;

d. a description of the excess emissions or permit deviation; and

e. any corrective action or preventative measures taken and the date of such actions; or

20.1 When excess emissions or permit deviations have already been reported under Condition 19 the Permittee shall cite the date or dates of those reports.

21. **Annual Affirmation.** The Permittee shall submit to the Department by March 31 of each year an affirmation certified according to Condition 15 of whether the POGO is still accurately described by the application and this permit, and whether any changes have been made to the POGO equipment inventory that would trigger the requirement for a new permit under 18 AAC 50.

Section 7 Standard Permit Conditions

22. The Permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14, 18 AAC 50, and, except for those terms or conditions designated in the permit as not federally enforceable, the Clean Air Act, and is grounds for

    22.1 an enforcement action; or

    22.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280.

23. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

24. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of the permit.

25. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

26. The permit does not convey any property rights of any sort, nor any exclusive privilege.

27. The Permittee shall allow the Department or an inspector authorized by the Department upon presentation of credentials and at reasonable times with the consent of the owner or operator to

    27.1 enter upon the premises where an emissions unit subject to this permit is located or where records required by the permit are kept;

    27.2 have access to and copy any records required by this permit;

    27.3 inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and

    27.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

Section 8 General Source Test Requirements

28. **Requested Source Tests.** In addition to any source testing explicitly required by this permit, the Permittee shall conduct source testing as requested by the Department to determine compliance with applicable permit requirements.

29. **Operating Conditions.** Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing

    29.1 at a point or points that characterize the actual discharge into the ambient air; and

    29.2 at the maximum rated burning or operating capacity of the source or another rate determined by the Department to characterize the actual discharge into the ambient air.

30. **Reference Test Methods.** The Permittee shall use the following references for test methods when conducting source testing for compliance with this permit:

    30.1 Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in 40 C.F.R. 60, Appendix A, Reference Method 9. The Permittee may use the form in Attachment 1 of this permit to record data.

    30.2 Source testing for emissions of total particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals and acid gases must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60, Appendix A.

    30.3 Source testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M, Methods 201 or 201A and 202.

    30.4 Source testing for emissions of any contaminant may be determined using an alternative method approved by the Department in accordance with 40 C.F.R. 63 Appendix A, Method 301.

31. **Test Deadline Extension.** The Permittee may request an extension to a source test deadline established by the Department. The Permittee may delay a source test beyond the original deadline only if the extension is approved in writing by the Department's appropriate division director or designee.

32. **Test Plans.** Before conducting any source tests, the Permittee shall submit a plan to the Department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance, and must specify how the emissions unit will operate during the test and how the Permittee will document that operation. The Permittee shall submit a complete test plan at least 30 days before the scheduled date of any test unless the Department agrees in writing to some other time period. Retesting may be done without resubmitting the plan.

33. **Test Notification.** At least 10 days before conducting a source test, the Permittee shall give the Department written notice of the date and time the source test will begin.

34. **Test Reports.** Within 60 days after completing a source test, the Permittee shall submit two copies of the results in the format set out in the *Source Test Report Outline*, adopted by reference in 18 AAC 50.030. The Permittee shall certify the results as set out in Condition 15. If requested in writing by the Department, the Permittee must provide preliminary results in a shorter period of time specified by the Department.

Attachment 1 – Visible Emissions Form

VISIBLE EMISSION OBSERVATION FORM

This form is designed to be used in conjunction with EPA Method 9, "Visual Determination of the Opacity of Emissions form Stationary Sources." Temporal changes in emission color, plume water droplet content, background color, sky conditions, observer position, etc. should be noted in the comments section adjacent to each minute of readings. Any information not dealt with elsewhere on the form should be noted under additional information. Following are brief descriptions of the type of information that needs to be entered on the form: for a more detailed discussion of each part of the form, refer to "Instructions for Use of Visible Emission Observation Form."

- Source Name: full company name, parent company or division or subsidiary information, if necessary.
- Address: street (not mailing or home office) address of facility where VE observation is being made.
- Phone (Key Contact): number for appropriate contact.
- Source ID Number: number from NEDS, agency file, etc.
- Process Equipment, Operating Mode: brief description of process equipment (include type of facility) and operating rate, % capacity, and/or mode (e.g. charging, tapping, shutdown).
- Control Equipment, Operating Mode: specify type of control device(s) and % utilization, control efficiency.
- Describe Emission Point: for identification purposes, stack or emission point appearance, location, and geometry; and whether emissions are confined (have a specifically designed outlet) or unconfined (fugitive).
- Height Above Ground Level: stack or emission point height relative to ground level; can use engineering drawings, Abney level, or clineometer.
- Height Relative to Observer: indicate height of emission point relative to the observation point.
- Distance from Observer: distance to emission point; can use rangefinder or map.
- Direction from Observer: direction plume is traveling from observer.
- Describe Emissions and Color: include physical characteristics, plume behavior (e.g., looping, lacy, condensing, fumigating, secondary particle formation, distance plume visible, etc.), and color of emissions (gray, brown, white, red, black, etc.). Note color changes in comments section.
- Visible Water Vapor Present?: check "yes" if visible water vapor is present.
- If Present, is Plume…: check "attached" if water droplet plume forms prior to exiting stack, and "detached" if water droplet plume forms after exiting stack.
- Point in Plume at Which Opacity was Determined: describe physical location in plume where readings were made (e.g., 1 ft above stack exit or 10 ft. after dissipation of water plume).
- Describe Plume Background: object plume is read against, include texture and atmospheric conditions (e.g., hazy).
- Background Color: sky blue, gray-white, new leaf green, etc.
- Sky Conditions: indicate cloud cover by percentage or by description (clear, scattered, broken, overcast).
- Wind Speed: record wind speed; can use Beaufort wind scale or hand-held anemometer to estimate.
- Wind Direction From: direction from which wind is blowing; can use compass to estimate to eight points.
- Ambient Temperature: in degrees Fahrenheit or Celsius.

  Wet Bulb Temperature: can be measured using a sling psychrometer

  RH Percent: relative humidity measured using a sling psychrometer; use local US Weather Bureau measurements only if nearby.
- Source Layout Sketch: include wind direction, sun position, associated stacks, roads, and other landmarks to fully identify location of emission point and observer position.

  Draw North Arrow: to determine, point line of sight in direction of emission point, place compass beside circle, and draw in arrow parallel to compass needle.

  Sun's Location: point line of sight in direction of emission point, move pen upright along sun location line, mark location of sun when pen's shadow crosses the observer's position.
- Observation Date: date observations conducted.
- Start Time, End Time: beginning and end times of observation period (e.g., 1635 or 4:35 p.m.).
- Data Set: percent opacity to nearest 5%; enter from left to right starting in left column. Use a second (third, etc.) form, if readings continue beyond 30 minutes. Use dash (-) for readings not made; explain in adjacent comments section.

  Comments: note changing observation conditions, plume characteristics, and/or reasons for missed readings.

  Range of Opacity: note highest and lowest opacity number.
- Observer's Name: print in full.

  Observer's Signature, Date: sign and date after performing VE observation.
- Organization: observer's employer.
- Certified By, Date: name of "smoke school" certifying observer and date of most recent certification.

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AIR QUALITY DIVISION - VISIBLE EMISSIONS OBSERVATION FORM

Page No._____

Source Name		Type of Source			Observation Date			Start Time		End Time
					Sec / Min	0	15	30	45	Comments
Address					1					
City	State	Zip			2					
Phone # (Key Contact)		Source ID Number			3					
Process Equipment		Operating Mode			4					
Control Equipment		Operating Mode			5					
Describe Emission Point					6					
Height above ground level	Height relative to observer	Inclinometer Reading			7					
Distance From Observer		Direction From Observer Start	End		8					
Describe Emissions & Color Start		End			9					
Visible Water Vapor Present? If yes, determine approximate distance from the										
No Yes	stack exit to where the plume was read				10					
Point in Plume at Which Opacity Was Determined					11					
Describe Plume Background		Background Color			12					
Start		Start								
End		End			13					
Sky Conditions: Start					14					
Wind Speed		Wind Direction From			15					
		Start	End							
Ambient Temperature		Wet Bulb Temp		RH percent	16					
NOTES: 1 Stack or Point Being Read		2 Wind Direction From			17					
3 Observer Location 4 Sun Location 5 North Arrow 6 Other Stacks					18					
					19					
					20					
					21					
					22					
					23					
					24					
					25					
					26					
					27					
					28					
					29					
					30					
					Range of Opacity					
					Minimum			Maximum		
I have received a copy of these opacity observations					Print Observer's Name					
Print Name:					Observer's Signature			Date		
Signature:										
Title		Date			Organization					
					Certified By:				Date	

Attachment 2 – Relocation Notification (Application Addendum)

Submit to the Department at least ***10 days before*** deviating from the annual notification and moving the POGO to a new pad.

Facility Information:

Permittee Name:_____ Permit: AQ_____

Rig Name(s):_____

Unit Name (if applicable):_____

Well Pad(s) / Drill Site(s): _____

Operator Name:_____

Contact Person:_____ Telephone:_____

Drill Rig Identification to be relocated: _____

_____

Estimated Operating Dates:

Estimated start-up date: _____

Estimated shut-down date: _____

Location Information:

New Rig Location:

Latitude_____ Longitude_____ OR

UTM Coordinates: Zone_____ Northing_____ Easting_____ Datum_____

Comments:_____

_____

_____

Certification:

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name:_____ Title:_____ Date:_____

Signature:_____ Phone Number:_____

Send completed report to: Compliance Technician, ADEC Air Permits Program, 610 University Avenue, Fairbanks, AK 99709-3643.

Attachment 3 – Sample Fuel Consumption Monitoring Plan

Sample Fuel Consumption Monitoring Plan

1. Purpose

To monitor and record daily fuel consumed in rig diesel-fired equipment.

2. Scope

This Plan covers drilling rigs' emissions units powered with diesel fuel. It does not cover fuel consumed by individual vehicles or ancillary equipment.

3. Roles and Responsibilities

Role	Responsibilities
Toolpusher	**Daily** Ensure all diesel-fired equipment has one of the following methods in place to track daily fuel usage; 1. Metering; 2. Tank strapping; or 3. Operational hours tracking **Fuel Delivery Tracking** Ensure all fuel usage is tracked on the "daily fuel usage report" Ensure this plan is understood and carried out by operating personnel. Be knowledgeable of current permit requirements pertaining to fuel consumption monitoring and recording. Assign competent personnel to record consumed fuel of stipulated diesel fired equipment. Ensure correct and consistent fuel consumption monitoring and recording. Keep fuel use logs on location. Submit reports as requested to the Company Representative Review recording process with assigned personnel periodically. Use Management of Change process for all design, usage or process modifications involving diesel fired equipment.
Assigned Personnel	Be knowledgeable of current permit requirements pertaining to fuel consumption monitoring and recording.

Role	Responsibilities
	Be knowledgeable and competent to perform task of recording daily operational hours and consumed fuel of all diesel fired equipment. Keep accurate records. Immediately report any failure of measurement devices.
HSE Manager	Develop and Maintain Fuel Consumption Procedure Assist in monitoring and communicating fuel usage to Operators Respond to questions and concerns from Field Personnel
HSE Administrative Assistant	Receive Daily Fuel Use Logs Maintain Fuel Use Logs Prepare quarterly a table of daily fuel use by rig and transmit this to Company Environmental Coordinator

4. Procedure/Requirements

1. Assigned Personnel shall monitor daily drill rig fuel use in all rig engines, heaters, and boilers using the methods below and will provide the HSE Administrative Assistant the daily fuel usage reports at the end of each month.
2. Fuel usage monitoring and recordkeeping (if using equipment fuel flow meters)
    a. Record on daily fuel usage report the equipment fuel flow meter reading and the time reading was taken.
    b. Calculate and record on the daily fuel usage report daily fuel use by subtracting previous day's meter reading from today's.
3. Fuel usage monitoring and recordkeeping (if strapping)
    a. For each tank being strapped, record on daily fuel usage report the fuel height and time of daily reading.
    b. On days where fuel is delivered into the tank, record the height on the daily fuel log before the delivery and after the delivery with a note that these additional heights are recorded due to a fuel delivery. The fuel consumption for that day may be determined using the pre-delivery height reading or by taking and recording one at the end of the day. Thus, for the following day use the post-delivery height reading or the end of the day height reading as appropriate.
    c. Document the method of volume calculation from height in inches to gallons (conversion chart, site glass, calculation), keep the conversion chart on location.
4. Fuel usage monitoring and recordkeeping where daily deliveries are made to rig tank(s)

a. If the deliveries are metered, record metered volume on daily fuel usage report. This is the amount assumed to be consumed by rig equipment.

b. If the deliveries are not metered, record initial and final fuel height readings in the receiving tank(s) and use this to calculate the volume delivered. Record this on the daily fuel usage report as the amount assumed to be consumed.

c. Generally, tanks should be filled to a similar level each day.

5. Fuel usage monitoring and recordkeeping (no metering or strapping)

a. Ensure affected equipment has a non-resettable hour meter installed

b. Using Excel, for each piece of equipment on the rig, create a table with columns labeled Date, Time, Equipment Maximum Fuel Consumption Rate Per Hour, Hours Operated, Fuel Consumed (maximum fuel consumption rate per hour x hours operated). Each row on the table will be a separate calendar day. Use separate tabs for each piece of equipment; label the tabs with the equipment ID

c. Create a summary tab that contains a table with rows representing each day. Label the first column Date and the second column Total Rig Fuel Consumed. Set up each cell in the second column to sum the daily Fuel Consumed from each individual equipment tab.

6. HSE Administrative Assistant will transmit to Company Environmental Coordinator within one week of the end of each calendar quarter a table of daily rig fuel consumption over that calendar quarter.

Attachment 4 – ADEC Notification Form

Excess Emissions and Permit Deviation Reporting
State of Alaska Department of Environmental Conservation
Division of Air Quality

Stationary Source Name	**Air Quality Permit No.**
Company Name	**Date**

When did you discover the Excess Emissions/Permit Deviation?
Date: _____ / _____ / _____ Time: _____ : _____

When did the event/deviation?
Begin Date: _____ / _____ / _____ Time: _____ : _____ (Use 24-hr clock.)
End Date _____ / _____ / _____ Time: _____ : _____ (Use 24-hr clock.)
What was the duration of the event/deviation? ____ : ____ (hrs:min) or _____ days
(total # of hrs, min, or days, if intermittent then include only the duration of the actual emissions/deviation)

Reason for notification: (please check only 1 box and go to the corresponding section)
☐ Excess Emissions Complete Section 1 and Certify
☐ Deviation from permit conditions complete Section 2 and certify
☐ Deviation from COBC, CO, or Settlement Agreement Complete Section 2 and certify

Section 1. Excess Emissions

(a) Was the exceedance: ☐ Intermittent or ☐ Continuous

(b) Cause of Event (Check one that applies)**:**

☐ Start Up/Shut Down ☐ Natural Cause (weather/earthquake/flood)
☐ Control Equipment Failure ☐ Scheduled Maintenance/Equipment Adjustments
☐ Bad fuel/coal/gas ☐ Upset Condition ☐ Other

(c) Description:

Describe briefly what happened and the cause. Include the parameters/operating conditions exceeded, limits, monitoring data and exceedance.

(d) Emission unit(s) Involved:

Identify the emission units involved in the event, using the same identification number and name as in the permit. Identify each emission standard potentially exceeded during the event and the exceedance.

EU ID	Emission Unit Name	Permit Condition Exceeded/Limit/Potential Exceedance

(e) Type of Incident (please check only one):

☐ Opacity %	☐ Venting (gas/scf)	☐ Control Equipment Down
☐ Fugitive Emissions	☐ Emission Limit Exceeded	☐ Record Keeping Failure
☐ Marine Vessel Opacity	☐ Failure to monitor/report	☐ Flaring
☐ Other:		

(f) Unavoidable Emissions:

Do you intend to assert that these excess emissions were unavoidable? ☐ YES ☐ NO

Do you intend to assert the affirmative defense of 18 AAC 50.235? ☐ YES ☐ NO

Certify Report (go to end of form)

Section 2. Permit Deviations

(a) Permit Deviation Type: (check one only) (check boxes correspond with sections in permit)

☐ Emission Unit Specific
☐ General Source Test/Monitoring Requirements
☐ Recordkeeping/Reporting/Compliance Certification
☐ Standard Conditions Not Included in Permit
☐ Generally Applicable Requirements
☐ Reporting/Monitoring for Diesel Engines
☐ Insignificant Emission Unit
☐ Stationary Source-Wide
☐ Other Section: (title of section and section # of your permit)

(b) Emission unit(s) Involved:

Identify the emission unit involved in the event, using the same identification number and name as in the permit. List the corresponding Permit condition and the deviation.

EU ID	Emission Unit Name	Permit Condition /Potential Deviation

(c) Description of Potential Deviation: Describe briefly, what happened and the cause. Include the parameters/operating conditions and the potential deviation.

(d) Corrective Actions: Describe actions taken to correct the deviation or potential deviation and to prevent future recurrence.

Certification:

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed

Name: _____ Title: _____ Date: _____

Signature: _____ Phone Number: _____

NOTE: *This document must be certified in accordance with 18 AAC 50.345(j)*

To Submit this report:

1. Fax this form to: 907-451-2187
Or
2. Email to: DEC.AQ.Airreports@alaska.gov
if faxed or emailed,
Or
3. Mail to: ADEC
Air Permits Program
610 University Avenue
Fairbanks, AK 99709-3643
Or
4. Phone notifications: 907-451-5173
Phone notifications require written follow up report.
Or
5. Submission of information contained in this report can be made electronically at the following website:
http://dec.alaska.gov/Applications/Air/airtoolsweb/Home/Index

If submitted online, report must be submitted by an authorized E-Signer for the stationary source.