

United States Environmental Protection Agency  
Region 10  
1200 Sixth Avenue  
Seattle, Washington 98101

AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
FOR OIL AND GAS EXPLORATION, DEVELOPMENT, AND PRODUCTION FACILITIES

In compliance with the provisions of the Clean Water Act, 33 U.S.C. 1251 et seq., the "Act", the following discharges are authorized in accordance with this National Pollutant Discharge Elimination System ("NPDES"):

<u>Discharge</u>	<u>Discharge Number</u>
Drilling Mud & Cuttings	001
Deck Drainage	002
Sanitary Wastes	003
Domestic Wastes	004
Desalination Unit Wastes	005
Blowout Preventer Fluid	006
Boiler Blowdown	007
Fire Control System Test Water	008
Non-Contact Cooling Water	009
Uncontaminated Ballast Water	010
Bilge Water	011
Excess Cement Slurry	012
Mud, Cuttings, Cement at Seafloor	013
Waterflooding Discharges	014
Produced Water	015
Completion Fluids	016
Workover Fluids	017
Well Treatment Fluids	018
Test Fluids	019

from oil and gas development and production facilities to state waters north of the Forelands in Upper Cook Inlet, and from exploratory facilities to all state and federal waters in Cook Inlet north of the line between Cape Douglas (at 58°51' North, 153° 15' West) on the west and Port Chatham (at 59°13' North, 151° 47' West) on the east (Figure 1). These development and production facilities are classified in the Coastal Subcategory of the Oil and Gas Extraction Point Source Category, as defined in 40 CFR Part 435, Subpart D. Exploratory facilities are classified in the Offshore and Coastal Subcategories as defined in 40 CFR Part 435, Subparts A and D. Discharges must be in accordance with effluent limitations, monitoring and reporting requirements, and other conditions set forth in Parts I through VII herein.

Permittees who are not granted coverage under this general permit as described in Part I are not authorized to discharge to the specified waters unless an individual permit has been issued to the Permittee by EPA, Region 10. Discharges from facilities in the Onshore Subcategory (40 CFR Part 435, Subpart C), or to wetlands adjacent to the territorial seas and inland coastal waters of the State of Alaska, are not authorized under this permit.

During the effective period of this permit, operators authorized to discharge under the general permit are authorized to discharge the enumerated pollutants subject to the restrictions set forth herein. This permit does not authorize the discharge of any waste streams, including spills and other unintentional or non-routine discharges of pollutants, that are not part of the normal operation of the facility, or any pollutants that are not ordinarily present in such waste streams.

The facilities listed below are authorized to discharge under this permit. The conditions of the previous permit become null and void upon the effective date of this permit.

<u>Operator</u>	<u>Facility</u>	<u>NPDES Permit No.</u>
Unocal	Granite Point Production Facility	AKG285001
Unocal	Trading Bay Treatment Facility	AKG285002
Cross Timbers	East Foreland Treatment Facility	AKG285003
Unocal	Platform Anna	AKG285004
Unocal	Platform Baker	AKG285005
Unocal	Platform Bruce	AKG285006
Unocal	Platform Dillon	AKG285007
Unocal	King Salmon Platform	AKG285008
Unocal	Dolly Varden Platform	AKG285009
Marathon	Spark Platform	AKG285010
Phillips	Platform A (Tyonek Platform)	AKG285011
Cross Timbers	Platform A	AKG285012
Cross Timbers	Platform C	AKG285013
Marathon	Spurr Platform	AKG285014
Unocal	Granite Point Platform	AKG285015
Unocal	Grayling Platform	AKG285016
Unocal	Monopod Platform	AKG285017
ARCO	Fire Island (Exploratory Well)	AKG285018 -INACTIVE
Unocal	Steelhead Platform	AKG285019
Marathon	Steelhead (Blowout Relief Well)	AKG285020 -INACTIVE
ARCO	Sturgeon (Exploratory Well)	AKG285021 -INACTIVE
ARCO	Sunfish (Exploratory Well)	AKG285022 -INACTIVE
ARCO	North Forelands (Exploratory Well)	AKG285023 -INACTIVE

This permit may be modified or revoked at any time if, on the basis of any new data, the Director determines that this information would have justified the application of different permit conditions at the time of issuance. Permit modification or revocation will be conducted in accordance with 40 CFR, sections 122.62, 122.63, and 122.64. In addition to any other grounds specified herein, this permit shall be modified or revoked at any time if, on the basis of any new data, the Director determines that continued discharges may cause unreasonable degradation of the marine environment.

This permit does not authorize discharges from "new sources" as defined in 40 CFR 122.2.

This permit shall become effective on April 1, 1999.

This permit and the authorization to discharge shall expire at midnight on April 1, 2004.

Signed this 25th day of February, 1999.

/s/ Randall F. Smith

Randall F. Smith  
Director, Office of Water  
U.S. Environmental Protection Agency, Region 10

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FIGURE

1. Area of Coverage: Cook Inlet Permit AKG285000

## I. NOTIFICATION REQUIREMENTS

### A. New Exploration Facilities

1. **Requests to be Covered by General Permit.** Written request to be covered by this permit must be provided to EPA at least 60 days prior to initiation of discharges. The request must include the following information:
  - a. Name and address of the Permittee.
  - b. General location (lease and block numbers) of operations and discharges.
  - c. Any discharge or operating conditions subject to special monitoring requirements (Part III.B.3.).
2. **Authorization to Discharge.** The Permittee is not authorized to discharge without written notification from EPA that operations at the discharge site have been assigned an NPDES permit number under this general permit. A permit number cannot be assigned until the following information is received. This information must be provided to EPA at least 30 days prior to initiation of discharges.
  - a. Name and location of discharge site, including lease block number and latitude and longitude.
  - b. Range of water depths (below mean lower low water) in the lease block(s), and the depth(s) of discharge(s).
  - c. Initial date(s) and expected duration of operations.
3. **Commencement of Discharges.** The Permittee must notify EPA during the 7-day period prior to initiation of discharges from the platform. The notification must include the exact, final latitude and longitude and water depth of the discharge site, as well as written certification that a Best Management Practices Plan ([Part III.I.1](#)) is complete, on site and available to the Agency upon request. This notification may be oral or in writing; if notification is given orally, written confirmation must follow within 7 days.

### B. New Discharges of Produced Water

1. **Eligibility.** Existing facilities are eligible to obtain authorization to discharge produced water subject to the interim produced water limitations specified at [Part III.F.1.](#) of the permit when produced water discharge is planned, but has not been authorized at [Part I.C.2.](#) of this permit.
2. **Requests to be Covered by General Permit.** Written request to obtain authorization to discharge produced water subject to the interim limitations specified in [Part III.F.](#) must be provided to EPA at least 60 days prior to initiation of discharge. Facilities wishing to obtain such authorization within 60 days of the final effective date of this permit need not comply with the 60-day requirement, but must provide the request as soon as possible prior to initiation of discharge. The request must include the following information:
  - a. Description of eligibility ([Part I.B.1.](#))
  - b. Name and address of the Permittee.
  - c. Name of facility.

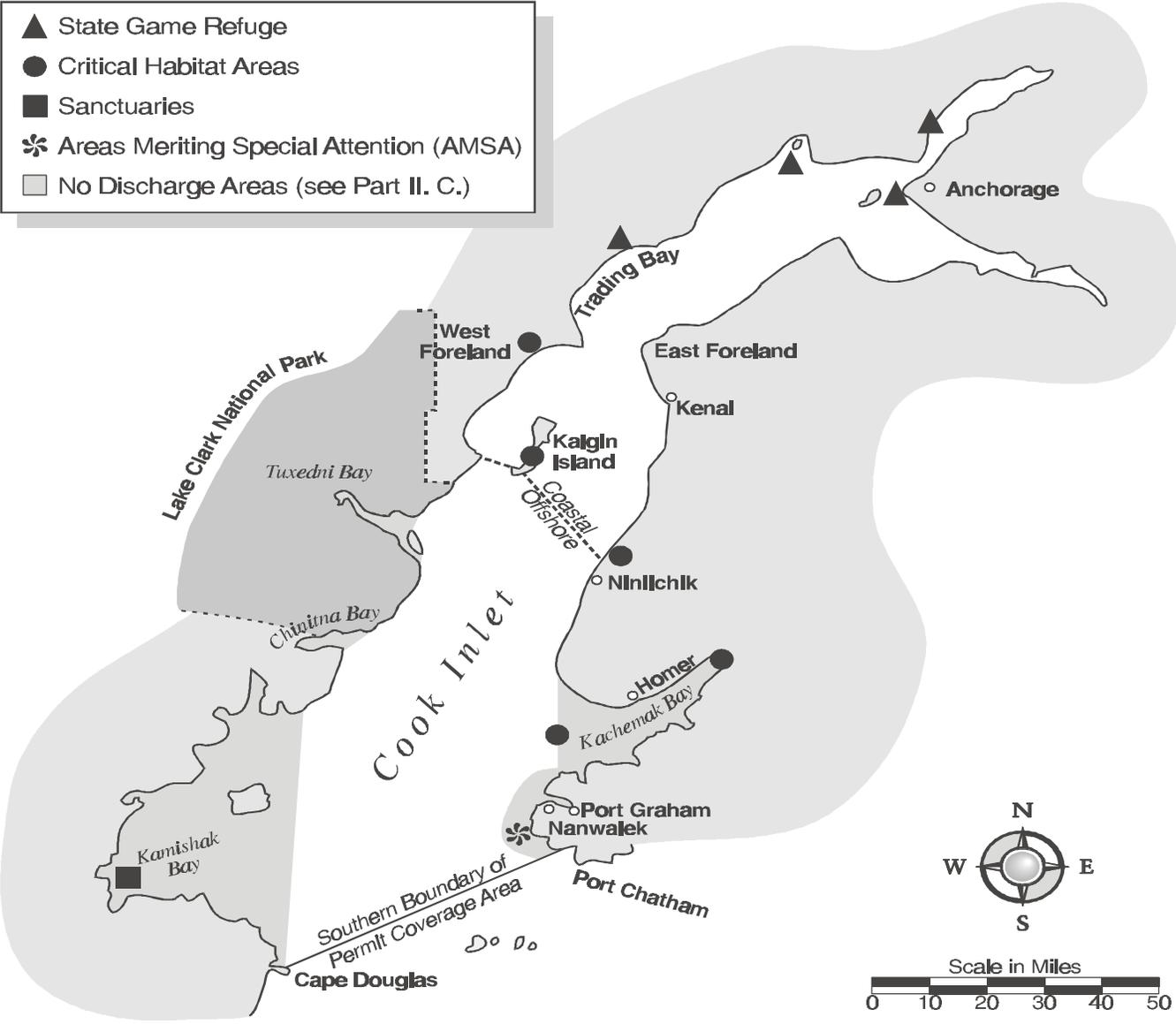


Figure 1  
**Area of Coverage:**  
**Cook Inlet NPDES Permit AKG285000**

- d. Specific location (including latitude and longitude, and section, range, and township) of operations and discharges.
  - e. Water depth at site and depth of discharge(s) with respect to MLLW.
  - f. Daily produced water flow rate.
  - g. Date of commencing discharge and expected duration of operations.
3. **Authorization.** The Permittee is not authorized to discharge produced water subject to the interim produced water limitations without written notification from EPA.
  4. **Commencement of Discharges.** The Permittee must notify EPA within the 7-day period prior to initiation of produced water discharges subject to the interim limitations.

### C. Existing Facilities

1. **Discharges 001-014 and 016-019.** Facilities authorized to discharge under the 1986 Cook Inlet General NPDES permit are automatically authorized to discharge by this general permit as of its effective date. These facilities are listed above. These Permittees need not submit a formal request for authorization to discharge prior to commencement of discharges under this permit.
2. **Discharge 015.** The following facilities are automatically authorized to discharge produced water by this general permit as of its effective date: Granite Point Production Facility, Trading Bay Treatment Facility, East Foreland Treatment Facility, Anna, Baker, Bruce, Dillon, and Platform A (Tyonek). These Permittees need not submit a formal request for authorization to discharge prior to commencement of discharges under this permit.

### D. All Facilities Covered by the Permit

1. **Duty to Reapply and/or Notice of Intent to Continue Activity.** If the Permittee wishes to discharge under the authority of this permit after its expiration date, the Permittee must submit a notice of intent to EPA to do so. The Notice of Intent must be submitted at least 180 days before the expiration date of this permit. An NPDES permit application (EPA Form 3510-2C, Wastewater Discharge Information, Consolidated Permits Program (revised February 1985)) constitutes a complete Notice of Intent. Timely receipt by EPA of a complete Notice of Intent will qualify the Permittee for an administrative extension of its authorization to discharge under this permit pursuant to 5 USC Section 558(c).
2. **Termination of Discharges.** The Permittee must notify EPA within 30 days following cessation of discharges from the discharge site. The notification may be provided in a Discharge Monitoring Report (DMR) or under separate cover.
3. **Submission of Requests to be Covered and Other Reports.** Reports and notifications required herein must be submitted to the following addresses.

All requests for coverage

Director, Water Division  
US EPA, Region 10  
Attn: NPDES Permits Unit, OW-130  
1200 6th Avenue  
Seattle, Washington 98101  
Phone: (206) 553-1583

All monitoring reports and  
notifications of non-compliance

Director, Water Division  
US EPA, Region 10  
NPDES Compliance Unit, OW-133  
1200 6th Avenue  
Seattle, Washington 98101  
Phone: (206) 553-1846

For discharges to state waters only:

Alaska Department of Environmental Conservation

Attn: Watershed Management Section  
555 Cordova Street  
Anchorage, AK 99501

#### **E. Changes from Coverage under General Permit to Coverage under Individual Permit**

1. The Director may require any permittee discharging under the authority of this permit to apply for and obtain an individual NPDES permit when any one of the following conditions exist:
  - a. The discharge(s), including stormwater, is a significant contributor of pollution.
  - b. The Permittee is not in compliance with the conditions of this general permit.
  - c. A change has occurred in the availability of the demonstrated technology or practices for the control or abatement of pollutants applicable to the point source.
  - d. Effluent limitation guidelines are promulgated for point sources covered by this permit.
  - e. The point sources covered by this permit no longer:
    - 1) involve the same or substantially similar types of operations,
    - 2) discharge the same types of wastewaters,
    - 3) require the same effluent limitations or operating conditions, or
    - 4) require the same or similar monitoring.
  - f. In the opinion of the Director, the discharges are more appropriately controlled under an individual permit than under a general NPDES permit.
2. The Director may require any permittee authorized by this permit to apply for an individual NPDES permit only if the Permittee has been notified in writing that an individual permit application is required.
3. Any permittee authorized by this permit may request to be excluded from the coverage of this general permit by applying for an individual permit. The owner or operator must submit an application together with the reasons supporting the request to the Director no later than 90 days after the effective date of the permit.
4. When an individual NPDES permit is issued to a permittee otherwise subject to this general permit, the applicability of this general permit to that owner or operator is automatically terminated on the effective date of the individual permit.

## II. Prohibited Areas of Discharge and Depth-Related Requirements

Discharges from operations in Cook Inlet are prohibited in the cases listed below. Permit applicants should contact EPA if they are uncertain whether or not their discharges will be located in a prohibited area

- A. 10 Meter Isobath.** New dischargers (as defined at 40 CFR 122.2) are prohibited from discharging produced water shoreward of the 10 m isobath (as measured from mean lower low water).
- B. 5 Meter Isobath.** The discharge of all effluents is prohibited shoreward of the 5 m isobath (as measured from mean lower low water) including intertidal areas.
- C. Geographic Restrictions.** All discharges are prohibited in the following areas:
  - 1. Shoreward of the 5.5 m isobath adjacent to either (1) the Clam Gulch Critical Habitat Area (Sales 32, 40, 46A, and 49) or (2) from the Crescent River northward to a point one-half mile north of Redoubt Point (Sales 35 and 49).
  - 2. Within the boundaries or within 1,000 m of a coastal marsh, river delta, river mouth, designated Area Meriting Special Attention, State Game Refuge, State Game Sanctuary, Critical Habitat Area, or National Park. (The seaward edge of a coastal marsh is defined as the seaward edge of emergent wetland vegetation.)

The following Areas Meriting Special Attention (AMSA), State Game Refuges (SGR), State Game Sanctuaries (SGS), Critical Habitat Areas (CHA), and National Park are located in the area covered by this permit:

Palmer Hay Flats SGR	Trading Bay SGR	Goose Bay SGR
Kalgin Island CHA	Potter Point SGR	Clam Gulch CHA
Susitna Flats SGR	Kachemak Bay CHA	McNeil River SGS
Anchorage Coastal Wildlife Refuge		Redoubt Bay CHA
Lake Clark National Park		
Port Graham/Nanwalek AMSA		

The legal descriptions of state specialty areas are found in Alaska Statutes Title 16, Chapter 20. The present boundaries of these state special areas are described in "State of Alaska Game Refuges, Critical Habitat Areas, and Game Sanctuaries," Alaska Department of Fish and Game, Habitat Division, March 1991. Further information can be obtained from the Alaska Department of Fish and Game, Habitat Division, Regional Supervisor, 333 Raspberry Road, Anchorage, Alaska 99518-1599; phone (907) 267-2284 or (907) 267-2342.

- 3. In Kamishak Bay west of line from Cape Douglas to Chinitna point.
- 4. In Chinitna Bay inside of the line between the points on the shoreline at latitude 59°52'45" N, longitude 152°48'18" W on the north and latitude 59°46'12" N, longitude 153°00'24" W on the south (Figure 1).
- 5. In Tuxedni Bay inside of the lines on either side of Chisik Island (Figure 1).
  - a. From latitude 60°04'06" North, longitude 152°34'12" West on the mainland to the southern tip of Chisik Island (latitude 60°05'45" North, longitude 152°33'30" West).
  - b. From the point on the mainland at latitude 60°13'45" North, longitude 152°32'42" West to the point on the north side of Snug Harbor on Chisik Island (latitude 60°06'36" North,

longitude 152°32'54" West).

### III. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The operators must limit discharges as specified in the permit below. All figures represent maximum effluent limits unless otherwise indicated. The Permittee must comply with the following effluent limits at all times unless provided for by this permit (e.g., unanticipated bypass) regardless of the frequency of monitoring or reporting required by other provisions of this permit.

#### A. Representative Sampling (Routine and Non-Routine Discharges).

1. The operators must collect all effluent samples from the effluent stream prior to discharge into the receiving waters. Samples and measurements must be representative of the volume and nature of the monitored discharge.
2. In order to ensure that the effluent limits set forth in this permit are not violated at times other than when routine samples are taken, the operators must collect additional samples at the appropriate outfall(s), and analyze them for the parameters **appropriate to that waste stream**, limited in Parts III.B.-III.I. of this permit, whenever any discharge occurs that may reasonably be expected to cause or contribute to a violation that is unlikely to be detected by a routine sample.
3. The Permittee must collect such additional samples as soon as possible after the spill or discharge. The samples must be analyzed in accordance with the monitoring requirements in Parts III.B.-III.I. of this permit. In the event of an anticipated bypass, as defined in Part V.G. of this permit, the Permittee must collect and analyze additional samples as soon as the bypassed effluent reaches the outfall. The Permittee must report all additional monitoring in accordance with Part IV.D.

**B. Drilling Mud, Drill Cuttings (Discharge 001)**

1. **Effluent Limitations.** In addition to the restrictions set out in Parts III.A., III.B.2-3. and IV, the Permittee must comply with the following effluent limitations and monitoring requirements.

Effluent Characteristic	Discharge Limitation	Monitoring Requirements		Reported Values
		Measurement Frequency	Sample Type/Method	
Flow Rate <sup>1</sup> (Water Depth) > 40 m > 20-40 m 5-20 m < 5 m	1,000 bbl/hr 750 bbl/hr 500 bbl/hr No discharge	Continuous during discharge	Estimate	Maximum hourly rate
Total volume	<u>See note 2.</u>	Daily	Estimate	Monthly total
Toxicity of drilling mud	30,000 ppm SPP minimum	Monthly & End-of-Well	Grab/Drilling Fluids Toxicity Test	Part III.B.2.e.
Free oil	No discharge	Daily & before bulk discharges	Grab/Static Sheen Test Part III.B.2.d.	Number of days sheen observed
Oil-based fluids, Synthetic based fluids, Enhanced Mineral Oil-based fluids	No discharge	-- N/A --	-- N/A --	-- N/A --
Diesel oil	No discharge	End-of-well, and at failure of static sheen	Grab/GC Part III.B.2.c.	Presence or absence
Metals	-- N/A --	Once per mud system	Part III.B.2.f.	Part III.B.2.f.
Mercury & cadmium in barite	1 mg/kg Hg 3 mg/kg Cd	Once per well	Part III.B.2.g.	mg/kg dry wt.

<sup>1</sup> Maximum flow rate of total muds and cuttings includes predilutant water; water depths are measured from mean lower low water.

<sup>2</sup> Report total volumes for all types of operations (exploratory, production and development). For exploratory operations, drilling discharges are limited to no more than five wells at a single drilling site. If a step-out or sidetracked well is drilled from a previously drilled hole, the step-out well is counted as new well. Dual lateral, which involve drilling a primary well bore and kicking off a second leg, are considered to be one well. Requests to discharge from more than five wells per site will be considered by the Water Division Director on a case-by-case basis.

a. Mineral Oil Pills.

- 1) The discharge of residual amounts of mineral oil pills (mineral oil plus additives) is authorized by the permit provided that the mineral oil pill and at least a 50 bbl buffer of drilling fluid on either side of the pill are removed from the circulating drilling fluid system and not discharged to waters of the United States. If more than one pill is applied to a single well, the previous pill and buffer must be removed prior to application of a subsequent pill.
- 2) Residual mineral oil concentration in the discharged mud must not exceed 2% volume/volume (API Recommended Practice 13-1, 1990) (see Part III.B.2.c.). If

drilling mud containing residual mineral oil pill (after pill and buffer removal) is discharged, the following information must be reported within 60 days of the discharge:

- (a) dates of pill application, recovery, and discharge;
- (b) results of the Drilling Fluids Toxicity Test on samples of the mud before each pill is added and after removal of each pill and buffer (taken when residual mineral oil pill concentration is expected to be greatest);
- (c) name of spotting compound and mineral oil product used;
- (d) Volumes of spotting compound, mineral oil, water, and barite in the pill;
- (e) Total volume of mud circulating prior to pill application, volume of pill formulated, and volume of pill circulated;
- (f) Volume of pill recovered, volume of mud buffer recovered, and volume of mud circulating after pill and buffer recovery;
- (g) Percent recovery of the pill (include calculations);
- (h) Estimated concentrations of residual spotting compound and mineral oil in the sample of mud discharged, as determined from amounts added and total mud volume circulating prior to pill application;
- (i) Measured oil content of the mud samples, as determined by the API retort method; and
- (j) An itemization of other drilling fluid components and specialty additives contained in the discharged mud with concentrations reported in gal/bbl or lb/bbl.

2. **Monitoring and Reporting Requirements.** Monitoring must be conducted according to test procedures approved under 40 CFR 136, unless other test procedures are specified here or elsewhere in this permit. Representative sampling requirements are discussed in Part III.A.

a. Chemical Inventory. For each mud system discharged, the Permittee must maintain a precise chemical inventory of all constituents added downhole, including all drilling mud additives used to meet specific drilling requirements. The Permittee must maintain these records for each mud system for a period of five years, and must make these records available to the EPA upon request.

b. End of Well Reports. End of well reports contain the information required in parts c-f below, and must be submitted within 90 days of well completion.

c. Diesel Oil.

1. Compliance with the limitation on diesel oil must be demonstrated by gas chromatography (GC) analysis of drilling mud collected from the mud used at the greatest well depth ("end-of-well" sample) and of any muds or cuttings which fail the daily Static Sheen Test (Part III.B.2.d. below). In all cases, the determination of the presence or absence of diesel oil must be based on a comparison of the GC spectra of the sample and of diesel oil in storage at the facility. The method for GC analysis must be that described in "Analysis of Diesel Oil in Drilling Fluids and Drill

Cuttings" (CENTEC, 1985) available from EPA, Region 10. Gas chromatography/mass spectrometry (GC/MS) may be used if an instance should arise where the operator and EPA determine that greater resolution of the drilling mud "fingerprint" is needed for a particular drilling mud sample.

2. Reporting. The results and raw data, including the spectra, from the GC analysis must be provided to the Director by written report (1) within 30 days of a positive result with the Static Sheen Test when a discharge has occurred, or (2) for the end-of-well analysis, within 90 days of well completion.

d. Static Sheen Test.

1. The Permittee must perform the Static Sheen Test on separate samples of drilling muds and cuttings, as required in Appendix 1 to Subpart A of 40 CFR Part 435. Samples must be collected on each day of discharge and prior to bulk discharges.
2. The test must be conducted in accordance with "Approved Methodology: Laboratory Sheen Tests for the Offshore Subcategory, Oil and Gas Extraction Industry" which is Appendix 1 to Subpart A of 40 CFR Part 435. For discharge below ice or during periods of unstable or broken ice, water temperature for the Static Sheen Test must approximate surface water temperatures at ice breakup.
3. Whenever muds or cuttings fail the Static Sheen Test and a discharge has occurred in the past 24 hours, the Permittee is required to analyze an undiluted sample of the material which failed the test to determine the presence or absence of diesel oil. The determination and reporting of results must be performed according to Part III.B.2.c. above.

e. Toxicity test for drilling fluids.

1. If no mineral oil is used (Part III.B.1.a.), a toxicity test must be conducted monthly to determine compliance with the drilling fluid toxicity limit. At the end-of-well, a sample must be collected for toxicity testing. This sample can also serve as the monthly monitoring sample.
2. The Permittee must complete a minimum of two toxicity tests on each mud system where a mineral oil lubricity or spotting agent is used. One sample must be collected before applying the pill and one after removing the pill (see Part III.B.1.a.(2)). The "after pill" sample test results can be used as the monthly monitoring sample. If the well is completed within 96 hours of collection of the "after pill" drilling mud sample, then these test results can also serve as the end-of-well test.
3. The testing and reporting of drilling fluid toxicity test results must be in accordance with Appendix 2 to Subpart A of 40 CFR Part 435 (Drilling Fluids Toxicity Test) using either the full or partial toxicity test. If the partial toxicity test shows a failure, however, all testing of future samples from that well shall be conducted using the full toxicity test method to determine the 96-hour LC50. Results of drilling fluid toxicity tests (in terms of pass/fail or 96-hr LC50 value) must be reported on the DMRs, and complete copies of the test reports must be attached to the DMR.

f. Metals analysis.

1. The Permittee shall analyze each discharged mud system for the following metals: barium, cadmium, chromium, copper, mercury, zinc, and lead. Analyses for total recoverable concentrations shall be conducted and reported for each metal utilizing

the methods specified in 40 CFR 136. The results shall be reported in “mg/kg of whole mud (dry weight)” and the moisture content (percent by weight) of the original drilling mud sample shall be reported.

2. Samples shall be collected when the residual mineral oil concentration is at its maximum value (see Part III.B.1.a.). If no mineral oil is used, the analysis shall be done on a drilling mud sample collected from the mud system used at the greatest well depth. All samples shall be collected prior to any predilution. Each drilling mud sample shall be of sufficient size to allow for both the chemical testing described here and toxicity testing described above in Part III.B.2.e.

g. Mercury and cadmium content of barite.

1. The Permittee must analyze a representative sample of stock barite once prior to drilling each well and submit the results for total mercury and total cadmium in the DMR upon well completion. Analyses must be conducted by absorption spectrophotometry and results expressed as mg/kg (dry weight) of barite.
2. If more than one well is drilled at a site, new analyses are not required for subsequent wells if no new supplies of barite have been received since the previous analysis. In this case, the DMR should state that no new barite was received since the last reported analysis. Operators may provide certification, as documented by the supplier(s), that the barite meets the above limits. The concentration of mercury and cadmium in stock barite must be reported on the DMR as documented by the supplier.

3. **Environmental Monitoring Requirements**

- a. Within 4000 m of sensitive areas. Monitoring of the fate and effects of drilling muds and/or cuttings discharges are required for new exploration facilities when the location of the discharges is within 4000 m of an area such as a coastal marsh, river delta, river mouth, designated AMSA, game refuge, game sanctuary, critical habitat area, or National Park. Discharges are prohibited within 1000 m of sensitive areas (see Part II.C.2.).
- b. Environmental Monitoring Study. If monitoring is required by Part III.B.3.a., the Permittee must submit a plan of study for environmental monitoring to EPA for review with, or prior to, submission of a written request for authorization to discharge (Parts I.A. and I.B.).
- c. Objectives. The objectives of the environmental monitoring must be to:
  - 1) monitor for discharge-related impacts,
  - 2) determine statistically significant changes in sediment pollutant concentrations and sediment toxicity with time and distance from the discharge,
  - 3) monitor for discharge related impacts to the benthic community,
  - 4) assess whether any impacts warrant an adjustment of the monitoring program, and
  - 5) provide information for permit reissuance.
- d. Requirements. The monitoring must include, but not be limited to, relevant hydrographic, sediment hydrocarbon, and heavy metal data from surveys conducted

before and during drilling mud disposal and up to a least one year after drilling operations cease. The monitoring plan must address:

- 1) the monitoring objectives,
- 2) appropriate null and alternate test hypotheses,
- 3) a statistically valid sampling design,
- 4) all monitoring procedures and methods,
- 5) a quality assurance/quality control program,
- 6) a detailed discussion of how data will be used to meet, test and evaluate the monitoring objectives, and
- 7) a summary of the results of previous environmental monitoring as they apply to the proposed program plan.

e. Reporting Requirements.

- 1) The Permittee must analyze the data and submit a draft report within 180 days following the completion of sample collection. The report must address the environmental monitoring objectives by using appropriate descriptive and analytical methods to test for and to describe any impacts of the effluent on sediment pollutant concentrations, sediment quality, water quality and/or the benthic community. The report must include all relevant quality assurance/quality control (QA/QC) information, including but not limited to instrumentation, laboratory procedures, detection limits/precision requirements of the applied analyses, and sample collection methodology.
- 2) The EPA will review the draft report in accordance with the environmental monitoring objectives and evaluate it for compliance with the requirements of the permit. If revisions to the report are required, the Permittee must complete them and submit the final report to EPA within two months of the Director's request. The Permittee will be required to correct, repeat and/or expand environmental monitoring programs which have not fulfilled the requirements of the permit.

f. Modification of Monitoring Program. The monitoring program may be modified if EPA determines that it is appropriate. The modified program may include changes in sampling stations, sampling times, and/or parameters.

g. Exemption. Region 10 may grant a written exemption to this requirement if the Permittee can satisfactorily demonstrate that information on the fate and effects of the discharge is available and/or the discharge will not have significant impacts on the area of biological significance. An exemption to post-drilling monitoring will be granted if no impact was indicated during drilling. An exemption request must be submitted to the EPA for review with, or prior to, submission of a written request for authorization to discharge (Parts I.A. and I.B.).

**C. Deck Drainage (Discharge 002)**

- Effluent Limitations.** In addition to the restrictions set out in Parts III.A., III.C.2-5. and IV, the Permittee must comply with the following effluent limitations and monitoring requirements.

Effluent Characteristic	Discharge Limitation	Monitoring Requirements		Reported Values
		Measurement Frequency	Sample Type/Method	
Flow rate (MGD)	-- N/A --	Monthly	Estimate	Monthly avg.
Free oil	No discharge	Daily, during discharge	Visual/Sheen on receiving water or Static Sheen <sup>1</sup>	Number of days sheen observed
Whole effluent toxicity <sup>2</sup>	-- N/A --	Once during the first year the Permittee is covered by the permit <sup>3</sup>	Part III.F.7.b.	TU <sub>c</sub> <sup>4</sup>

<sup>1</sup> If discharge occurs during broken or unstable ice conditions, or during stable ice conditions, the Static Sheen Test must be used (see Appendix 1 to 40 CFR part 435, subpart A).

<sup>2</sup> Contaminated deck drainage must be processed through an oil-water separator prior to discharge and samples for that portion of the deck drainage collected from the separator effluent must be sampled for WET testing.

<sup>3</sup> Sample must be collected during a significant rainfall or snowmelt. If discharge of deck drainage separate from produced water is initiated after the first year of the permit, sampling must occur during the year following the initiation of separate deck drainage discharge.

<sup>4</sup> With the final report for each test, the following must also be reported: date and time of sample, the type of sample (i.e., rainfall or snowmelt), estimate of daily flow and basis for the estimate (e.g., turbine meters, monthly precipitation, estimated washdown).

- Drains.** Area drains for either washdown or rainfall that may be contaminated with oil and grease must be separated from those area drains that would not be contaminated. The contaminated deck drainage must be processed through an oil-water separator prior to discharge and samples for that portion of the deck drainage collected from the separator effluent must be tested for sheen.
- Commingled Wastestreams.** If deck drainage is commingled with produced water, then this discharge must be considered produced water for monitoring purposes (Part III.F.). The estimated deck drainage flow rate must be reported in the comment section of the DMR.
- Unstaffed Facilities.** Monitoring of unstaffed facilities is not required. Written notification that a facility is no longer staffed must be provided to EPA prior to terminating monitoring requirements.
- Monitoring Requirements.** Monitoring must be conducted according to test procedures approved under 40 CFR 136, unless other test procedures are specified here or elsewhere in this permit. Representative sampling requirements are discussed in Part III.A.

**D. Sanitary Wastes and Domestic Wastes (Discharges 003, 004)**

1. **Effluent Limitations.** In addition to the restrictions set out in Parts III.A., III.D.2-3. and IV, the Permittee must comply with the following effluent limitations and monitoring requirements.

Effluent Characteristic	Discharge Limitation	Monitoring Requirements		
		Measurement Frequency	Sample Type/Method	Reported Values
<b>All Discharges (003, 004)</b>				
Flow Rate	NA	Monthly	Estimate	Monthly Average
<b>Domestic Wastes (004)</b>				
Floating solids	No discharge	Daily	Observation <sup>1</sup>	Number of days solids observed
Foam	No discharge	Daily	Observation <sup>1</sup>	Number of days foam observed
<b>Sanitary Wastes (003)</b>				
<b>All Treatment Systems</b>				
Fecal Coliform	----	Monthly for one year, beginning the first month of permit coverage	Grab	Daily Maximum Number of people on board
Total Residual Chlorine (TRC) mg/l	19 mg/l 9 mg/l	Monthly	Grab	Daily Maximum Monthly average
<b>Sanitary Wastes (003)<sup>2</sup></b>				
<b>M10 MSD and MSD/Biological Treatment Units</b>				
Total Residual Chlorine (TRC)(mg/l)	As close as possible to, but no less than, 1 mg/l	Monthly	Grab	Concentration in mg/l
BOD <sup>3</sup> (mg/l)	60 mg/l 30 mg/l	Monthly	Grab	Daily Maximum Monthly Average
TSS <sup>3</sup> (mg/l)	67 mg/l 51 mg/l	Monthly	Grab	Daily Maximum Monthly Average
<b>Sanitary Wastes(003)<sup>2</sup></b>				
<b>M9IM MSD and MSD/Biological Treatment Units</b>				
BOD <sup>3</sup> (mg/l)	60 mg/l 30 mg/l	Monthly	Grab	Daily Maximum Monthly Average
TSS <sup>3</sup> (mg/l)	67 mg/l 51 mg/l	Monthly	Grab	Daily Maximum Monthly Average
<b>Sanitary Wastes(003)<sup>2</sup></b>				
<b>M10 Biological Treatment Units</b>				
Floating solids	No discharge	Daily	Observation <sup>1</sup>	Number of days solids observed
Total Residual Chlorine (TRC) (mg/l)	As close as possible to, but no less than, 1 mg/l	Monthly	Grab	Concentration in mg/l
BOD <sup>3</sup> (mg/l)	60 mg/l 30 mg/l	Monthly	Grab	Daily Maximum Monthly Average
TSS <sup>3,4</sup> (mg/l)	60 mg/l 30 mg/l	Monthly	Grab	Daily Maximum Monthly Average

Effluent Characteristic	Discharge Limitation	Monitoring Requirements		
		Measurement Frequency	Sample Type/Method	Reported Values
<b>Sanitary Wastes(003)<sup>2</sup></b>				
<b>M9IM Biological Treatment Units</b>				
Floating solids	No discharge	Daily	Observation <sup>1</sup>	Number of days solids observed
BOD <sup>3</sup> (mg/l)	90 mg/l 48 mg/l	Monthly	Grab	Daily Maximum Monthly Average
TSS <sup>3,4</sup> (mg/l)	108 mg/l 56 mg/l	Monthly	Grab	Daily maximum Monthly Average

<sup>1</sup> Permittee must monitor by observing the surface of the receiving water in the vicinity of the outfall(s) during daylight at the time of maximum estimated discharge. For domestic waste, observations must follow either the morning or midday meal.

<sup>2</sup> In cases where sanitary and domestic wastes are mixed prior to discharge, and sampling of the sanitary waste component stream is infeasible, the discharge may be sampled after mixing. In such cases, the discharge limitations for sanitary wastes must apply to the mixed waste stream.

<sup>3</sup> The numeric limits for BOD and TSS apply only to discharges to state waters.

<sup>4</sup> The TSS limitation for biological treatment units is a net value. The net TSS value is determined by subtracting the TSS value of the intake water from the TSS value of the effluent. Report the TSS value of the intake water on the comment section of the DMR. For those facilities that use filtered water in the biological treatment units, the TSS of the effluent may be reported as the net value.

Samples collected to determine the TSS value of the intake water must be taken on the same day, during the same time period that the effluent sample is taken. Intake water samples must be taken at the point where the water enters the facility prior to mixing with other flows. Influent samples must be taken with the same frequency that effluent samples are taken.

2. **Discharge below water surface.** Domestic and sanitary wastes must be discharged below the water surface.

3. **Monitoring Requirements.** Monitoring must be conducted according to test procedures approved under 40 CFR 136, unless other test procedures are specified here or elsewhere in this permit. Representative sampling requirements are discussed in Part II.B.

Fecal Coliform Monitoring. Permittees must submit a facility specific mixing zone application to ADEC based on the first 12 months monitoring data within 18 months after the effective date of the permit (or within 18 months after commencement of discharge for new dischargers).

**E. Miscellaneous Discharges (Discharges 005-014)**

- Effluent Limitations.** In addition to the restrictions set out in Parts III.A., III.E.2-4. and IV, the discharge of desalination unit wastes (005); blowout preventer fluid (006); boiler blowdown (007); fire control system test water (008); non-contact cooling water (009); uncontaminated ballast water (010); bilge water (011); excess cement slurry (012); mud, cuttings, cement at the seafloor (013); and waterflooding (014) must comply with the following effluent limitations and monitoring requirements.

Effluent Characteristic	Discharge Limitation	Monitoring Requirements		Reported Values
		Measurement Frequency	Sample Type/Method	
<b>Blowout Preventer, Excess Cement Slurry, Waterflooding Muds, Cuttings &amp; Cement at Seafloor, Ballast, Bilge</b>				
Free Oil	No discharge	Once/discharge for discharges lasting < 24 hrs	Visual/Sheen on receiving water <sup>1</sup>	Number or days sheen is observed
		Once/24-hrs for discharges lasting > 24 hours		
<b>Waterflooding, Non-Contact Cooling Water, Desalination Wastestreams</b>				
Chemical Inventory	-- N/A --	Annual	Part III.E.2.	Part III.E.2.

<sup>1</sup> For Uncontaminated Ballast Water (010) and Bilge Water (011) only: uncontaminated ballast and bilge water must be processed through an oil-water separator prior to discharge. If discharge of bilge water occurs during broken, unstable, or stable ice conditions, the sample type/method used to determine compliance with the no free oil limitation must be "Grab Static Sheen Test" (Appendix 1 to Subpart A of 40 CFR Part 435). For discharges above stable ice, below ice, to unstable or broken ice, a water temperature that approximates surface water temperatures after breakup must be used.

- Chemical Inventory.** The Permittee must maintain an inventory of the type and quantity of chemicals (other than fresh or seawater) added to waterflooding, non-contact cooling water and desalination systems. The inventory(ies) must be submitted annually. The annual inventories must be assembled for the calendar year, and must be submitted to the EPA within 90 days of the completion of the calendar year.
- Commingled Wastestreams.** If excess waterflood water is added to the produced water discharge in order to minimize the possibility of line freezing, then this discharge must be considered produced water for monitoring purposes. The estimated waterflood flow rate must be reported in the comment section of the DMR.
- Monitoring Requirement.** Monitoring must be conducted according to test procedures approved under 40 CFR 136, unless other test procedures are specified here or elsewhere in this permit. Representative sampling requirements are discussed in Part III.A.

**F. Produced Water (Discharge 015)**

1. **Effluent Limitations.** In addition to the restrictions set out in Parts III.A., III.F.2-7., and IV, the Permittee must comply with the following effluent limitations and monitoring requirements.

Effluent Characteristic	Discharge Limitation	Monitoring Requirements		
		Measurement Frequency	Sample Type/Method	Reported Values
<b>All Locations:</b>				
<b>Flow rate (MGD)</b>	-- N/A --	Weekly	Estimate	Monthly Average
<b>Produced sands</b>	No discharge			
<b>pH</b>				
flow rate <1mgd	6-9	Monthly	Grab	Daily Max & Min
flow rate >1mgd	6-9	Weekly	Grab	Daily Max & Min
<b>Cadmium &amp; Mercury</b>	-- N/A --	Monthly for one year, beginning the first month of permit coverage	Grab Part III.F.7.c.	Daily Max
<b>Individual Dischargers:</b>				
<b>Granite Point Production Facility AKG285001</b>				
Oil and Grease	42 mg/l daily max. 29 mg/l monthly avg.	Weekly	Grab or average of 4 samples taken within 24 hour period	Daily Maximum Monthly Average
Copper	238 µg/l 163 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Lead	543 µg/l 372 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Mercury	2.42 µg/l 1.66 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Total Aromatic Hydrocarbons (TAH)	63,700 µg/l 43,700 µg/l	Monthly	Grab Part III.F.7.a.	Daily Maximum <sup>1</sup> Monthly Average <sup>1</sup>
Whole Effluent Toxicity (WET)	133 TUC 91 TUC	Annual	Grab Parts III.F.7.b.	Daily Maximum Monthly Average
<b>Trading Bay AKG285002</b>				
Oil and Grease	42 mg/l daily max. 29 mg/l monthly avg.	Weekly	Grab or average of 4 samples taken within 24 hour period	Daily Maximum Monthly Average
Copper	136 µg/l 93.4 µg/l	Weekly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Lead	883 µg/l 605 µg/l	Weekly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Total Aromatic Hydrocarbons (TAH)	24,500 µg/l 12,200 µg/l	Weekly	Grab Part III.F.7.a.	Daily Maximum <sup>1</sup> Monthly Average <sup>1</sup>
Monitoring Requirements				
Effluent Characteristic	Discharge Limitation	Measurement Frequency	Sample Type/Method	Reported Values

Total Aqueous Hydrocarbons (TAqH)	36,800 µg/l 18,300 µg/l	Weekly	Grab Part III.F.7.a.	Daily Maximum <sup>1</sup> Monthly Average <sup>1</sup>
Whole Effluent Toxicity (WET)	140 TUC 96 TUC	Quarterly	Grab Parts III.F.7.b.	Daily Maximum Monthly Average
<b>East Forelands</b> AKG285003				
Oil and Grease	42 mg/l daily max. 29 mg/l monthly avg.	Weekly	Grab or average of 4 samples taken within 24 hour period	Daily Maximum Monthly Average
Copper	122 µg/l 84 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Arsenic	2900 µg/l 1990 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Silver	97 µg/l 66 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Lead	754 µg/l 517 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Mercury	3.37 µg/l 2.31 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Total Aromatic Hydrocarbons (TAH)	61,800 µg/l 42,400 µg/l	Monthly	Grab Part III.F.7.a.	Daily Maximum <sup>1</sup> Monthly Average <sup>1</sup>
Total Aqueous Hydrocarbons (TAqH)	92,700 µg/l 63,500 µg/l	Monthly	Grab Part III.F.7.a.	Daily Maximum <sup>1</sup> Monthly Average <sup>1</sup>
Whole Effluent Toxicity (WET)	115 TUC 79 TUC	Annual	Grab Parts III.F.7.b.	Daily Maximum Monthly Average
<b>Anna</b> AKG285004				
Oil and Grease	42 mg/l daily max. 29 mg/l monthly avg.	Weekly	Grab or average of 4 samples taken within 24 hour period	Daily Maximum Monthly Average
Copper	209 µg/l 143 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Mercury	8.23 µg/l 5.64 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Total Aromatic Hydrocarbons (TAH)	86,000 µg/l 58,900 µg/l	Monthly	Grab Part III.F.7.a.	Daily Maximum Monthly Average
Total Aqueous Hydrocarbons (TAqH)	129,000 µg/l 88,400 µg/l	Monthly	Grab Part III.F.7.a.	Daily Maximum Monthly Average
Whole Effluent Toxicity (WET)	486 TUC 333 TUC	Annual	Grab Parts III.F.7.b.	Daily Maximum Monthly Average

Effluent Characteristic	Discharge Limitation	Monitoring Requirements		
		Measurement Frequency	Sample Type/Method	Reported Values
<b>Baker</b> AKG285005				
Oil and Grease	42 mg/l daily max. 29 mg/l monthly avg.	Weekly	Grab or average of 4 samples taken within 24 hour period	Daily Maximum Monthly Average
Zinc	16,700 µg/l 5330 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Whole Effluent Toxicity (WET)	100 TU <sub>c</sub> 72 TU <sub>c</sub>	Annual	Grab Parts III.F.7.b.	Daily Maximum Monthly Average
<b>Bruce</b> AKG285006				
Oil and Grease	42 mg/l daily max. 29 mg/l monthly avg.	Weekly	Grab or average of 4 samples taken within 24 hour period	Daily Maximum Monthly Average
Silver	766 µg/l 525 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Total Aromatic Hydrocarbons (TAH)	298,000 µg/l 205,000 µg/l	Monthly	Grab Part III.F.7.a.	Daily Maximum <sup>1</sup> Monthly Average <sup>1</sup>
Whole Effluent Toxicity (WET)	912 TU <sub>c</sub> 625 TU <sub>c</sub>	Annual	Grab Parts III.F.7.b.	Daily Maximum Monthly Average
<b>Dillon</b> AKG285007				
Oil and Grease	42 mg/l daily max. 29 mg/l monthly avg.	Weekly	Grab or average of 4 samples taken within 24 hour period	Daily Maximum Monthly Average
Copper	244 µg/l 167 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Lead	1030 µg/l 706 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Zinc	7,980 µg/l 5,470 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Total Aromatic Hydrocarbons (TAH)	59,300 µg/l 40,600 µg/l	Monthly	Grab Part III.F.7.a.	Daily Maximum <sup>1</sup> Monthly Average <sup>1</sup>
Total Aqueous Hydrocarbons (TAqH)	88,900 µg/l 61,000 µg/l	Monthly	Grab Part III.F.7.a.	Daily Maximum <sup>1</sup> Monthly Average <sup>1</sup>
Whole Effluent Toxicity (WET)	174 TU <sub>c</sub> 119 TU <sub>c</sub>	Annual	Grab Parts III.F.7.b.	Daily Maximum Monthly Average
<b>Phillips A/Tyonek (gas)</b> see Part III.F.6 AKG285011				
Oil and Grease	20 mg/l daily max. 15 mg/l monthly avg.	Weekly	Grab or average of 4 samples taken within 24 hour period	Daily Maximum Monthly Average
Effluent Characteristic	Discharge Limitation	Monitoring Requirements		
		Measurement Frequency	Sample Type/Method	Reported Values

Arsenic	1240 µg/l 851 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Copper	58 µg/l 40 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Lead	193 µg/l 132 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Mercury	0.862 µg/l 0.591 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Total Aqueous Hydrocarbons (TAqH)	4530 µg/l 3110 µg/l	Monthly	Grab Part III.F.7.a.	Daily Maximum <sup>1</sup> Monthly Average <sup>1</sup>
Whole Effluent Toxicity (WET)	16 TU <sub>c</sub> 11 TU <sub>c</sub>	Annual	Grab Parts III.F.7.b.	Daily Maximum Monthly Average

**Phillips A/Tyonek (crude)**  
 see Part III.F.6  
 AKG285011

Oil and Grease	42 mg/l daily max. 29 mg/l monthly avg.	Weekly	Grab or average of 4 samples taken within 24 hour period	Daily Maximum Monthly Average
Silver	766 µg/l 525 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Mercury	21.9 µg/l 15.0 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Arsenic, Cadmium, Copper, Lead, Nickel, Zinc	--N/A --	Monthly for one year	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Total Aromatic Hydrocarbons (TAH)	298,000 µg/l 205,000 µg/l	Monthly	Grab Part III.F.7.a.	Daily Maximum <sup>1</sup> Monthly Average <sup>1</sup>
Total Aqueous Hydrocarbons (TAqH)	448,000 µg/l 307,000 µg/l	Monthly	Grab Part III.F.7.a.	Daily Maximum <sup>1</sup> Monthly Average <sup>1</sup>
Whole Effluent Toxicity (WET)	912 TU <sub>c</sub> 625 TU <sub>c</sub>	Quarterly	Grab Parts III.F.7.b.	Daily Maximum Monthly Average

**Interim Limitations (Flow Rate <1 mgd)**

Oil and Grease	42 mg/l daily max. 29 mg/l monthly avg.	Weekly	Grab or average of 4 samples taken within 24 hour period	Daily Maximum Monthly Average
Silver	766 µg/l 525 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Mercury	21.9 µg/l 15.0 µg/l	Monthly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Arsenic, Cadmium, Copper, Lead, Nickel, Zinc	--N/A --	Monthly for one year	Grab Part III.F.7.c.	Daily Maximum Monthly Average

Effluent Characteristic	Discharge Limitation	Monitoring Requirements		
		Measurement Frequency	Sample Type/Method	Reported Values
Total Aromatic Hydrocarbons (TAH)	298,000 µg/l 205,000 µg/l	Monthly	Grab Part III.F.7.a.	Daily Maximum <sup>1</sup> Monthly Average <sup>1</sup>

Total Aqueous Hydrocarbons (TAqH)	448,000 µg/l 307,000 µg/l	Monthly	Grab Part III.F.7.a.	Daily Maximum <sup>1</sup> Monthly Average <sup>1</sup>
Whole Effluent Toxicity (WET)	912 TU <sub>c</sub> 625 TU <sub>c</sub>	Annual	Grab Parts III.F.7.b.	Daily Maximum Monthly Average
<b>Interim Limitations (Flow Rate &gt;1mgd)</b>				
Oil and Grease	42 mg/l daily max. 29 mg/l monthly avg.	Weekly	Grab or average of 4 samples taken within 24 hour period	Daily Maximum Monthly Average
Silver	766 µg/l 382 µg/l	Weekly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Mercury	21.9 µg/l 10.9 µg/l	Weekly	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Arsenic, Cadmium, Copper, Lead, Nickel, Zinc	--N/A --	Monthly for one year	Grab Part III.F.7.c.	Daily Maximum Monthly Average
Total Aromatic Hydrocarbons (TAH)	298,000 µg/l 149,000 µg/l	Weekly	Grab Part III.F.7.a.	Daily Maximum <sup>1</sup> Monthly Average <sup>1</sup>
Total Aqueous Hydrocarbons (TAqH)	448,000 µg/l 223,000 µg/l	Weekly	Grab Part III.F.7.a.	Daily Maximum <sup>1</sup> Monthly Average <sup>1</sup>
Whole Effluent Toxicity (WET)	912 TU <sub>c</sub> 625 TU <sub>c</sub>	Quarterly	Grab Parts III.F.7.b.	Daily Maximum Monthly Average

<sup>1</sup> Fifteen months after permit issuance, a report summarizing the concentrations of the individual TAH components (benzene, toluene, ethylbenzene and xylene isomers) and individual TAqH components from data collected during the first year of permit coverage must be provided to the EPA.

2. **Rerouting Platform Discharge to a Shore-Based Facility.** In situations where the platforms are not able to treat produced water and a bypass may occur, the Baker and Dillon platforms may route their produced water discharge to the Granite Point Production Facility for treatment and discharge; the Anna and Bruce platforms may route their produced water discharge to the East Foreland Production Facility for treatment and discharge. The Permittee must report rerouting by telephone or facsimile within 24 hours of rerouting, and must provide a written submission within five days of rerouting that describes why rerouting was necessary, and the anticipated time that rerouting is expected to continue. The permittee must cease rerouting as soon as possible.
3. **Interim Produced Water Limitations.** Facilities which obtain authorization to discharge produced water subject to interim produced water limitations (see Part I.B.) must submit a facility specific mixing zone application to ADEC based on the first 12 months of monitoring data within 18 months after commencement of discharge.
4. **Trading Bay Groundwater.** Trading Bay is authorized to discharge treated groundwater extracted pursuant to State Compliance Order #91-23-01-053-02 as part of the produced water waste stream.
5. **Spill Clean-Up.** Water that is collected as a result of spill clean-up can be treated as produced water and discharged with the produced water waste stream. The Permittee must report the treatment and discharge of spill clean-up water to the EPA within 24 hours

of initiating such treatment, and must provide a written submission within five days of initiating treatment that describes the spill, the anticipated volume of spill clean-up water, and the anticipated time that treatment and discharge of spill clean-up water is expected to continue.

6. **Phillips A/Tyonek.** Two sets of limits for Phillips A/Tyonek are listed at Part III.F.1. The “gas” limits are effective at the time of permit issuance, and will continue to be the effective permit limits until Phillips A/Tyonek initiates discharge of crude related discharge directly from the Phillips A/Tyonek platform. The Permittee must submit a notification letter to EPA prior to initiating the discharge of crude related produced water from the platform. The “crude” limits become effective on the day identified in the notification letter. A facility specific mixing zone application must be submitted to ADEC for Phillips A/Tyonek based on the first 12 months monitoring data within 18 months after commencement of crude related produced water discharges.
7. **Monitoring Requirements.** Monitoring must be conducted according to test procedures approved under 40 CFR 136, unless other test procedures are specified here or elsewhere in this permit. Representative sampling requirements are discussed in Part III.A.
  - a. Total Aromatic Hydrocarbons (TAH) and Total Aqueous Hydrocarbons (TAqH). For analysis of TAH and TAqH, all analytical requirements cited in the Alaska Standards, 18 AAC 70.020(b) are applicable.
  - b. Whole Effluent Toxicity.
    - 1) The Permittee must conduct tests on grab effluent samples with one vertebrate and two invertebrate species, as follows.

Vertebrate (survival and growth): Inland silverside, *Menidia beryllina*

Invertebrate: Atlantic mysids *Mysidopsis bahia* (survival, growth and fecundity test) and one of the following two bivalve species tests: Mussel *Mytilis sp.* or Pacific oyster *Crassostrea gigas* (larval development test). Due to seasonal variability, testing may be performed during reliable spawning periods (e.g. December through February for mussels; June through August for oysters).
    - 2) Each year, the permittee must re-screen with the three species listed above, and continue to monitor with the most sensitive species. Rescreening must consist of one test conducted at a different time of year from the previous years test.
    - 3) The presence of chronic toxicity must be estimated as specified in *USEPA Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Second Edition*, (EPA/600/4-91/003). For the bivalve species, chronic toxicity must be estimated as specified in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136).
    - 4) Results must be reported in TUC, where TUC = 100/NOEC. The reported NOEC must be the highest NOEC calculated for the applicable survival, growth or fecundity endpoints.
    - 5) A series of five dilutions and a control will be tested. The series must include the instream waste concentration (IWC), two dilutions above the IWC, and two dilutions below the IWC. The IWC is the concentration of effluent at the edge of the mixing zone.

- 6) In addition to those quality assurance measures specified in the methodology, the following quality assurance procedures must be followed:
  - (a) If organisms are not cultured in-house, concurrent testing with reference toxicants must be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient.
  - (b) If either of the reference toxicant tests or the effluent tests do not meet all test acceptability criteria as specified in the test methods manual, then the permittee must re-sample and re-test as soon as possible.
  - (c) Control and dilution water should be receiving water, or salinity adjusted lab water. If the dilution water used is different from the culture water, a second control, using culture water must also be used.
- 7) Accelerated Testing
  - (a) If chronic toxicity is detected above the permit limits, collection and analysis of one additional sample is required within two weeks of receipt of the test results.
  - (b) If chronic toxicity is not detected in the sample required by Part III.F.7.a, the Permittee must notify the EPA and ADEC in writing of the results within fifteen (15) days of receipt of the results, and must discuss the cause of the exceedance, and the corrective actions which were taken.
  - (c) If chronic toxicity is detected in the sample required by Part III.F.7.a., then the Permittee must conduct four bi-weekly tests over an eight week period. Accelerated testing must be initiated within fifteen (15) days of the receiving the sample results required by Part III.F.7.a.
- 8) Toxicity Reduction Evaluation (TRE)
  - (a) If chronic toxicity is detected above the permit limits during accelerated testing, then in accordance with EPA/600/2-88/070, a toxicity reduction evaluation (TRE) must be initiated within fifteen days of this exceedance in order to expeditiously locate the source(s) of toxicity and evaluate the effectiveness of pollution control actions and/or in plant modifications toward attaining compliance.
  - (b) If none of the four tests indicates toxicity, then the permittee may return to the normal testing frequency .
- 9) Toxicity Identification Evaluation (TIE).
  - (a) If chronic toxicity is detected in any two of the four bi-weekly tests, the permittee must initiate a TIE to identify the specific chemical(s) responsible for toxicity (EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III).
  - (b) If a TIE is triggered prior to completion of the accelerated testing, the accelerated testing schedule may be terminated, or used as necessary in performing the TIE.
- 10) Reporting
  - (a) The permittee must notify EPA and the State in writing within fifteen (15) days

of receipt of the results of the exceedance of the permit limit, of the finding of the TRE/TIE or other investigation to identify the cause(s) of toxicity; actions the permittee has taken or will take to mitigate the impact of the discharge, to correct the noncompliance and to prevent the recurrence of toxicity; where corrective actions including a TRE/TIE have not been completed, an expeditious schedule under which corrective actions will be implemented; and if no actions have been taken, the reason for not taking action.

- c. Metals. The method detection limits and interim minimum level listed below are needed in order to determine whether or not violations of water quality are occurring at the point of discharge. In addition to the procedures approved under 40 CFR 136, the ICP-MS test procedure 200.8 (*Methods for Chemical Analyses of Water and Wastes*, EPA-600/4-79-020) may be used for analysis of these samples.

Pollutant	Aquatic Life Chronic Criteria (µg/l)	Method Detection Limit (µg/l)	Interim Minimum Level (µg/l)
Arsenic	36	7.2	N/A
Cadmium	9.3	1.9	N/A
Copper	2.9	0.6	N/A
Lead	5.6	1.1	N/A
Nickel	7.1	1.4	N/A
Silver	2.3	0.5	N/A
Mercury	0.025	0.2	0.5
Zinc	58	12	N/A

**G. Completion Fluids, Workover Fluids, Well Treatment Fluids, and Test Fluids (Discharges 016-019)**

- Effluent Limitations.** In addition to the restrictions set out in Parts III.A., III.G.2-4., and IV, the Permittee must comply with the following effluent limitations and monitoring requirements.

Effluent Characteristic	Discharge Limitation	Monitoring Requirements		
		Measurement Frequency	Sample Type/Method	Reported Values
<b>All Wastestreams</b>				
Discharge frequency	-- N/A --	Once/discharge <sup>1</sup>	Count	Type & total number of discharges
Flow rate (MGD)	-- N/A --	Daily <sup>1</sup>	Estimate	Monthly average
Oil-based fluids	No discharge	Included in free oil monitoring, below <sup>2</sup>		
Free oil <sup>3</sup>	No free oil	Once per discharge <sup>1</sup>	Grab/Static Sheen Test	Number of times sheen observed
Oil and grease <sup>3</sup>	42 mg/l max. daily 29 mg/l monthly avg.	Once per discharge <sup>1</sup>	Grab or average of 4 samples taken within 24 hours	Daily max. and monthly average
pH	6.5-8.5	Once per discharge <sup>1</sup>	Grab	pH
<b>Treatment, Workover, Completion Metals</b>	-----	Once per discharge <sup>1</sup>	Part III.G.4.	

<sup>1</sup> The type of discharge (i.e., completion, workover, treatment, test fluid, or any combination) must be reported. Discharge of individual wastestreams must be reported separately from the discharge of commingled wastestreams.

<sup>2</sup> Discharge of oil-based fluids is prohibited.

<sup>3</sup> No free oil and oil and grease limits apply to each discharge, whether these wastestreams are discharged individually or are commingled. All fluids must be processed through an oil-water separator prior to discharge. Samples must be collected after the final step of treatment.

- Commingled Wastestreams.** If workover, completion, well treatment or test fluids are mixed with produced water, then this discharge must be considered produced water for monitoring purposes (Part III.F.). The estimated flow rate of workover, completion, well treatment or test fluids must be reported in the comment section of the DMR.
- Chemical Inventory.** The Permittee must maintain an inventory of the type and quantity of chemicals (other than fresh or seawater) added to completion, workover, well treatment, and test fluids. The inventory(ies) must be submitted annually. The annual inventories must be assembled for the calendar year, and must be submitted to the EPA within 90 days of the completion of the calendar year.
- Monitoring Requirements.** Monitoring must be conducted according to test procedures approved under 40 CFR 136, unless other test procedures are specified here or elsewhere in this permit. Representative sampling requirements are discussed in Part III.A.

Metals. For each discharge of well treatment, completion or workover fluids which is characterized as an acid job (strong or weak, including but not limited to hydrochloric or hydrofluoric acid, EDTA), samples of effluent must be taken for analyses of the following: cadmium, chromium, copper, lead, nickel and zinc. Analyses for total recoverable concentrations must be conducted and reported for each metal.

## H. Other Discharge Limitations

1. **Floating Solids, Visible Foam, or Oily Wastes.** There must be no discharge of floating solids or visible foam in other than trace amounts, nor of oily wastes which produce a sheen on the surface of the receiving water.
2. **Surfactants, Dispersants, and Detergents.** The discharge of surfactants, dispersants, and detergents must be minimized except as necessary to comply with the safety requirements of the Occupational Health and Safety Administration and the Minerals Management Service. The discharge of dispersants to marine waters in response to oil or other hazardous spills is not authorized by this permit.
3. **Applicable Marine Water Quality Criteria.** There must be no discharge of any constituent in concentrations which results in an exceedence of applicable marine water quality criteria at the edge of any permitted mixing zone.
4. **Other Toxic and Non-conventional Compounds.** There must be no discharge of diesel oil, halogenated phenol compounds, trisodium nitrilotriacetic acid, sodium chromate or sodium dichromate.

## I. Best Management Practices Plan Requirement.

1. **Development.** The Permittee must develop a Best Management Practices (BMP) Plan which achieves the objectives and the specific requirements listed below.

The Permittee must certify that its BMP Plan is complete, on-site, and available upon request to EPA . This certification must identify the NPDES permit number and be signed by an authorized representative of the Permittee. For new exploratory operations, the certification must be submitted no later than the written notice of intent to commence discharge (Part I.A.3). For existing dischargers, the certification must be submitted within one year of permit issuance.

2. **Purpose.** The BMP Plan must be designed to prevent or minimize the generation and the potential for the release of pollutants from the facility to the waters of the United States through normal operations and ancillary activities.
3. **Objectives.** The Permittee must develop and amend the BMP Plan consistent with the following objectives for the control of pollutants.
  - a. The number and quantity of pollutants and the toxicity of effluent generated, discharged or potentially discharged at the facility must be minimized by the Permittee to the extent feasible by managing each influent waste stream in the most appropriate manner.
  - b. The Permittee must establish specific objectives for the control of pollutants by conducting the following evaluations.
    - 1) Each facility component or system must be examined for its waste minimization opportunities and its potential for causing a release of significant amounts of pollutants to waters of the United States due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc.
    - 2) Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g., precipitation), or other circumstances to result in significant amounts of pollutants reaching surface waters, the program should include a prediction of the direction, rate of flow and total

quantity of pollutants which could be discharged from the facility as a result of each condition or circumstance.

4. **Requirements.** The BMP Plan must be consistent with the objectives in Part 3 above and the general guidance contained in the publication entitled *Guidance Document for Developing Best Management Practices (BMP)* (EPA 833-B-93-004, U.S. EPA, 1993) or any subsequent revisions to the guidance document. The BMP Plan must:
  - a. Be documented in narrative form, and must include any necessary plot plans, drawings or maps, and must be developed in accordance with good engineering practices. At a minimum, the BMP Plan must contain the planning, development and implementation, and evaluation/reevaluation components discussed in *Guidance Document for Developing Best Management Practices (BMP)* (EPA 833-B-93-004, U.S. EPA, 1993) or any subsequent revisions to the guidance document.
  - b. Include the following provisions concerning BMP Plan review:
    - 1) Be reviewed by plant engineering staff and the plant manager as warranted by changes in the operation or at the facility which are covered by the BMP.
    - 2) Be reviewed and endorsed by the individuals responsible for development and implementation of the BMP plan.
    - 3) Include a statement that the above reviews have been completed and that the BMP Plan fulfills the requirements set forth in this permit. The statement must be certified by the dated signatures of the individuals responsible for development and implementation of the BMP Plan.
  - c. Establish specific best management practices to meet the objectives identified in Part 3 of this section, addressing each component or system capable of generating or causing a release of significant amounts of pollutants, and identifying specific preventative or remedial measures to be implemented.
5. **Documentation.** The Permittee must maintain a copy of the BMP Plan at the facility and must make the plan available to EPA upon request.
6. **BMP Plan Modification.** The Permittee must amend the BMP Plan whenever there is a change in the facility or in the operation of the facility which materially increases the generation of pollutants or their release or potential release to the receiving waters. The Permittee must also amend the Plan, as appropriate, when plant operations covered by the BMP Plan change. Any such changes to the BMP Plan must be consistent with the objectives and specific requirements listed above. All changes in the BMP Plan must be reviewed by the plant engineering staff and plant manager.
7. **Modification for Ineffectiveness.** At any time, if the BMP Plan proves to be ineffective in achieving the general objective of preventing and minimizing the generation of pollutants and their release and potential release to the receiving waters and/or the specific requirements above, the permit and/or the BMP Plan must be subject to modification to incorporate revised BMP requirements.

#### IV. RECORDING AND REPORTING REQUIREMENTS

- A. Reporting of Monitoring Results.** The Permittee must summarize monitoring results each month on the Discharge Monitoring Report (DMR) form (EPA No. 3320-1). The Permittee must submit reports monthly, postmarked by the 20th day of the following month. Quarterly sampling results must be reported on, or before the March, June, September, and December DMRs. The Permittee must sign and certify all DMRs, and all other reports, in accordance with the requirements of Part VI.D. of this permit ("Signatory Requirements").

The Permittee must submit the legible originals of these documents to the Director, Water Division, with copies to ADEC, at the following addresses:

United States Environmental Protection Agency  
Region 10  
1200 Sixth Avenue, OW-133  
Seattle, Washington 98101

Alaska Department of Environmental Conservation  
Attn: Watershed Management Section  
555 Cordova Street  
Anchorage, Alaska 99501

- B. Annual Biocide Report.** The Permittee must maintain an inventory of the type and volume of all biocides added to any waste streams authorized for discharge under this permit. Each annual inventory must be assembled for the calendar year, and must be submitted to the EPA within 90 days of the completion of the calendar year.
- C. Annual Chemical Inventory and TAH/TAqH Report Requirements.** See chemical inventory requirements at Part III.E.2. and III.G.3, and the TAH/TAqH requirement at Part III.F.1., footnote 1.
- D. Additional Monitoring by Permittee.** If the Permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the Permittee must include the results of this monitoring in the calculation and reporting of the data submitted in the DMR. The Permittee must indicate on the DMR whenever it has performed additional monitoring, and must explain why it performed such monitoring.

Upon request by the Director, the Permittee must submit results of any other sampling, regardless of the test method used.

- E. Records Contents.** All effluent monitoring records must bear the hand-written signature of the person who prepared them. In addition, all records of monitoring information must include:
1. the date, exact place, and time of sampling or measurements;
  2. the names of the individual(s) who performed the sampling or measurements;
  3. the date(s) analyses were performed;
  4. the names of the individual(s) who performed the analyses;
  5. the analytical techniques or methods used; and
  6. the results of such analyses.

**F. Retention of Records.** The Permittee must retain records of all monitoring information, including, but not limited to, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, copies of DMRs, a copy of the NPDES permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. This period may be extended by request of the Director at any time.

A copy of the final permit must be maintained at the drilling site.

**G. Twenty-four Hour Notice of Noncompliance Reporting.**

1. The Permittee must report the following occurrences of noncompliance by telephone or facsimile within 24 hours from the time the Permittee becomes aware of the circumstances:
  - a. any noncompliance that may endanger health or the environment;
  - b. any unanticipated bypass that results in or contributes to an exceedance of any effluent limitation in the permit (see Part V.G., "Bypass of Treatment Facilities");
  - c. any upset that results in or contributes to an exceedance of any effluent limitation in the permit (see Part V.H., "Upset Conditions"); or
  - d. any violation of a maximum daily discharge limitation for any of the pollutants listed in the permit .
2. The Permittee must also provide a written submission within five days of the time that the Permittee becomes aware of any event required to be reported under subpart 1 above. The written submission must contain:
  - a. a description of the noncompliance and its cause;
  - b. the period of noncompliance, including exact dates and times;
  - c. the estimated time noncompliance is expected to continue if it has not been corrected; and
  - d. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
3. The Director may, at her or his sole discretion, waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Water Compliance Section in Seattle, Washington, by telephone, (206) 553-1846.
4. Reports must be submitted to the addresses in Part IV.A. ("Reporting of Monitoring Results").

**H. Other Noncompliance Reporting.** The Permittee must report all instances of noncompliance, not required to be reported within 24 hours, at the time that monitoring reports for Part IV.A. are submitted. The reports must contain the information listed in Part IV.G.2. of this permit.

**I. Changes in Discharge of Toxic Substances.** The Permittee must notify the Director as soon as it knows, or has reason to believe:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in the permit, if that discharge will

exceed the highest of the following "notification levels":

- a. One hundred micrograms per liter (100  $\mu\text{g/l}$ );
  - b. Two hundred micrograms per liter (200  $\mu\text{g/l}$ ) for acrolein and acrylonitrile; five hundred micrograms per liter (500  $\mu\text{g/l}$ ) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
  - c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
  - d. The level established by the Director in accordance with 40 CFR 122.44(f).
2. That any activity has occurred or will occur that would result in any discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- a. Five hundred micrograms per liter (500  $\mu\text{g/l}$ );
  - b. One milligram per liter (1 mg/l) for antimony;
  - c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
  - d. The level established by the Director in accordance with 40 CFR 122.44(f).

## V. COMPLIANCE RESPONSIBILITIES

- A. Duty to Comply.** The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. The Permittee must give reasonable advance notice to the Director of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.
- B. Penalties for Violations of Permit Conditions.**
1. **Civil and Administrative Penalties.** Any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act must be subject to a civil or administrative penalty, not to exceed the maximum amounts specified in Section 309(d) and 309(g) of the Act.
  2. **Criminal Penalties:**
    - a. Negligent Violations. Any person who negligently violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act must, upon conviction, be punished by a fine and/or imprisonment as specified in Section 309(c)(1) of the Act.
    - b. Knowing Violations. Any person who knowingly violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act must, upon conviction, be punished by a fine and/or imprisonment as specified in Section 309(c)(2) of the Act.
    - c. Knowing Endangerment. Any person who knowingly violates a permit condition implementing Sections 301, 302, 303, 306, 307, 308, 318, or 405 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, must, upon conviction, be subject to a fine and/or imprisonment as specified in Section 309(c)(3) of the Act.
    - d. False Statements. Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this Act or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this Act, must be punished by a fine and/or imprisonment as specified in Section 309(c)(4) of the Act.
- Except as provided in permit conditions in Part V.G., ("Bypass of Treatment Facilities") and Part V.H., ("Upset Conditions"), nothing in this permit must be construed to relieve the Permittee of the civil or criminal penalties for noncompliance.
- C. Need to Halt or Reduce Activity not a Defense.** It must not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- D. Duty to Mitigate.** The Permittee must take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.
- E. Proper Operation and Maintenance.** The Permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with the conditions of this permit.

Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of the permit.

**F. Removed Substances.** Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of water and wastewaters must be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

**G. Bypass of Treatment Facilities.**

1. **Bypass not exceeding limitations.** The Permittee may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2 and 3 of this Part.

2. **Notice.**

- a. Anticipated bypass. If the Permittee knows in advance of the need for a bypass, it must submit prior notice, if possible at least 10 days before the date of the bypass.
- b. Unanticipated bypass. The Permittee must submit notice of an unanticipated bypass as required under Part IV.G. ("Twenty-four Hour Notice of Noncompliance Reporting").

3. **Prohibition of bypass.**

- a. Bypass is prohibited, and the Director may take enforcement action against the Permittee for a bypass, unless:
  - 1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
  - 2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and
  - 3) The Permittee submitted notices as required under paragraph 2 of this Part.
- b. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determine that it will meet the three conditions listed above in paragraph 3.a. of this Part.

**H. Upset Conditions.**

1. **Effect of an upset.** An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the Permittee meets the requirements of paragraph 2 of this Part. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
2. **Demonstration of an upset.** To establish the affirmative defense of upset, the Permittee must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- a. An upset occurred and that the Permittee can identify the cause(s) of the upset;
  - b. The permitted facility was at the time being properly operated;
  - c. The Permittee submitted notice of the upset as required under Part IV.G., Twenty-four Hour Notice of Noncompliance Reporting; and
  - d. The Permittee complied with any remedial measures required under Part V.D., Duty to Mitigate.
3. **Burden of proof.** In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

**I. Toxic Pollutants.** The Permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

**J. Planned Changes.** The Permittee must give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility whenever:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR 122.29(b); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements under Part IV.I.

The Permittee must give notice to the Director as soon as possible of any planned changes in process or chemical use whenever such change could significantly change the nature or increase the quantity of pollutants discharged.

**K. Anticipated Noncompliance.** The Permittee must also give advance notice to the Director of any planned changes in the permitted facility or activity that may result in noncompliance with this permit.

## VI. GENERAL PROVISIONS

- A. Permit Actions.** This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- B. Duty to Provide Information.** The Permittee must furnish to the Director, within the time specified in the request, any information that the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee must also furnish to the Director, upon request, copies of records required to be kept by this permit.
- C. Other Information.** When the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or that it submitted incorrect information in a permit application or any report to the Director, it must promptly submit the omitted facts or corrected information.
- D. Signatory Requirements.** All applications, reports or information submitted to the Director must be signed and certified.
1. All permit applications must be signed as follows:
    - a. For a corporation: by a responsible corporate officer.
    - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.
    - c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.
  2. All reports required by the permit and other information requested by the Director must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
    - a. The authorization is made in writing by a person described above and submitted to the Director, and
    - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company.
  3. **Changes to authorization.** If an authorization under Part VI.D.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph VI.D.2. must be submitted to the Regional Administrator prior to or together with any reports, information, or applications to be signed by an authorized representative.
  4. **Certification.** Any person signing a document under this Part must make the following certification:

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

- E. Availability of Reports.** Except for data determined to be confidential under 40 CFR 2, all reports prepared in accordance with this permit must be available for public inspection at the offices of the state water pollution control agency and the Director. As required by the Act, permit applications, permits, Best Management Practices Plans, and effluent data must not be considered confidential.
- F. Inspection and Entry.** The Permittee must allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon the presentation of credentials and other documents as may be required by law, to:
1. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
  2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
  3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
  4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.
- G. Oil and Hazardous Substance Liability.** Nothing in this permit must be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject under Section 311 of the Act.
- H. Property Rights.** The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
- I. Severability.** The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, must not be affected thereby.
- J. Transfers.** This permit may be automatically transferred to a new Permittee if:
1. The current Permittee notifies the Director at least 30 days in advance of the proposed transfer date;
  2. The notice includes a written agreement between the existing and new Permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
  3. The Director does not notify the existing Permittee and the proposed new Permittee of his or her intent to modify, or revoke and reissue the permit.

If the notice described in paragraph 3 above is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.

**K. State Laws.** Nothing in this permit must be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Act.

**L. Reopener Clause.**

This permit is subject to modification, revocation and reissuance, or termination at the request of any interested person (including the permittee) or upon EPA initiative. However, permits may only be modified, revoked or reissued, or terminated for the reasons specified in 40 CFR §122.62 or 122.64, and 40 CFR §124.5. This includes new information which was not available at the time of permit issuance and would have justified the application of different permit conditions at the time of issuance including future monitoring results. All requests for permit modification must be addressed to EPA in writing and must contain facts or reasons supporting the request.

## VII. Definitions.

1. "AAS" means atomic absorption spectrophotometry.
2. "Acute toxic unit (TU<sub>a</sub>)" is a measure of acute toxicity. The number of acute toxic units in the effluent is calculated as 100/LC50, where the LC50 is measured in percent effluent.
3. "ADEC" means the Alaska Department of Environmental Conservation.
4. "Average monthly discharge limitation" means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.
5. "Ballast water" means harbor or seawater added or removed to maintain the proper ballast floater level and ship draft.
6. "bbl/hr" means barrels per hour. One barrel equals 42 gallons.
7. "Bilge water" means water which collects in the lower internal parts of the drilling vessel hull.
8. "Biocide" means any chemical agent used for controlling the growth of or destroying nuisance organisms (e.g., bacteria, algae, and fungi).
9. "Blowout preventer fluid" means fluid used to actuate hydraulic equipment on the blowout preventer.
10. "BOD" means biochemical oxygen demand.
11. "Boiler blowdown" means the discharge of water and minerals drained from boiler drums.
12. "Bulk discharge" means the discharge of more than 100 barrels in a one-hour period.
13. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
14. "Cd" means cadmium.
15. "Chronic toxic unit (TU<sub>c</sub>)" is a measure of chronic toxicity. The number of chronic toxic units in the effluent is calculated as 100/NOEC, where the NOEC is measured in percent effluent.
16. "Coastal" means any location in or on a water of the United States landward of the inner boundary of the territorial seas (40 CFR 435.40).
17. "COD" means chemical oxygen demand.
18. "Completion fluid" means salt solutions, weighted brines, polymers, and various additives used to prevent damage to the wellbore during operations which prepare the drilled well for hydrocarbon production.
19. "Cooling water" means once-through non-contact cooling water.
20. "Daily discharge" means the discharge of a pollutant measured during a calendar day

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

21. "Deck drainage" means all waste resulting from platform washings, deck washings, spillage, rainwater, and runoff from curbs, gutters, and drains including drip pans and wash areas within facilities subject to this permit.
22. "Desalination unit wastes" means wastewater associated with the process of creating freshwater from seawater.
23. "Development" operations are those operations that are engaged in the drilling and completion of production wells. These operations may occur prior to or simultaneously with production operations.
24. "Diesel oil" means the grade of distillate fuel, as specified in the American Society for Testing and Materials Standard Specifications D975-81, that is typically used as the continuous phase in conventional oil-based drilling fluids, which contains a number of toxic pollutants. For the purpose of this permit, "diesel oil" includes the fuel oil present at the facility.
25. "Director" means the Regional Administrator or delegated authority for administration of the NPDES program in EPA, Region 10.
26. "Domestic wastes" means materials discharged from showers, sinks, safety showers, eye-wash stations, hand-wash stations, fish-cleaning stations, galleys and laundries.
27. "Drill cuttings" means particles generated by drilling into subsurface geological formations and carried to the surface with the drilling fluid.
28. "Drilling Fluid" refers to the circulating fluid (mud) used in the rotary drilling of wells to clean and condition the hole and to counterbalance formation pressure. The four classes of drilling fluids are:
  - (a) A water-based drilling fluid has water as its continuous phase and the suspending medium for solids, whether or not oil is present.
  - (b) An oil-based drilling fluid has diesel oil, mineral oil, or some other oil, but neither a synthetic material nor enhanced mineral oil, as its continuous phase with water as the dispersed phase.
  - (c) An enhanced mineral oil-based drilling fluid has an enhanced mineral oil as its continuous phase with water as the dispersed phase.
  - (d) A synthetic-based drilling fluid has a synthetic material as its continuous phase with water as the dispersed phase.
29. "Drilling Fluids Toxicity Test" means a toxicity test conducted and reported in accordance the following approved toxicity test methodology: "Drilling Fluids Toxicity Test," as defined in Appendix 2 to Subpart A of 40 CFR 435, or other methods approved in advance by Region 10 that produce results which will assure equivalent protection levels.
30. "Enhanced Mineral Oil " as applied to enhanced mineral oil-based drilling fluid means a petroleum distillate which has been highly purified and is distinguished from diesel oil and conventional mineral oil in having a lower polycyclic aromatic hydrocarbon (PAH) content. Typically, conventional mineral oils have a PAH content on the order of 0.35 weight percent expressed as phenanthrene, whereas enhanced mineral oils typically

have a PAH content of 0.001 or lower weight percent PAH expressed as phenanthrene.

31. "End of well" describes the point during drilling when the greatest well depth is obtained.
32. "Excess cement slurry" means the excess cement and wastes from equipment washdown after a cementing operation.
33. "Exploratory" operations are limited to those operations involving drilling to determine the nature of potential hydrocarbon reserves and does not include drilling of wells once a hydrocarbon reserve has been defined. Discharges from exploratory operations are limited to five wells per site.
34. "Filter Backwash" means wastewater generated when filters are cleaned and maintained.
35. "Fire control system test water" means the water released during the training of personnel in fire protection and the testing and maintenance of fire protection equipment.
36. "GC" means gas chromatography. "GC/MS" means gas chromatography/mass spectrometry.
37. A "Grab" sample is a single sample or measurement taken at a specific time or over as short a period of time as is feasible.
38. "Hg" means mercury.
39. "Hydrotest water" is filtered sea water, or occasionally fresh water, used to test the integrity of unused produced water lines, or produced water lines which are suspected of leaking or which have recently been repaired.
40. "Interim Minimum Level" means the level calculated when a method specified ML does not exist. It is equal to 3.18 times the method specified MDL.
41. "lb/bbl" means pounds per barrel.
42. "LC<sub>50</sub>" means the concentration of effluent that is acutely toxic to 50 percent of the test organisms exposed.
43. "Maximum daily discharge limitation" means the highest allowable "daily discharge."
44. "Maximum hourly rate" as applied to drilling mud, cuttings, and washwater means the greatest number of barrels of drilling fluids discharged within one hour, expressed as barrels per hour.
45. "Method Detection Limit (MDL)" means the minimum concentration of an analyte that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero as determined by a specific laboratory method.
46. "Minimum Level" (ML) means the concentration at which the entire analytical system must give recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedures, assuming that all the method specified sample weights, volumes and processing steps have been followed.

47. "MGD" means million gallons per day.
48. "mg/kg" means milligrams per kilogram.
49. "mg/l" means milligrams per liter.
50. "Mineral oil" means a class of low volatility petroleum product, generally of lower aromatic hydrocarbon content and lower toxicity than diesel oil.
51. "Mineral oil pills" (also called mineral oil spots) are formulated and circulated in the mud system as a slug in attempt to free stuck pipe. Pills generally consist of two parts: a spotting compound and mineral oil.
52. "Minimum daily" discharge limitation means the lowest allowable "daily discharge.
53. "Monitoring month" means the period consisting of the calendar weeks which end in a given calendar month.
54. "Monthly average" means the average of "daily discharges" over a monitoring month, calculated as the sum of all "daily discharges" measured during a monitoring month divided by the number of "daily discharges" measured during that month.
55. "Muds, cuttings, cement at sea floor" means the materials discharged at the surface of the ocean floor in the early phases of drilling operations, before the well casing is set, and during well abandonment and plugging.
56. "MSD" means marine sanitation device, and is a sanitary wastewater treatment system specifically designed to meet U.S. Coast Guard requirements.
57. "M9IM" means those facilities continuously manned by nine (9) or fewer persons or only intermittently manned by any number of persons.
58. "M10" means those facilities continuously manned by ten (10) or more persons.
59. "NAA" means neutron activation analysis.
60. "No discharge of free oil" means that waste streams may not be discharged when they would cause a film or sheen upon or a discoloration of the surface of the receiving water or fail the static sheen test defined in Appendix 1 to 40 CFR 435, Subpart A.
61. "No discharge of diesel oil" in drilling mud means a determination that diesel oil is not present based on a comparison of the gas chromatogram from an extract of the drilling mud and from diesel oil obtained from the drilling rig or platform. GC/MS may also be used.
62. "NOEC" means no observable effect concentration. The NOEC is the highest tested concentration of an effluent at which no adverse effects are observed on the test organisms at a specific time of observation.
63. "Non-contact cooling water" - see "cooling water."
64. "Oil-based drilling mud" means a drilling mud with fossil-derived petroleum hydrocarbons as the continuous phase.
65. "Open water" means less than 25 percent ice coverage within a one mile radius of the discharge site.

66. "Produced solids" means sands and other solids deposited from produced water which collect in vessels and lines and which must be removed to maintain adequate vessel and line capacities
67. "Produced water" means fluid extracted from a hydrocarbon reserve during development or production, and hydrotest water. The fluid is generally a mixture of oil, water, and natural gas. This may include formation water, injection water, and any chemicals added downhole or during the oil/water separation process.
68. "Production" operations are those operations involving active recovery of hydrocarbons from production formations. These operations may occur simultaneously with or following development operations.
69. "SPP" means the suspended particulate phase of a muds sample, the preparation of which is described in 40 CFR 435, Subpart A, Appendix 2.
70. "Sanitary wastes" means human body waste discharged from toilets and urinals.
71. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
72. "Site" means the single, specific geographical location where a mobile drilling facility (jackup rig, semi-submersible, or arctic mobile rig) conducts its activity, including the area beneath the facility, or to a location of a single gravel island.
73. "Slush ice" occurs during the initial stage of ice formation when unconsolidated individual ice crystals (frazil) form a slush layer at the surface of the water column.
74. "Stable ice" means ice that is stable enough to support discharged muds and cuttings.
75. "State waters," or territorial seas, means the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea or the line marking the seaward limit of inland waters ("baseline"), and extending seaward a distance of three miles. The line which marks the seaward limit of inland waters is also referred to as the inner boundary of the territorial seas, and is illustrated by the line separating coastal and offshore waters in Figure 1.
76. "Static Sheen Test" means the standard test procedures that has been developed for this industrial subcategory for the purpose of demonstrating compliance with the requirement of no discharge of free oil. The methodology for performing the static sheen test is presented in Appendix 1 to Subpart A of 40 CFR 435.
77. "Synthetic material" as applied to synthetic-based drilling fluid means material produced by the reaction of specific purified chemical feedstock, as opposed to the traditional base fluids such as diesel and mineral oil which are derived from crude oil solely through physical separation processes. Physical separation processes include fractionation and distillation and/or minor chemical reactions such as cracking and hydro processing. Since they are synthesized by the reaction of purified compounds, synthetic materials suitable for use in drilling fluids are typically free of polycyclic aromatic hydrocarbons (PAHs) but test sometimes report levels of PAH up to 0.001 weight percent PAH expressed as phenanthrene. Poly (alpha olefins) and vegetable esters are two examples of synthetic materials used by the oil and gas extraction industry in

formulating drilling fluids. Poly (alpha olefins) are synthesized from the polymerization (dimerization trimerization, tetramerization and higher oligomerization) of purified straight-chain hydrocarbons such as C<sub>6</sub>-C<sub>14</sub> alpha olefins. Vegetable esters are synthesized from the acid-catalyzed esterification of vegetable fatty acids with various alcohols. The mention of these two synthetic fluid base materials is to provide examples, and is not meant to exclude other synthetic materials that are either in current use or may be used in the future. A synthetic-based drilling fluid may include a combination of synthetic materials.

78. "Test fluid" means the discharge which would occur should hydrocarbons be located during exploratory drilling and tested for formation pressure and content. This would consist of fluids sent downhole during testing along with water from the formation.
79. "TOC" means total organic carbon.
80. A "24-hour composite" sample must mean a flow-proportioned mixture of not less than 8 discrete aliquots. Each aliquot must be a grab sample of not less than 100 ml and must be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for the Examination of Water and Wastewater.
81. "Unstable or broken ice conditions" means greater than 25% ice coverage within a one mile radius of the discharge site after spring breakup or after the start of slush ice formation in the fall, but not stable ice.
82. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
83. "Waste stream" means any non-de minimis stream of pollutants within the Permittee's facility that enters any permitted outfall or navigable waters. This includes spills and other unintentional, non-routine or unanticipated discharges.
84. "Waterflooding discharges" means discharges associated with the treatment of seawater prior to its injection into a hydrocarbon-bearing formation to improve the flow of hydrocarbons from production wells, and prior to its use in operating physical/chemical treatment units for sanitary waste. These discharges include strainer and filter backwash water.
85. "Weekly average" means the average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week. For fecal coliform bacteria, the weekly average is calculated as the geometric mean of all daily discharges measured during a calendar week.
86. "Well completion fluids" are salt solutions, weighted brines, polymers and various additives used to prevent damage to the well bore during operations which prepare the drilled well for hydrocarbon production. These fluids move into the formation and return to the surface as a slug with the produced water.
87. A "well treatment fluid" is any fluid used to restore or improve productivity by chemically or physically altering hydrocarbon bearing strata after a well has been drilled.
88. "Workover fluids" are salt solutions, weighted brines, polymers, or other specialty additives used in a producing well to allow for maintenance, repair or abandonment procedures. Drilling fluids used during workover operations are not considered

workover fluids by definition. Packer fluids (low solid fluids between the packer, production string, and well casing) are considered to be workover fluids.

89. "XFA" means x-ray fluorescence analysis.
90. "96-hour LC50" means the concentration of a test material that is lethal to 50 percent of the test organisms in a toxicity test after 96 hours of constant exposure.
91. " $\mu\text{g/l}$ " means micrograms per liter.