special attention (AMSA) are located in
the area covered by this permit.
Palmer Bay Flats SGR
Goose Bay SGR
Potter Point SGR
Susitna Flats SGR
McNeil River SGS
Redoubt Bay CHA
Trading Bay SGR
Kalgin Island CHA
Clam Gulch CHA
Kachemak Bay CHA
Anchorage Coastal Wildlife Refuge
Port Graham/Nanwalek AMSA

The legal descriptions of these state specialty areas are found in Alaska Statute (AS) 16.20. The present boundaries of these state special areas are described in "State of Alaska Game Refuges, Critical Habitat Areas, and Game Sanctuaries." Further information may also 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.

C. Discharge 001 (Drilling Muds and Cuttings)

The term "drilling fluid" generally includes all compositions of fluids used to aid the production and removal of cuttings (particles from geological formations) from a borehole in the earth. The essential function of drilling fluids are:

• to carry cuttings to the surface,

• to cool and clean drill bit & reduce friction in the borehole,

• to maintain pressure balance between formation and borehole in uncased sections of hole, and

• to assist in collection and interpretation of information available from cuttings, cores, electrical logs, etc.

All drilling fluids fall into one of three classes based on their principal components: gas (e.g., mist or foam), water, or oil. When the main component of the drilling fluid is liquid (i.e., water or oil), it is referred to as "mud." All of Region 10's previous permits only cover the discharge of muds because gas fluids are not used for most offshore or coastal drilling operations.

As discussed in subsections 1 and 2 below, the discharge of oil-based muds is limited because they do not comply with the no free oil limitation. Furthermore, the discharge of diesel oil as a mud base or as part of an additive is strictly prohibited. The basis for the diesel prohibition is substitution of mineral oil (which is less toxic) when lubrication is required.

As discussed in section III.A. and as shown on Table 1, the following BCT-

and BAT-based permit requirements are based on the Effluent Limitations Guidelines and New Source Performance Standards for the Offshore Subcategory, promulgated by the Agency in March, 1993 (40 CFR Part 435, Subpart A). In the absence of promulgated rules for coastal (i.e., upper) Cook Inlet, EPA has used Best Professional Judgement in applying BCT and BAT Offshore requirements to all applicable Coastal operations although the acronyms "BPJ/BCT" and "BPJ/ BAT" are not added in the discussion below. To simplify the discussion, the bases for establishing permit limits are discussed in terms of the applicable Offshore Guidelines, BCT and BAT.

1. BCT Limitations on Drilling Muds and Cuttings

Free oil & oil-based muds: No free oil is permitted from the discharge of drilling mud, drill cuttings, or washwater, based on BPT guidelines. The discharge of oil-based drilling fluids is prohibited since oil-based fluids would violate the BCT effluent limitations of no discharge of free oil. These discharges have been subject to a no free oil limitation in previous permits issued by Region 10 and past practices have not resulted in violations of the limitation. No technology performance data available to Region 10 indicate that more stringent standards are appropriate at this time. Region 10 has, therefore, set BCT limitations equal to the BPT level of control. As such, these limitations impose no incremental costs.

Compliance with the free oil limitation will be monitored by yearround use of the Static Sheen Test daily and before bulk discharges. Region 10 requires use of the Static Sheen Test because visual observation of the discharge for sheen upon the receiving water will not prevent violations of the standard. This test is also appropriate for the harsh weather and extended periods of darkness common in Alaska.

Previous permits issued by Region 10 contained a limit on the oil content of cuttings (not to exceed 10% (wt), based on use of cuttings washers). In the proposed permit, however, the 10% (wt) limit has been rejected in favor of the no free oil limitation contained in the Offshore guidelines (58 FR 12454, March 4, 1993). The Agency rejected an oil content limit because limitations on other pollutant parameters (diesel oil, free oil and toxicity) are sufficient to reduce toxics from drilling wastes (at 56 FR 10682 and 56 FR 10685, March 13, 1991). Because the no free oil limitation is more stringent than the 10% (wt) limitation on the oil content of cuttings,

this change does not invoke antibacksliding provisions (see 40 CFR 122.44(1)(2)).

Oil content of cuttings: The proposed permit limits the discharge of oilcontaminated drill cuttings by prohibiting the discharge of free oil, which is BCT (see Part III.B. of the permit). The proposed permit requires an analysis of cuttings for oil content daily when oil-based drilling fluids or mineral oil additives are used. In addition, analysis is required immediately on any sample that has failed the daily Static Sheen Test if a discharge has occurred. Two alternative analytical methods for determining the oil content of drill cuttings are specified in the permit: (1) the soxhlet extraction procedure for oil and grease (as specified in 40 CFR Part 136), and (2) the American Petroleum Institute (API) retort distillation procedure for oil (Recommended Practice 13B, 1990).

2. BAT Limitations on Drilling Muds and Cuttings

Diesel oil: The discharge of drilling muds and cuttings which have been contaminated by diesel oil is prohibited by the Agency, in accordance with the offshore oil and gas effluent guidelines (58 FR 12469, March 4, 1993). The prohibition on the discharge of diesel oil has been part of all of the general NPDES permits issued by Region 10 for the Offshore and Coastal Subcategories. Diesel oil, which is sometimes added to a water-based mud system, is a complex mixture of petroleum hydrocarbons, known to be highly toxic to marine organisms and to contain numerous toxic and nonconventional pollutants. The pollutant "diesel oil" is being used as an "indicator" of the listed toxic pollutants present in diesel oil which are controlled through compliance with the effluent limitation (i.e., no discharge). The technology basis for this limitation is product substitution of less toxic mineral oil for diesel oil.

Mercury and Cadmium in Barite: In accordance with the offshore oil and gas effluent guidelines (58 FR 12569, March 4, 1993), the proposed permit contains limitations of 1 mg/kg mercury and 3 mg/kg cadmium in barite. Barite is a major constituent of drilling muds. These restrictions are designed to limit the discharge of mercury, cadmium, and other potentially toxic metals which can occur as contaminants in some sources of barite. The justification for the limitation under BAT is product substitution. That is, Alaskan operators can substitute "clean" barite, which meets the above limitations, for contaminated barite, which does not meet the limitations. Numerous offshore