DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY OPERATING/CONSTRUCTION PERMIT

Permit No. AQ0455TVP01 Issue Date: November 17, 2003
Application No. 455 Expiration Date: December 31, 2008
Revision 4: Draft June 20, 2013

The Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues an operating/construction permit to the Permittee, **BP Exploration (Alaska) Inc.**, for the operation of **Transportable Drilling Rigs**.

This permit only authorizes emissions from drilling operations that qualify as temporary operations under AS 46.14.215. This permit authorizes emissions only from drilling operations conducted at aggregated well pads governed by a separate stationary source-specific operating permit within the lease areas specified in Section 1 of the permit. This permit does not authorize drilling operations at sales oil production pads governed by a stationary source operating permit, except as authorized by Condition 7.

This permit only authorizes emissions from the drilling rigs identified in Section 16 of the permit. Use of alternative drilling rigs will require a permit revision in accordance with 18 AAC 50.370. If a separate air quality permit is issued in the future that implements site-specific requirements for operation of a drill rig or rigs at a well pad within the lease areas specified in Section 1 of this permit, then this permit will become null and void with respect to that well pad and will be rescinded and replaced by the site-specific permit for that location.

This permit satisfies the obligation of the owner and operator to obtain an operating/construction permit as set out in AS 46.14.130(b). As set out in AS 46.14.120(c), the Permittee shall comply with the terms and conditions of this operating/construction permit.

All stationary source-specific terms and conditions of Air Quality Control Permit-to-Operate Nos. 9573-AA016, -AA017, -AA018, -AA019, and -AA020 have been incorporated into this Operating/Construction Permit. This permit, in accordance with the provisions of 18 AAC 50.305(a)(3), revises or rescinds specific terms and conditions of Air Quality Control Permit-to-Operate Nos. 9573-AA016, -AA017, -AA018, -AA019, and -AA020.

This Operating/Construction Permit became effective January 1, 2004.

John F. Kuterbach, Manager

Air Permits Program

Table of Contents

List of Abbreviations Used in this Permit

AAC .....Alaska Administrative Code
ADEC.....Alaska Department of Environmental Conservation
AS .....Alaska Statutes
ASTM .....American Society for Testing and Materials
BACT.....Best Available Control Technology
bbl .....U.S. Petroleum Barrels (42 gallons)
C.F.R. .....Code of Federal Regulations
CO .....Carbon Monoxide
dscf.....Dry standard cubic foot
EPA.....US Environmental Protection Agency
gr./dscf .....grain per dry standard cubic foot (1 pound = 7000 grains)
GPH.....gallons per hour
HAPs or HACs.....Hazardous Air Pollutants or Hazardous Air Contaminants [*HAPs* or *HACs* as defined in AS 46.14.990(14)]
ID .....Emission unit Identification Number
kPa.....kiloPascals
LAER .....Lowest Achievable Emission Rate
MACT .....Maximum Achievable Control Technology as defined in 40 C.F.R. 63.
MR&R.....Monitoring, Recordkeeping, and Reporting
NESHAPs .....Federal National Emission Standards for Hazardous Air Pollutants [*NESHAPS* as contained in 40 C.F.R. 61 and 63]
NO_X.....Nitrogen Oxides
NSPS .....Federal New Emission unit Performance Standards [*NSPS* as contained in 40 C.F.R. 60]
O & M .....Operation and Maintenance
O_2 .....Oxygen
PM-10 .....Particulate Matter less than or equal to a nominal ten microns in diameter
ppm .....Parts per million
ppmv .....Parts per million by volume
ppmvd .....Parts per million by volume on a dry basis
psia.....Pounds per Square Inch (absolute)
PSD .....Prevention of Significant Deterioration
PTE .....Potential to Emit
SIC. .....Standard Industrial Classification
SO_2.....Sulfur dioxide
TPH.....Tons per hour
TPY .....Tons per year
VOC .....volatile organic compound [*VOC* as defined in 18 AAC 50.990(103)]
VOL .....volatile organic liquid [*VOL* as defined in 40 C.F.R. 60.111b, Subpart Kb]
vol%.....volume percent
wt% .....weight percent

Section 1. *Identification*

Names and Addresses

Permittee:

BP Exploration (Alaska) Inc.
900 East Benson Blvd. (zip 99508)
P.O. Box 196612
Anchorage, AK 99519-6612

Stationary Source Name: **Transportable Drilling Rigs**

Locations: At well pads governed by a separate stationary source-specific operating permit within the North Slope Drilling Area bounded by the Colville River, the Canning River, the Beaufort Sea (including off-shore 3 miles), and latitude 69º 30', and may include Mikkelsen Bay exploratory well pads in Sections 10, 11, 14 and 20, Township 9 North, Range 20 East, Umiat Meridian (east of Shaviok River and southeast of Tigvariak Island). Sales oil production pads governed by a stationary source operating permit are not included, except as stated in Condition 7 of this permit.

Physical Address: Prudhoe Bay, Alaska

Owners:

Doyon Drilling
101 W. Benson Blvd.
Suite 503
Anchorage, AK 99503

Nabors Alaska Drilling, Inc.
2525 C Street, Suite 200
Anchorage, AK 99503

Nordic-Calista Services, Inc.
4700 Business Park Boulevard
Suite 19
Anchorage, AK 99518

Parker Drilling Company
1420 E. Tudor Road
Anchorage, AK 99507

Operator: Same as Permittee

Permittee's Responsible Official:

Alejandra Castaño
Air Compliance Authority
900 East Benson, Blvd. (zip 99508)
P.O. Box 196612
Anchorage, AK 99519-6612
907-564-5338
alejandra.castano@bp.com

Designated Agent:

CT Corporation Systems
801 West 10th Street, Suite 300
Juneau, AK 99801

Stationary Source Contact:

Jeff Kilfoyle, ADW HSE Advisor
(907) 564-4245

Fee Contact: Alejandra Castaño
Air Compliance Authority
907-564-5338
alejandra.castano@bp.com

Stationary Source Process Description

SIC Code of the Stationary Source: 1311 Crude Petroleum and Natural Gas Production
NAICS Code of the Stationary Source: 211111

[18 AAC 50.350(b)(1), 1/18/97]

Section 2. ***General Emission Information***

[18 AAC 50.350(b)(1), 1/18/97]

Emissions of Regulated Air Contaminants, as provided in the Permittee's application(s):

Nitrogen Oxides (NO_X), Carbon Monoxide (CO), Sulfur Dioxide (SO_2), Particulate Matter with an aerodynamic diameter not exceeding a nominal 10 micrometers (PM-10), Volatile Organic Compounds (VOCs), and various Hazardous Air Pollutants (HAPs)

Operating Permit Classifications:

1. 18 AAC 50.325(b)(1) Stationary source will operate at well pads governed by a separate stationary source-specific operating permit for a stationary source that has the potential to emit 100 tpy or more of a regulated air contaminant.

Stationary Source Classifications: None

Section 3. *Emission unit Inventory and Description*

[18 AAC 50.350(d)(2), 1/18/97]

Generic emission unit types listed in Table 1 have specific monitoring, recordkeeping, or reporting conditions in this permit. Use of incinerators or flares is not authorized in conjunction with drilling activities at any well pad governed by this permit.

The generic emission unit types listed in Table 1 are authorized for use by the Permittee in conjunction with up to twelve transportable drilling rigs operating concurrently at aggregated well pads within the North Slope Drilling Area specified in Section 1.

Table 1 – Generic Drilling Rig Emission Unit Types with MR&R

Operating Group	Emission Unit Group
Drill Rig Emission Units	Nonroad Engines
	Heaters and Boilers
Camp Emission Units	Nonroad Engines
	Heaters and Boilers

The individual transportable drilling rigs and their associated emission units operating under this permit are identified in Section 16 of this permit. The specific number of emission units and the actual make/model of the units comprising the individual transportable drilling rigs utilized may vary.

Section 4. *Emission Fees*

1. Assessable Emissions. The Permittee shall pay to the Department an annual emission fee based on each rig stationary source'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(b). The Department will assess fees per ton of each air contaminant that the stationary sources emit or have the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed for each rig operated during the calendar year is the lesser of

1.1 the total assessable potential to emit from drill rig emission units located at an individual well pad of 322 TPY (3,864 TPY total for twelve rigs operating at up to twelve different well pads); or

1.2 the projected annual rate of emissions that will occur from July 1 to the following June 30, 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

a. an enforceable test method described in 18 AAC 50.220;

b. material balance calculations;

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

d. other methods and calculations approved by the Department**.**

[18 AAC 50.346(a)(1), 5/3/02 and 18 AAC 50.350(c) & 50.400 – 50.420, 1/18/97]

2. Assessable Emission Estimates. Emission fees will be assessed as follows:

2.1 no later than March 31 of each year, the Permittee may submit an estimate of the stationary source's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Avenue, 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

2.2 if no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in Condition 1.1.

[18 AAC 50.346(a)(1), 5/3/02 and 18 AAC 50.350(c) & 50.400 – 50.420, 1/18/97]

Section 5. *Emission unit-Specific Requirements*

Fuel-Burning Equipment (excluding non-road engines)

3. **Visible Emissions.** The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from each emission unit within Emission Unit Group category "Heaters and Boilers" listed in Table 1, for each transportable drilling rig, to reduce visibility through the exhaust effluent by any of the following:

a. more than 20 percent for a total of more than three minutes in any one hour[1];

[18 AAC 50.050(a), 18 AAC 50.055(a)(1), 1/18/97 and 18 AAC 50.350(d)(1)(C), 6/21/98]
[40 C.F.R. 52.70, 7/01/01]

b. more than 20 percent averaged over any six consecutive minutes[2].

[18 AAC 50.050(a), 18 AAC 50.055(a)(1) & 50.346(c), 5/3/02 and 18 AAC 50.350(d)(1)(C), 6/21/98]

3.1 For each significant emission unit with a rated capacity equal to or greater than 1.7 MMBtu/hr within Emission Unit Group category "Heaters and Boilers" operated for each transportable drilling rig, monitor, record, and report visible emissions in accordance with Section 7.

[18 AAC 50.350(g) - (i) & 50.346(c), 5/3/02]

4. **Particulate Matter.** The Permittee shall not cause or allow particulate matter emitted from each emission unit within Emission Unit Group category "Heaters and Boilers" listed in Table 1, for each transportable drilling rig, to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.346(c), 5/3/02; 18 AAC 50.055(b)(1), 1/18/97 and 18 AAC 50.350(d)(1)(C), 6/21/98]

4.1 For each significant emission unit with a rated capacity equal to or greater than 1.7 MMBtu/hr within Emission Unit Group category "Heaters and Boilers", operated for each transportable drilling rig, monitor, record and report in accordance with Section 7.

[18 AAC 50.346(c) & 50.350(g) – (i), 5/3/02]

5. **Sulfur Compound Emissions.** In accordance with 18 AAC 50.055(c), the Permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from each emission unit within Emission Unit Group category "Heaters and Boilers", for each transportable drilling rig, to exceed 500 ppm averaged over three hours.

[18 AAC 50.346(c), 5/3/02; 18 AAC 50.055(c), 1/18/97; and 18 AAC 50.350(d)(1)(C), 6/21/98]

5.1 The Permittee shall include in the operating report required by Condition 44 a list of the fuel sulfur content measured by the supplier for each shipment of fuel for each month covered by the report.

[1] For purposes of this permit, the "more than three minutes in any one hour" criterion in this condition and condition 16 will no longer be effective when the Air Quality Control (18 AAC 50) regulation package effective May 3, 2002 is adopted by the U.S. EPA

[2] The six-minute average standard is enforceable only by the state until 18 AAC 50.055(a)(1), dated May 3, 2002, is approved by EPA into the SIP at which time this standard becomes federally enforceable.

5.2 If the fuel contains greater than 0.75 percent sulfur by weight, the Permittee shall calculate SO_2 emissions in ppm using either the SO_2 material balance calculation in Section 15 or Method 19 of 40 C.F.R. 60, Appendix A-7, adopted by reference in 18 AAC 50.040(a).

5.3 If SO_2 emissions are calculated under Condition 5.2 to exceed 500 ppm, the Permittee shall report under Condition 43. The report shall document the calculation under Condition 5.2.

5.4 For fuel with a sulfur content greater than 0.75% by weight, the Permittee shall include in the operating report required by Condition 44 the calculated SO_2 emissions in PPM.

[18 AAC 50.350(g) - (i) & 18 AAC 50.346(c), 5/3/02]
[18 AAC 50.350(d)(1)(D), 1/18/97]
[Operating Permit Nos. 9573-AA016, 9573-AA017, 9573-AA018, 9573-AA019 & 9573-AA020, 11/29/96]

Section 6. *Stationary Source-Wide Specific Requirements*

Fuel Usage Limits

6. The Permittee shall limit the total daily and aggregate rolling 12-month fuel usage based on the sulfur content of the liquid fuel burned as specified in Table 2 and Table 3. These daily and annual fuel use limits apply separately to each well pad, and are cumulative for all drill rig emission units and associated equipment listed in Table 1, and by reference Section 16, that operates at a well pad during the time periods indicated by each limitation. The daily limit is cumulative with respect to the operation of multiple rigs on a given well pad, such that the limit represents the total daily fuel use average for all drilling operation emission units during the daily time period. The rolling 12-month limit is cumulative with respect to the operation of multiple rigs on a given well pad, with allowance for the fuel use equivalency factor for Tier 2/Tier 3 engines found in Table 3, for the rolling 12-month period. Limits are not to be exceeded.

6.1 The Permittee shall monitor and record the aggregated total daily fuel usage by all drill rig operations emission units described under Table 1 for each well pad where drill rig operations occur under this permit.

6.2 The Permittee shall monitor and record the aggregated total rolling 12-month fuel usage by all drill rig operations emission units described under Table 1 for each well pad where drill rig operations occur under this permit. The fuel use equivalency factor shown in Table 3 shall be applied to drill rigs equipped with Tier 2/Tier 3 engines.

6.3 Report the data recorded under Conditions 6.1 and 6.2 for all well pad locations where drill rig operations occur under this permit using the operating report under Condition 44.

6.4 Notify the Department per Condition 43 if the aggregate daily fuel usage or the aggregate rolling 12-month total fuel usage at any well pad location where drill rig operations occur under this permit exceeds a limit in Table 2 or Table 3.

[18 AAC 50.350(g) – (i), 5/3/02]
[18 AAC 50.335(g)(1), 1/18/97]

Table 2 – Daily Liquid Fuel Use Limits

Liquid Fuel Sulfur Content (up to)	Total Daily Fuel Use Limit
0.15% by weight	18,000 gal
0.20% by weight	13,440 gal
0.25% by weight	10,800 gal

Table 3 – Total Rolling 12-Month Fuel Use Limit

Engine Type	Fuel Use Equivalency Factor	Total Rolling 12-Month Fuel Use Limit
Drill Rig Equipped with Tier 2/Tier 3 Engines	0.513	1,250,000 gal
Drill Rig with Uncontrolled Engines	1	

Drilling Location and Site Restrictions

7. The Permittee shall operate the permitted Transportable Drilling Rig(s) within the North Slope Drilling Area specified in Section 1. Operation at excluded sites, i.e. sales oil production pads governed by a stationary source operating permit, shall not occur without first obtaining written authorization from the Department following submittal of a demonstration that Ambient Air Quality Standards are protected.

[Operating Permit Nos. 9573-AA016, 9573-AA017, 9573-AA018, 9573-AA019 & 9573-AA020, 11/29/96]

8. The Permittee may concurrently operate up to twelve drilling rigs, drawn from the pool of rigs identified in Section 16 of this permit, at well pads where drilling activities are authorized by this permit.

[18 AAC 50.335(g)(1), 1/18/97]

9. The Permittee shall use this permit at aggregated well pads for temporary construction activity[3] only. Extension beyond the 24-month time frame will require Department approval.

9.1 The Permittee shall notify the Department via email or facsimile when relocating a drilling rig to or from a well pad location where drilling operations are authorized under this permit.

9.2 In each operating report under Condition 44, provide a summary of drilling operations that were covered by this permit during the reporting period, and projected operations during the next reporting period. Such summaries must indicate, for each drill rig and associated equipment operating under this permit, the location (well pad) and duration (in total consecutive months) of each drilling activity that occurred or is occurring during the reporting period.

9.3 Notify the Department per Condition 43 if any drill rig and associated equipment operating under the authorization of this permit is located at an individual well pad for more than 24 consecutive months.

[18 AAC 50.335(g)(1); 50.350(g) – (i); 50.990(92), 5/3/02]

Liquid Fuel Sulfur Content Limit

10. The Permittee shall not burn any liquid fuel with a sulfur content greater than 0.25% by weight.

10.1 Monitor, record, and report according to Condition 5.1.

10.2 Notify the Department per Condition 43 if the fuel sulfur content limit in Condition 10 is exceeded.

[18 AAC 50.335(g)(1), 1/18/97; 18 AAC 50.350(g) – (i), 5/3/02]

[3] From 18 AAC 50.990(92) "temporary construction activity" means construction that is completed in 24 months or less from the date construction begins and includes any period of inactivity during that 24-month period.

Section 7. *Visible Emissions and PM Monitoring, Recordkeeping and Reporting*

Liquid Fuel-Fired Fuel-Burning Equipment "Heaters and Boilers"

11. Visible Emissions Monitoring. For each rig operated, the Permittee shall observe the exhaust of the "Heaters and Boilers" for visible emissions using the Method 9 Plan under Condition 11.1.

11.1 **Method 9 Plan.** For all 18-minute observations in this plan, observe exhaust, following 40 C.F.R. 60, Appendix A-4, Method 9, adopted by reference in 18 AAC 50.040(a), for 18 minutes to obtain 72 consecutive 15-second opacity observations.

a. Annual Method 9 Observations. Perform 18-minute observations at least once in a calendar year for each emission unit operating at least seven consecutive days during that calendar year at a site governed by this permit.

b. Alternate Method 9 Observation. If the 18-minute observations required by Condition 11.1a are not accomplished while this emission unit is located at the site governed by this permit, the observations may be conducted at another site within the timeframe specified under Condition 11.1a.

[18 AAC 50.335(j) & 50.350(g), 1/18/97; 18 AAC 50.346(c), 5/3/02]

12. Visible Emissions Recordkeeping. The Permittee shall keep records in accordance with this condition.

12.1 When conducting the Method 9 observations of Condition 11.1

a. the observer shall record

(i) the name of the stationary source, emissions unit and location, stationary source type, observer's name and affiliation, and the date on the Visible Emissions Field Data Sheet in Section 14;

(ii) the time, estimated distance to the emissions location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), plume background, and operating rate (load or fuel consumption rate) on the sheet at the time opacity observations are initiated and completed;

(iii) the presence or absence of an attached or detached plume and the approximate distance from the emissions outlet to the point in the plume at which the observations are made;

(iv) opacity observations to the nearest five percent at 15-second intervals on the Visible Emissions Observation Record in Section 14; and

(v) the minimum number of observations required by the permit; each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period;

b. to determine the six-minute average opacity, divide the observations recorded on the record sheet into sets of 24 consecutive observations; sets need not be consecutive in time and in no case shall two sets overlap; for each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24; record the average opacity on the sheet;

c. calculate and record the highest 18-consecutive-minute average observed.

[18 AAC 50.350(h), 5/3/02]

13. Visible Emissions Reporting. The Permittee shall report visible emissions as follows:

13.1 include in each operating report under Condition 44

a. copies of the observation results (i.e. opacity observations), except for the observations the Permittee has already supplied to the Department;

b. a summary to include:

(i) number of days observations were made;

(ii) highest six-minute average observed; and

(iii) dates when one or more observed six-minute averages were greater than 20 percent; and

c. a summary of any monitoring or recordkeeping required under Conditions 11 and 12 that was not done.

13.2 report under Condition 43:

a. the results of Method 9 observations that exceed an average 20 percent for any six-minute period; and

b. if any monitoring under Condition 11 was not performed when required.

[18 AAC 50.350(i), 1/18/97 & 18 AAC 50.346(c), 5/3/02]

14. Particulate Matter Monitoring for Liquid Fuel-Fired Fuel Burning Equipment. The Permittee shall conduct emission unit tests on liquid fuel-fired "Heaters and Boilers", to determine the concentration of particulate matter (PM) in the exhaust of an emission unit in accordance with the following.

14.1 Except as provided in Condition 14.4, within six months of exceeding the criteria of Condition 14.2, either

a. conduct a PM emission unit test according to requirements set out in Section 10; or

b. make repairs so that emissions no longer exceed the criteria of Condition 14.2; to show that emissions are below those criteria, observe emissions as described in Condition 11.1 under load conditions comparable to those when the criteria were exceeded.

14.2 Conduct the test according to Condition 14.1 if 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent.

14.3 During each one hour PM emission unit test run, observe the exhaust for 18 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one-hour test run. Submit a copy of these observations with the emission unit test report.

14.4 The automatic PM emission unit test requirement in Conditions 14.1 and 14.2 is waived for an emissions unit if a PM emission unit test on that unit has shown compliance with the PM standard during this permit term.

[18 AAC 50.350(g), 1/18/97 & 18 AAC 50.346(c), 5/3/02]

15. Particulate Matter Reporting for Fuel Burning Equipment. The Permittee shall report for liquid fuel-fired "Heaters and Boilers" as follows:

15.1 report under Condition 43

a. the results of any PM emission unit test that exceed the PM emissions limit; or

b. if the threshold of Condition 14.2 was exceeded and the Permittee did not comply with either Condition 14.1a or 14.1b.

15.2 in each operating report under Condition 44, include

a. the dates, Rig ID and heater/boiler rating from Section 16, and results when an observed 18-minute average was greater than the threshold in Condition 14.2;

b. a summary of the results of any PM testing under Condition 14; and

c. copies of any visible emissions observation results (opacity observations) greater than the threshold of Condition 14.2, if they were not already submitted.

[18 AAC 50.350(i), 1/18/97 & 18 AAC 50.346(c), 5/3/02]

Section 8. *Insignificant Emission units*

This section contains the requirements that the Permittee identified under 18 AAC 50.335(q)(2) as applicable to insignificant emission units at the stationary source. This section also specifies the testing, monitoring, recordkeeping, and reporting for insignificant emission units that the Department finds necessary to ensure compliance with the applicable requirements. Insignificant emission units are not exempted from any air quality control requirement or federally enforceable requirement.

As set out in 18 AAC 50.350(m), the shield of AS 46.14.290 does not apply to insignificant emission units.

16. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from an industrial process, fuel-burning equipment, or an incinerator to reduce visibility through the exhaust effluent by either;

a. more than 20 percent for more than three minutes in any one hour[4], or

[18 AAC 50.050(a)(1), 18 AAC 50.055(a)(1), 1/18/97 & 40 CFR 52.70, 11/18/98]

b. more than 20 percent averaged over any six consecutive minutes[5].

[18 AAC 50.050(a) & 18 AAC 50.055(a)(1), 5/3/02]

17. The Permittee shall not cause or allow particulate matter emitted from an industrial process or fuel-burning equipment to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.055(b)(1), 1/18/97]

18. The Permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from an industrial process or fuel-burning equipment, to exceed 500 ppm averaged over three hours.

[18 AAC 50.055(c), 1/18/97]

19. Based on reasonable inquiry, the Permittee shall certify compliance with the requirements specified in Conditions 16, 17, and 18 as set out in Condition 45.

[18 AAC 50.350(m)(3), 6/21/98]

20. The Permittee shall comply with the requirements of Condition 26.

[18 AAC 50.346(b)(1), 5/3/02]

[4] See footnote #1
[5] See footnote #2

Section 9. *Generally Applicable Requirements*

21. Good Air Pollution Control Practice. The Permittee shall do the following for each significant emission unit:

a. Perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;

b. Keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format;

c. Keep a copy of either the manufacturer's or the operator's maintenance procedures.

[18 AAC 50.030 & 50.346(b)(2), 5/3/02 & 18 AAC 50.350(f)(2) & (3), 1/18/97]

22. Dilution. The Permittee shall not dilute emissions with air to comply with this permit. Monitoring shall consist of an annual certification that the Permittee does not dilute emissions to comply with this permit.

[18 AAC 50.045(a), 1/18/97]

23. Reasonable Precautions to Prevent Fugitive Dust. The Permittee shall take reasonable precautions to prevent particulate matter from being emitted into the ambient air when causing or permitting bulk materials to be handled, transported, or stored, or when engaging in an industrial activity or construction project. Monitoring shall consist of an annual certification that reasonable precautions were taken.

[18 AAC 50.346(c), 5/3/02; 18 AAC 50.045(d) & 50.350(g), 1/18/97 & 18 AAC 50.040(e), 8/15/02]

24. Stack Injection. The Permittee shall not release materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack at an emission unit constructed or modified after November 1, 1982, unless approved in writing by the Department. Monitoring shall consist of an annual certification that the Permittee does not conduct stack injection at the stationary source.

[18 AAC 50.055(g), 1/18/97]

25. Open Burning. The Permittee shall conduct any open burning at the stationary source in accordance with the requirements of 18 AAC 50.065. Monitoring shall consist of an annual certification that any open burning complied with 18 AAC 50.065.

[18 AAC 50.040(e), 7/21/01, 18 AAC 50.065, 7/21/01, 18 AAC 50.350(d)(1), 1/18/97]

26. Air Pollution Prohibited. No person may permit any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

[18 AAC 50.346(a)(2), 5/3/02; 18 AAC 50.110, 5/26/72; 18 AAC 50.040(e), 8/15/02]

26.1 If emissions present a potential threat to human health or safety, the Permittee shall report any such emissions according to Condition 43.

26.2 As soon as practicable after becoming aware of a complaint that is attributable to emissions from the stationary source, the Permittee shall investigate the complaint to identify emissions that the Permittee believes have caused or are causing a violation of Condition 26.

26.3 The Permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if

a. after an investigation because of a complaint or other reason, the Permittee believes that emissions from the stationary source have caused or are causing a violation of Condition 26; or

b. the Department notifies the Permittee that it has found a violation of Condition 26.

26.4 The Permittee shall keep records of

a. the date, time, and nature of all emissions complaints received;

b. the name of the person or persons that complained, if known;

c. a summary of any investigation, including reasons the Permittee does or does not believe the emissions have caused a violation of Condition 26; and

d. any corrective actions taken or planned for complaints attributable to emissions from the stationary source.

26.5 With each operating report under Condition 44, the Permittee shall include a brief summary report which must include

a. the number of complaints received;

b. the number of times the Permittee or the Department found corrective action necessary;

c. the number of times action was taken on a complaint within 24 hours; and

d. the status of corrective actions the Permittee or Department found necessary that were not taken within 24 hours.

26.6 The Permittee shall notify the Department of a complaint that is attributable to emissions from the stationary source within 24 hours after receiving the complaint, unless the Permittee has initiated corrective action within 24 hours of receiving the complaint.

[18 AAC 50.346(a)(2) & 50.350(g) - (i), 5/3/02]

27. Technology-Based Emission Standard. If an unavoidable emergency, malfunction, or non-routine repair, as defined in 18 AAC 50.235, causes emissions in excess of a technology-based emission standard[6] , the Permittee shall take all reasonable steps to minimize levels of emissions that exceed the standard. Excess emissions reporting under Condition 43 requires information on the steps taken to minimize emissions. The report required under Condition 43 is adequate monitoring for compliance under this condition.

[18 AAC 50.235(a) & 50.350(f)(3), 1/18/97]

28. Permit Renewal. To renew this permit, the Permittee shall submit an application under 18 AAC 50.335 no sooner than **June 30, 2007** and no later than **June 30, 2008.**

[18 AAC 50.335(a), 1/18/97]

[6] *Technology-based emission standard* means a best available control technology standard (BACT); a lowest achievable emission rate standard (LAER); a maximum achievable control technology standard established under 40 C.F.R. 63, Subpart B, adopted by reference in 18 AAC 50.040(c); a standard adopted by reference in 18 AAC 50.040(a) or (c); and any other similar standard for which the stringency of the standard is based on determinations of what is technologically feasible, considering relevant factors. [18 AAC 50.990(91)]

Section 10. *General Emission unit Testing and Monitoring Requirements*

29. Requested Emission unit Tests. In addition to any emission unit testing explicitly required by the permit, the Permittee shall conduct emission unit testing as requested by the Department to determine compliance with applicable permit requirements.

[18 AAC 50.220(a), 1/18/97 & 18 AAC 50.345(a) & (k), 5/3/02]

30. Operating Conditions. Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct emission unit testing

[18 AAC 50.220(b) & 50.350(g), 1/18/97]

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

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

31. Reference Test Methods. The Permittee shall use the following as reference test methods when conducting emission unit testing for compliance with this permit:

31.1 Emission unit testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60.

[18 AAC 50.220(c)(1)(A) & 50.350(g), 1/18/97 & 18 AAC 50.040(a), 8/15/02]
[40 C.F.R. 60, 7/1/01]

31.2 Emission unit testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 61.

[18 AAC 50.040(b), 8/15/02; 50.220(c)(1)(B) & 50.350(g), 1/18/97]
[40 C.F.R. 61, 7/1/01]

31.3 Emission unit testing for compliance with requirements adopted by reference in 18 AAC 50.040(c) must be conducted in accordance with the emission unit test methods and procedures specified in 40 C.F.R. 63.

[18 AAC 50.040(c), 6/1/02; 18 AAC 50.220(c)(1)(C) & 50.350(g), 1/18/97]
[40 C.F.R. 63, 4/5/02]

31.4 Emission unit testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Reference Method 9.

[18 AAC 50.030, 5/3/02, 18 AAC 50.220(c)(1)(D) & 50.350(g), 1/18/97]

31.5 Emission unit 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.

[18 AAC 50.040(a)(4), 8/15/02 & 18 AAC 50.220(c)(1)(E) & 50.350(g), 1/18/97]
[40 C.F.R. 60, Appendix A, 7/1/01]

31.6 Emission unit testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M, Method 201.

[18 AAC 50.035(b)(2), 7/2/00; 18 AAC 50.220(c)(1)(F) & 50.350(g), 1/18/97]
[40 C.F.R. 51, Appendix M, 7/1/99]

31.7 Emission unit 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.

[18 AAC 50.040(c)(19), 6/1/02 & 18 AAC 50.220(c)(2) & 50.350(g), 1/18/97]
[40 C.F.R. 63, Appendix A, Method 301, 4/5/02]

32. Excess Air Requirements. To determine compliance with this permit, standard exhaust gas volumes must include only the volume of gases formed from the theoretical combustion of fuel, plus the excess air volume normal for the specific emission unit type, corrected to standard conditions (dry gas at 68° F and an absolute pressure of 760 millimeters of mercury).

[18 AAC 50.220(c)(3), 18 AAC 50.350(g), 1/18/97 & 18 AAC 50.990(88), 5/3/02]

33. Test Exemption. The Permittee is not required to comply with Conditions 35, 36 and 37 when the exhaust is observed for visible emissions.

[18 AAC 50.345(a), 5/3/02]

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

[18 AAC 50.345(a) & (l), 5/3/02]

35. Test Plans. Except as provided in Condition 33, before conducting any emission unit 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 emission unit will operate during the test and how the Permittee will document that operation. The Permittee shall submit a complete plan within 60 days after receiving a request under Condition 29 and 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.

[18 AAC 50.345(a) & (m), 5/3/02]

36. Test Notification. Except as provided in Condition 33, at least 10 days before conducting a emission unit test, the Permittee shall give the Department written notice of the date and the time the emission unit test will begin.

[18 AAC 50.345(a) & (n), 5/3/02]

37. Test Reports. Except as provided in Condition 33, within 60 days after completing a emission unit test, the Permittee shall submit two copies of the results in the format set out in the *Emission unit Test Report Outline*, adopted by reference in 18 AAC 50.030. The Permittee shall certify the results in the manner set out in Condition 39. If requested in writing by the Department, the Permittee must provide preliminary results in a shorter period of time specified by the Department.

[18 AAC 50.345(a) & (o), 5/3/02]

38. Particulate Matter Calculations. In emission unit testing for compliance with the particulate matter standards in Conditions 4 and 17, the three-hour average is determined using the average of three one-hour test runs.

[18 AAC 50.220(f) & 50.350(g), 1/18/97]

Section 11. *General Recordkeeping, Reporting, and Compliance Certification Requirements*

39. Certification. The Permittee shall certify all reports, compliance certifications, 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 emission 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. When certifying a compliance certification, the official's signature must be notarized.

[18 AAC 50.205 and 50.350(b)(3) & (j), 1/18/97; and 18 AAC 50.345(a) & (j), 5/3/02]

40. Submittals. Unless otherwise directed by the Department or this permit, the Permittee shall send reports, compliance certifications, and other documents required by this permit to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician. The Permittee may, upon consultation with the Compliance Technician regarding software compatibility, provide electronic copies of data reports, emission unit test reports, or other records under a cover letter certified in accordance with Condition 39.

[18 AAC 50.350(i), 1/18/97]

41. 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 and 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 AAC 50.200 & 50.350(b)(3), 1/18/97; and 18 AAC 50.345(a) & (i) & 50.350(g) – (i), 5/3/02]

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

[18 AAC 50.350(h), 5/3/02]

42.1 copies of all reports and certifications submitted pursuant to this section of the permit; and

42.2 records of all monitoring required by this permit, and information about the monitoring including:

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.

43. Excess Emissions and Permit Deviation Reports.

43.1 Except as provided in Condition 26, 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 causes emissions in excess of a technology based emission standard;

c. report all other excess emissions and permit deviations

(i) within 30 days of the end of the month in which the emissions or deviation occurs or is discovered, except as provided in Conditions 43.1c(ii) and 43.1c(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 43.1c(i); and

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

43.2 When reporting excess emissions, the Permittee must report using either the Department's on-line form, which can be found at http://www.state.ak.us/dec/air/ap/docs/eeform.pdf, or if the Permittee prefers, the form contained in Section 17 of this permit. The Permittee must provide all information called for by the form that is used.

43.3 When reporting a permit deviation, the Permittee must report using either the Department's on-line form, which can be found at http://www.state.ak.us/dec/air/ap/docs/eeform.pdf, or if the Permittee prefers, the form contained in Section 17 of this permit. The Permittee must provide all information called for by the form.

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

[18 AAC 50.235(a)(2), 50.240(c), & 50.350(i), 1/18/97; and 18 AAC 50.346(a)(3), 5/3/02]

44. Operating Reports. During the life of this permit, the Permittee shall submit to the Department an original and two copies of an operating report by April 30 for the period January 1 to March 31, by July 30 for the period April 1 to June 30, by October 30 for the period July 1 to September 30, and by February 14 for the period October 1 to December 31 of the previous year.

44.1 The operating report must include all information required to be in operating reports by other conditions of this permit.

44.2 If excess emissions or permit deviations that occurred during the reporting period are not reported under Condition 44.1, either

a. The Permittee shall identify

(i) the date of the deviation;

(ii) the equipment involved;

(iii) the permit condition affected;

(iv) a description of the excess emissions or permit deviation; and

(v) any corrective action or preventive measures taken and the date of such actions; or

b. When excess emissions or permit deviations have already been reported under Condition 43 the Permittee may cite the date or dates of those reports.

45. Annual Compliance Certification. Each year by March 31 and for reporting periods following the effective date of this permit, the Permittee shall compile and submit to the Department one original and two copies of an annual compliance certification report as follows:

[18 AAC 50.350(j), 1/18/97]

45.1 For each permit term and condition set forth in Section 4 through Section 11, including terms and conditions for monitoring, reporting, and recordkeeping:

[18 AAC 50.350(d)(4), 6/21/98]

a. certify the compliance status over the preceding calendar year consistent with the monitoring required by this permit;

b. state whether compliance is intermittent or continuous;

c. briefly describe each method used to determine the compliance status; and

d. notarize the responsible official’s signature.

[18 AAC 50.205, 1/18/97 & 50.345(a) & (j), 5/3/02]

45.2 In addition, submit a copy of the report directly to the EPA-Region 10, Office of Air Quality, M/S OAQ-107, 1200 Sixth Avenue, Seattle, WA 98101.

[18 AAC 50.350(j), 1/18/97]

Section 12. *Standard Conditions Not Otherwise Included in the Permit*

46. 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

46.1 an enforcement action;

46.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280; or

46.3 denial of an operating-permit renewal application.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (c), 5/3/02]

47. 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.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (d), 5/3/02]

48. 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.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (e), 5/3/02]

49. Compliance with permit terms and conditions is considered to be compliance with those requirements that are

49.1 included and specifically identified in the permit; or

49.2 determined in writing in the permit to be inapplicable.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (b), 5/3/02]

50. 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.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (f), 5/3/02]

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

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (g), 5/3/02]

52. 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

52.1 enter upon the premises where a emission unit subject to the permit is located or where records required by the permit are kept;

52.2 have access to and copy any records required by the permit;

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

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

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (h), 5/3/02]

Section 13. *Permit As Shield from Inapplicable Requirements*

In accordance with AS 46.14.290, and based on information supplied in the permit application, this section of the permit contains the requirements determined by the Department not to be applicable to the Transportable Drilling Rig operations authorized under this permit.

Table 4 identifies the emission units that are not subject to the specified requirements at the time of permit issuance. Some of the requirements listed below may become applicable during the permit term due to an invoking event, even though the requirement is deemed inapplicable at the time of permit issuance.

53. If any of the requirements listed in Table 4 becomes applicable during the permit term, the Permittee shall comply with such requirements on a timely basis including, but not limited to, providing appropriate notification to EPA, and applying for a construction permit and/or an operating permit revision, if necessary.

Table 4 - Permit Shields Granted.

Non-Applicable Requirements	Reason for non-Legal Basis
Liquid Fuel-Fired Heaters, Boilers and Snow Melter(s)	
40 CFR 60 Subpart D -Standards of Performance for Fossil-Fuel-Fired Steam Generators	Heat input capacities below threshold (250 MMBtu/hr); and units not classified as Fossil-Fuel-Fired Steam Generators, as defined in subpart.
40 CFR 60 Subpart Da -Standards of Performance for Electric Utility Steam Generating Units	Heat input capacities below threshold (250 MMBtu/hr); and units not classified as Electric Utility Steam Generating Units, as defined in subpart.
40 CFR 60 Subpart Db -Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units	Heat input capacities below threshold (100 MMBtu/hr).
40 CFR 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Heat input capacities below threshold (10 MMBtu/hr).
Petroleum Liquid Storage Tanks	
40 CFR Subpart K and Subpart Ka - Standards of Performance for Storage Vessels for Petroleum Liquids	Design capacity of all storage tanks is less than 40,000 gallons.
Volatile Organic Liquid (Including Petroleum Liquid) Storage Tanks < 40 m^3 Capacity	
40 CFR 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)	Design capacity is <10,567 gallons.
Volatile Organic Liquid (Including Petroleum Liquid) Storage Tanks ≥ 40 m^3 Capacity	
40 CFR 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)	Design capacity <75 m^3; **or** design capacity ≥75 m^3 , but < 151 m^3 with a maximum true vapor pressure (TVP) of the stored liquid(s) less than 2.2 psia; **or** design capacity ≥151 m^3 with a maximum TVP of the stored liquid(s) less than 0.5 psia.
Volatile Organic Liquid (Including Petroleum Liquid) Storage Tanks #420,000 gallon Capacity Used For Petroleum or Condensate Stored, Processed, or Treated Prior to Custody Transfer	

40 CFR 60 Subpart K – Standards of Performance for Storage Vessels for Petroleum Liquids	Subpart K does not apply to storage vessels for petroleum or condensate stored, processed, and/or treated at a drilling rig prior to custody transfer [ref. §60.110(b)].
40 CFR 60 Subpart Ka – Standards of Performance for Storage Vessels for Petroleum Liquids	Storage tanks with a design capacity less than 420,000 gallons used for petroleum or condensate stored, processed, or treated prior to custody transfer are exempt from 40 CFR 60 Subpart Ka [ref. §60.110a(b)].
40 CFR 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)	Storage tanks with a design capacity less than or equal to 420,000 gallons used for petroleum or condensate stored, processed, or treated prior to custody transfer are exempt from 40 CFR 60 Subpart Kb [ref. §60.110b(d)(4)].
Stationary Source-Wide	
18 AAC 50.201 – Ambient Air Quality Investigation	This requirement is not applicable until such time as the Department requests an ambient air quality investigation.
Air Quality Control Permit Nos. 9573-AA016, 9573-AA017, 9573-AA018, 9573-AA019, and 9573-AA020.	Superseded and rescinded upon issuance of this permit, per 18 AAC 50.340(i).
40 CFR 61 – National Emission Standards for Hazardous Air Pollutants	Drilling rigs do not operate emission units affected by NESHAPs under Part 61.
40 CFR 61 Subpart A - General Provisions	Requirements only apply to emission units subject to any provision of 40 CFR 61.
40 CFR 61 Subpart M – National Emission Standards for Asbestos	Stationary source does not operate any emission unit, or engage in any activity specified by §§61.142 through 61.151, §61.154, and §61.155.
40 CFR 61 Subpart V – National Emission Standard for Equipment Leaks (Fugitive Emissions Emission units)	Stationary source has no process components in volatile hazardous air pollutant (VHAP) service, as defined by subpart (≥10 percent VHAP by weight).
40 CFR 63 – National Emission Standards for Hazardous Air Pollutants for Emission unit Categories	Drill rigs are not major emission units of HAPs, as defined in 40 CFR §63.2.
40 CFR 64 – Compliance Assurance Monitoring	No pollutant-specific emission unit uses a control device to achieve compliance with any emission limitation or standard.
40 CFR 68 - Accidental Release Prevention Requirements: Risk Management Programs [§ 112(r)]	"Naturally occurring hydrocarbon mixtures" (crude oil, condensate, natural gas and produced water), prior to entry into a petroleum refining process unit (NAICS code 32411) or a natural gas processing plant (NAICS code 211112) are exempt from the threshold determination. (See Final Rule exempting from threshold determination regulated flammable substances in naturally occurring hydrocarbon mixtures prior to initial processing, 63 FR 640 [January 6, 1998]). Less than 10,000 lbs. of other mixtures containing regulated flammable substances that meet the criteria for an NFPA rating of 4 for flammability are stored at the stationary source. Therefore, the drilling rigs do not process or store regulated flammable or toxic substances in excess of threshold quantities.
40 CFR 82 - Protection of Stratospheric Ozone	Drilling rigs do not handle Class l or Group I or II substances or products (including Halon and Halon blends).

[18 AAC 50.350(l), 1/18/97]

Section 14. ***Visible Emissions Forms***

Visible Emissions Field Data Sheet

Certified Observer: _____

Company &
Stationary source: _____

Location: _____

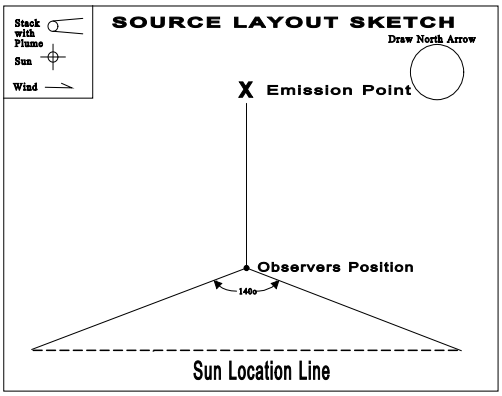
Test No.: _____ Date: _____

Emission unit: _____

Operating Rate: _____

_____

_____



Clock Time	Initial				Final
Observer location Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description: Color					
Distance visible					
Water droplet plume? (Attached or detached?)					
Other information					

Visible Emissions Observation Record

Page ___ of ___

Company & Stationary source_____ Certified Observer_____

Test Number _____ Clock time_____

Date:		Visibility reduction every 15 Seconds (Opacity)				Steam Plume (check if applicable)		Comments
Hr	Min	0	15	30	45	Attached	Detached	

Additional information:

_____ _____

Observer Signature and Date Certified By and Date

Data Reduction:

Duration of Observation Period (minutes) _____ Duration Required by Permit (minutes)_____
Number of Observations _____ Highest Six –Minute Average Opacity (%)_____
Number of Observations exceeding 20 % _____
In compliance with three-minute aggregate opacity limit? (Yes or No) _____
In compliance with six-minute opacity limit? (Yes or No) _____

Average Opacity Summary

Set Number	Time Start—End	Opacity	
		Sum	Average

Section 15. *SO_2 Material Balance Calculation*

If a fuel shipment contains more than 0.75 percent sulfur by weight, calculate the three-hour exhaust concentration of SO_2 using the following equations:

A = 31,200 X [wt%S_{fuel}] = 31,200 X _____ = _____

B = 0.148 X [wt%S_{fuel}] = 0.148 X _____ = _____

C = 0.396 X [wt%C_{fuel}] = 0.396 X _____ = _____

D = 0.933 X [wt%H_{fuel}] = 0.933 X _____ = _____

E = B + C + D = _____ + _____ + _____ = _____

F = 20.9 – [vol%$_{dry}O_{2,\ exhaust}$] = 20.9 - _____ = _____

G = [vol%$_{dry}O_{2,\ exhaust}$] ÷ F = _____ ÷ _____ = _____

H = 1 + G = 1 + _____ = _____

I = E x H = _____ x _____ = _____

SO_2 concentration = A ÷ I = _____ ÷ _____ = _____ ppm

The wt%S_{fuel}, wt%C_{fuel}, and wt%H_{fuel} are equal to the weight percents of sulfur, carbon, and hydrogen in the fuel. These percentages should total 100%.

The fuel weight percent (wt%) of sulfur is obtained pursuant to Condition 5.1. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust (vol%$_{dry}O_{2,\ exhaust}$) is obtained from oxygen meters, manufacturer's data, or from the most recent analysis under 40 C.F.R. 60, Appendix A-2, Method 3, adopted by reference in 18 AAC 50.040(a), at the same engine load used in the calculation.

Enter all of the data in percentages without dividing the percentages by 100. For example, if **wt%S_{fuel}** = 1.0%, then enter 1.0 into the equations, not 0.01, and if **vol%$_{dry}O_{2,\ exhaust}$** = 3.00%, then enter 3.00, not 0.03.

[18 AAC 50.346(c), 5/3/02]
[18 AAC 50.350(g), 1/18/97, 18 AAC 50.346(c), 5/3/02]

Section 16. ***Approved Drilling Rigs***

Equipment Type	Drill Rig								
				Doyon 14					
				Equipment	Rating	Units			
Engines				Cat D399	1212	bhp			
				Cat D399	1212	bhp			
				Cat D399	1212	bhp			
				Cat D966	225	bhp			
				GMC Lincoln	75	bhp			
				Wauk VRD 3304	95	bhp			
				Cat D379	612	bhp			
				Cat D379	612	bhp			
Boilers and Heaters				Boiler	100	hp			
				Boiler	100	hp			
				Heater	100	hp			

Equipment Type	Drill Rig								
	Doyon 16			Doyon 19			Doyon 141		
	Equipment	Rating	Units	Equipment	Rating	Units	Equipment	Rating	Units
Engines	Cat D398	825	bhp	Cat D398TA	700	kW	Cat D399	1215	bhp
	Cat D398	825	bhp	Cat D399TA	976	kW	Cat D399	1215	bhp
	Cat D398	825	bhp	Cat D398TA	700	kW	Cat D399	1215	bhp
	Cat D3406	350	bhp	Cat D398TA	700	kW	Cat D379	600	bhp
	Cat D3406	350	bhp	Cat D399TA	976	kW	Cat D379	600	bhp
	Lister ST3A	40	bhp	Cat D398TA	700	kW	Cat D353	435	bhp
				Cat 3176	180	kW	Lister	80	bhp
				Cat 3176	180	kW	Lister	40	bhp
							Lister	40	bhp
							Lister	40	bhp
							Lister	80	bhp
							Deutz F8L912	44	bhp
Boilers and Heaters	Boiler	100	hp	Boiler	100	hp	Boiler	100	hp
	Boiler	100	hp	Boiler	100	hp	Boiler	100	hp
	Heater	4	MMBtu/hr	Heater	4.2	MMBtu/hr	Heater	3.5	MMBtu/hr
				Heater	3.5	MMBtu/hr	Heater	4.2	MMBtu/hr
				Heater	4	MMBtu/hr	Heater	0.6	MMBtu/hr

Approved Drill Rigs (Continued)

Equipment Type	Drill Rig								
	Nabors 2ES			Nabors 33E			Nabors 4ES		
	Equipment	Rating	Units	Equipment	Rating	Units	Equipment	Rating	Units
Engines	Cat D398	912	bhp	Cat D399	1050	kW	Cat 3412	831	bhp
	Cat D398	912	bhp	Cat D399	1050	kW	Cat 3412	831	bhp
	Cat D399	912	bhp	Cat D399	1050	kW	Cat 3412	831	bhp
	Cat D3304	135	bhp	Cat D399	1050	kW	Cat 3306	208	bhp
	Cat D353	314	bhp	Cat D353	300	kW	Deere 245	56	bhp
				Cat D353	300	kW	Cummins 130	84	bhp
				Cat D3304	90	kW	Cat 3304	121	bhp
				Cat D3304	90	kW	Perkins 330	84	bhp
							Detroit 2250015	60	bhp
Boilers and Heaters	Boiler	150	hp	Boiler	100	hp	Boiler	24	gph
	Boiler	150	hp	Boiler	100	hp	Boiler	24	gph
	Heater	2.5	MMBtu/hr	Heater	3.5	MMBtu/hr	Heater	30	gph
	Heater	0.23	MMBtu/hr	Heater	3.5	MMBtu/hr	Heater	30	gph
	Heater	0.23	MMBtu/hr	Heater	14.5	gph	Heater	18	gph
							Heater	1.65	gph
							Heater	1.65	gph

Equipment Type	Drill Rig								
	Nabors 14E (Pool 4)								
	Equipment	Rating	Units						
Engines	Cat D398	600	kW						
	Cat D398	600	kW						
	Cat D398	600	kW						
	Cat D398	600	kW						
	Cat D398	600	kW						
	Cat D353	300	kW						
	Cat D353	300							
Boilers and Heaters	Boiler	100	hp						
	Boiler	100	hp						
	Heater	3.5	MMBtu/hr						
	Heater	3.5	MMBtu/hr						

Approved Drill Rigs (Continued)

Equipment Type	Drill Rig								
	Nabors 19E						Nabors 27E		
	Equipment	Rating	Units				Equipment	Rating	Units
Engines	Unknown	1350	bhp				Cat D399TA	1000	bhp
	Unknown	1350	bhp				Cat D399TA	1000	bhp
	Unknown	1350	bhp				Cat D399TA	1000	bhp
	Unknown	252	bhp				Cat D399TA	1000	bhp
	Unknown	120	bhp				Cat D3304	135	bhp
							Cat D3306TA	200	bhp
							Cat D3304	135	bhp
							Wauk VRD330	79	bhp
							Wauk VRD31	61	bhp
							Cat D3304	200	bhp
							Perkins JA306	102	bhp
Boilers and Heaters	Boiler	4.5	MMBtu/hr				Boiler	30	gph
	Boiler	4.5	MMBtu/hr				Boiler	45	gph
	Heater	0.42	MMBtu/hr				Heater	30	gph
	Heater	0.42	MMBtu/hr				Heater	18	gph
	Heater	2.5	MMBtu/hr				Heater	3	gph
							Heater	3	gph

Approved Drill Rigs (Continued)

Equipment Type	Drill Rig								
	Nordic 1			Nordic 2			Nordic 3		
	Equipment	Rating	Units	Equipment	Rating	Units	Equipment	Rating	Units
Engines	Cat 3412 DITA	1,011	Bhp	Cat 3412	700	bhp	Cat 3512	1450	bhp
	Cat 3412 DITA	1,011	Bhp	Cat 3412	700	bhp	Cat 3512	1450	bhp
	Cat 3406	400	Bhp	Cat 3412	700	bhp	Cat 3512	1450	bhp
							Cat 3406	600	bhp
							Cat 3406	600	bhp
Boilers and Heaters	Boiler	60	Hp	Boiler	80	hp	Boiler	80	hp
	Boiler	60	Hp	Boiler	80	hp	Boiler	80	hp
	Heater	4.4	MMBtu/hr	Heater	4.5	MMBtu/hr	Heater	4.2	MMBtu/hr

Equipment Type	Drill Rig								
	Nabors 7ES			Nabors 9ES			Nabors 3S		
	Equipment	Rating	Units	Equipment	Rating	Units	Equipment	Rating	Units
Engines	Cat 3512B	1477	Bhp	Cat 3512B	1477	bhp	Cat 3408	475	Bhp
	Cat 3512B	1477	Bhp	Cat 3512B	1477	bhp	Cat 3408	475	Bhp
							Cat 3408B	365	kW
	Cat 3412	831	Bhp	Cat 3412	831	bhp	Cat 3408B	365	kW
							Cat 3304	125	kW
Boilers and Heaters	Boiler	150	Hp	Boiler	150	hp	Boiler	100	Hp
	Boiler	150	Hp	Boiler	150	hp	Boiler	100	Hp
	Heater	2.5	MMBtu/hr	Heater	2.5	MMBtu/hr	Heater	1.7	MMBtu/hr
	Heater	0.23	MMBtu/hr	Heater	0.23	MMBtu/hr			
	Heater	0.23	MMBtu/hr	Heater	0.23	MMBtu/hr			

Equipment Type	Drill Rig								
	Nabors 16E			Doyon 15			Doyon Arctic Fox		
	Equipment	Rating	Units	Equipment	Rating	Units	Equipment	Rating	Units
Engines	Cat 398	900	Bhp	Cat 3516	2300	Bhp	Cat 3412	625	Bhp
	Cat 398	900	Bhp	Cat 3516	2300	Bhp	Cat 3412	625	Bhp
	Cat 398	900	Bhp	Cat 3516	2300	Bhp	Cat 3412	625	Bhp
	Cat 398	900	Bhp	Cat D399	1140	Bhp	Detroit 60	685	Bhp
	Cat 398	900	Bhp	Cat 3404	75	Bhp	Detroit 60	685	Bhp
	Cat 3304	125	kW				Detroit 14L60	600	Bhp
	Cat 3304	125	kW						
	Cat 3304	125	kW						
Boilers and Heaters	Boiler	100	Hp	Boiler	100	Hp	Boiler	100	Hp
	Boiler	100	Hp	Boiler	100	Hp	Boiler	100	Hp
	Boiler	100	Hp	Heater	4.3	MMBtu/hr	Heater	2.5	MMBtu/hr
	Heater	1.7	MMBtu/hr	Heater	4.3	MMBtu/hr			
	Heater	1.7	MMBtu/hr						

Equipment Type	Drill Rig								
	Doyon 25			Parker 272			Parker 273		
	Equipment	Rating	Units	Equipment	Rating	Units	Equipment	Rating	Units
Engines	Cat 3516HDC	2150	bhp	Cat 3516C HD	2150	bhp	Cat 3516C HD	2150	bhp
	Cat 3516HDC	2150	bhp	Cat 3516C HD	2150	bhp	Cat 3516C HD	2150	bhp
	Cat 3516HDC	2150	bhp	Cat 3516C HD	2150	bhp	Cat 3516C HD	2150	bhp
	Cat C-6.6 D-175	275	bhp	Cat C32 Tier 2	1502	bhp	Cat C32 Tier 2	1502	bhp
	Cat C-6.6 D-175	275	bhp	Cat C32 Tier 2	1502	bhp	Cat C32 Tier 2	1502	bhp
	Cat C-6.6 D-175	275	bhp	Cat 18 Tier 2	870	bhp	Cat 18 Tier 2	870	bhp
	Cat C-6.6 D-175	275	bhp	Cat 18 Tier 2	870	bhp	Cat 18 Tier 2	870	bhp
	Cat C-6.6 D-175	275	bhp						
	Cat C-6.6 D-175	275	bhp						
	Cat C-9	369	bhp						
	Cat C-27	1214	bhp						
	Cat C-27	1214	bhp						
	Cat C-27	1214	bhp						
	Cat C- 6.6 D-150	230	bhp						
	Cat C- 6.6 D-150	230	bhp						
	Cat C- 6.6 D-150	230	bhp						
	Deere	70	bhp						
Boilers and Heaters	Boiler	150	Boiler hp	Boiler	200	Boiler hp	Boiler	200	Boiler hp
	Heater	5	MMBtu/hr	Boiler	200	Boiler hp	Boiler	200	Boiler hp
	Heater (2)	3	MMBtu/hr	Heater	4.2	MMBtu/hr	Heater	4.2	MMBtu/hr
	Heater (3)	2	MMBtu/hr	Heater	4.2	MMBtu/hr	Heater	4.2	MMBtu/hr
				Heater	4.2	MMBtu/hr	Heater	4.2	MMBtu/hr

Use of an alternative drilling rig will require a permit revision in accordance with 18 AAC 50.370. Requests for the use of an alternative drill rig will qualify under 18 AAC 50.370(a)(5) provided the alternative drilling rig will operate according to the fuel use and fuel sulfur restrictions contained in Section 5 and Section 6 of this permit.

Section 17. ***ADEC Notification Form***

Fax this form to: (907) 451-2187 Telephone: (907) 451-5173

BP Exploration (Alaska) Inc.
Company Name

Transportable Drilling Rigs
Stationary Source Name

Reason for notification:

❑ **Excess Emissions**
If you checked this box
Fill out section 1

❑ **Other Deviation from Permit Condition**
If you checked this box
fill out section 2

When did you discover the Excess Emissions or Other Deviation:
Date:__/__/__ Time:__:__

Section 1. Excess Emissions

(a) Event Information (Use 24-hour clock):

	START Time: (hr:min):	**END** Time:	**Duration**
Date: _____	_____:_____	_____:_____	_____:_____
Date: _____	_____:_____	_____:_____	_____:_____
		Total:	_____:_____

(b) Cause of Event (Check all that apply):

❑ START UP ❑ UPSET CONDITION ❑ CONTROL EQUIPMENT
❑ SHUT DOWN ❑ SCHEDULED MAINTENANCE ❑ OTHER _____

Attach a detailed description of what happened, including the parameters or operating conditions exceeded.

(c) Emission units Involved:

Identify each emission unit involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.

Emission Unit ID No.	Control Device	Emission unit Name	Description
_____	_____	_____	_____
_____	_____	_____	_____

(d) Emission Limit Potentially Exceeded

Identify each emission standard potentially exceeded during the event. Attach a list of ALL known or suspected injuries or health impacts. Identify what observation or data prompted this report. Attach additional sheets as necessary.

Permit Condition	Limit	Emissions Observed
_____	_____	_____
_____	_____	_____

(e) Excess Emission Reduction:

Attach a description of the measures taken to minimize and/or control emissions during the event.

(f) Corrective Actions:

Attach a description of corrective actions taken to restore the system to normal operation and to minimize or eliminate chances of a recurrence.

(g) 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

Section 2. Other Permit Deviations

(a) Emission units Involved:

Identify each emission unit involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.

Emission unit ID No.	Control Device	Emission unit Name	Description

(b) Permit Condition Deviation:

Identify each permit condition deviation or potential deviation. Attach additional sheets as necessary.

Permit Condition	Potential Deviation

(c) Corrective Actions:

Attach a description of actions taken to correct the deviation or potential deviation and to prevent recurrence.

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: Signature: Date: