

**Subpart E—Agricultural and Wildlife Water Use Subcategory**

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- 435.70 Applicability.
- AUTHORITY: 33 U.S.C. 1311, 1314, 1316, 1317, 1318, 1342 and 1361.
- SOURCE: 44 FR 22075, Apr. 13, 1979, unless otherwise noted.

**Subpart A—Offshore Subcategory**

SOURCE: 58 FR 12504, Mar. 4, 1993, unless otherwise noted.

**§ 435.10 Applicability; description of the offshore subcategory.**

The provisions of this subpart are applicable to those facilities engaged in field exploration, drilling, well production, and well treatment in the oil and gas industry which are located in waters that are seaward of the inner boundary of the territorial seas (“offshore”) as defined in section 502(g) of the Clean Water Act.

[61 FR 66123, Dec. 16, 1996]

**§ 435.11 Specialized definitions.**

For the purpose of this subpart:

- (a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR part 401 shall apply to this subpart.
- (b) *Average of daily values for 30 consecutive days* means the average of the daily values obtained during any 30 consecutive day period.
- (c) *Base fluid* means the continuous phase or suspending medium of a drilling fluid formulation.
- (d) *Base fluid retained on cuttings* as applied to BAT effluent limitations and NSPS refers to the American Petroleum Institute Recommended Prac-

tice 13B-2 supplemented with the specifications, sampling methods, and averaging method for retention values provided in Appendix 7 of Subpart A of this part.

(e) *Biodegradation rate* as applied to BAT effluent limitations and NSPS for drilling fluids and drill cuttings refers to the ISO 11734:1995 method: “Water quality—Evaluation of the ‘ultimate’ anaerobic biodegradability of organic compounds in digested sludge—Method by measurement of the biogas production (1995 edition)” supplemented with modifications in Appendix 4 of 40 CFR part 435, subpart A. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from the American National Standards Institute, 11 West 42nd Street, 13th Floor, New York, NY 10036. Copies may be inspected at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC. A copy may also be inspected at EPA’s Water Docket, 401 M Street SW., Washington, DC 20460.

(f) *Daily values* as applied to produced water effluent limitations and NSPS means the daily measurements used to assess compliance with the maximum for any one day.

(g) *Deck drainage* means any waste resulting from deck washings, spillage, rainwater, and runoff from gutters and drains including drip pans and work areas within facilities subject to this Subpart.

(h) *Development facility* means any fixed or mobile structure subject to this subpart that is engaged in the drilling of productive wells.

(i) *Diesel oil* refers to the grade of distillate fuel oil, as specified in the American Society for Testing and Materials Standard Specification for Diesel Fuel Oils D975-91, that is typically used as the continuous phase in conventional oil-based drilling fluids. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA, 19428. Copies may be inspected at the

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Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC. A copy may also be inspected at EPA's Water Docket, 1200 Pennsylvania Ave., NW., Washington, DC 20460.

(j) *Domestic waste* means materials discharged from sinks, showers, laundries, safety showers, eye-wash stations, hand-wash stations, fish cleaning stations, and galleys located within facilities subject to this Subpart.

(k) *Drill cuttings* means the particles generated by drilling into subsurface geologic formations and carried out from the wellbore with the drilling fluid. Examples of drill cuttings include small pieces of rock varying in size and texture from fine silt to gravel. Drill cuttings are generally generated from solids control equipment and settle out and accumulate in quiescent areas in the solids control equipment or other equipment processing drilling fluid (*i.e.*, accumulated solids).

(1) *Wet drill cuttings* means the unaltered drill cuttings and adhering drilling fluid and formation oil carried out from the wellbore with the drilling fluid.

(2) *Dry drill cuttings* means the residue remaining in the retort vessel after completing the retort procedure specified in appendix 7 of subpart A of this part.

(l) *Drilling fluid* means the circulating fluid (mud) used in the rotary drilling of wells to clean and condition the hole and to counterbalance formation pressure. Classes of drilling fluids are:

(1) *Water-based drilling fluid* means the continuous phase and suspending medium for solids is a water-miscible fluid, regardless of the presence of oil.

(2) *Non-aqueous drilling fluid* means the continuous phase and suspending medium for solids is a water-immiscible fluid, such as oleaginous materials (*e.g.*, mineral oil, enhanced mineral oil, paraffinic oil, C<sub>16</sub>-C<sub>18</sub> internal olefins, and C<sub>8</sub>-C<sub>16</sub> fatty acid/2-ethylhexyl esters).

(i) *Oil-based* means the continuous phase of the drilling fluid consists of diesel oil, mineral oil, or some other oil, but contains no synthetic material or enhanced mineral oil.

(ii) *Enhanced mineral oil-based* means the continuous phase of the drilling fluid is enhanced mineral oil.

(iii) *Synthetic-based* means the continuous phase of the drilling fluid is a synthetic material or a combination of synthetic materials.

(m) *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.

(n) *Exploratory facility* means any fixed or mobile structure subject to this Subpart that is engaged in the drilling of wells to determine the nature of potential hydrocarbon reservoirs.

(o) *Formation oil* means the oil from a producing formation which is detected in the drilling fluid, as determined by the GC/MS compliance assurance method specified in appendix 5 of subpart A of this part when the drilling fluid is analyzed before being shipped offshore, and as determined by the RPE method specified in appendix 6 of subpart A of this part when the drilling fluid is analyzed at the offshore point of discharge. Detection of formation oil by the RPE method may be confirmed by the GC/MS compliance assurance method, and the results of the GC/MS compliance assurance method shall supersede those of the RPE method.

(p) *M9IM* means those offshore facilities continuously manned by nine (9) or fewer persons or only intermittently manned by any number of persons.

(q) *M10* means those offshore facilities continuously manned by ten (10) or more persons.

(r) *Maximum* as applied to BAT effluent limitations and NSPS for drilling fluids and drill cuttings means the maximum concentration allowed as measured in any single sample of the barite for determination of cadmium and mercury content.

(s) *Maximum for any one day* as applied to BPT, BCT and BAT effluent limitations and NSPS for oil and grease in produced water means the maximum concentration allowed as measured by the average of four grab samples collected over a 24-hour period that are analyzed separately. Alternatively, for BAT and NSPS the maximum concentration allowed may be determined on the basis of physical composition of the four grab samples prior to a single analysis.

(t) *Maximum weighted mass ratio averaged over all NAF well sections* for BAT effluent limitations and NSPS for base fluid retained on cuttings means the weighted average base fluid retention for all NAF well sections as determined by the API Recommended Practice 13B-2, using the methods and averaging calculations presented in Appendix 7 of subpart A of this part.

(u) *Method 1654A* refers to Method 1654, Revision A, entitled "PAH Content of Oil by HPLC/UV," December 1992, which is published in *Methods for the Determination of Diesel, Mineral, and Crude Oils in Offshore Oil and Gas Industry Discharges*, EPA-821-R-92-008. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from the National Technical Information Service, Springfield, VA 22161, 703-605-6000. Copies may be inspected at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC. A copy may also be inspected at EPA's Water Docket, 1200 Pennsylvania Ave., NW., Washington, DC 20460.

(v) *Minimum* as applied to BAT effluent limitations and NSPS for drilling fluids and drill cuttings means the minimum 96-hour LC<sub>50</sub> value allowed as measured in any single sample of the discharged waste stream. *Minimum* as applied to BPT and BCT effluent limitations and NSPS for sanitary wastes means the minimum concentration value allowed as measured in any single sample of the discharged waste stream.

(w)(1) *New source* means any facility or activity of this subcategory that meets the definition of "new source" under 40 CFR 122.2 and meets the cri-

teria for determination of new sources under 40 CFR 122.29(b) applied consistently with all of the following definitions:

(i) *Water area* as used in "site" in 40 CFR 122.29 and 122.2 means the water area and water body floor beneath any exploratory, development, or production facility where such facility is conducting its exploratory, development or production activities.

(ii) *Significant site preparation work* as used in 40 CFR 122.29 means the process of surveying, clearing or preparing an area of the water body floor for the purpose of constructing or placing a development or production facility on or over the site.

(2) "New Source" does not include facilities covered by an existing NPDES permit immediately prior to the effective date of these guidelines pending EPA issuance of a new source NPDES permit.

(x) *No discharge of free oil* means that waste streams may not be discharged that contain free oil as evidenced by the monitoring method specified for that particular stream, e.g., deck drainage or miscellaneous discharges cannot be discharged when they would cause a film or sheen upon or discoloration of the surface of the receiving water; drilling fluids or cuttings may not be discharged when they fail the static sheen test defined in Appendix 1 of subpart A of this part.

(y) Parameters that are regulated in this Subpart and listed with approved methods of analysis in Table 1B at 40 CFR 136.3 are defined as follows:

(1) *Cadmium* means total cadmium.

(2) *Chlorine* means total residual chlorine.

(3) *Mercury* means total mercury.

(4) *Oil and Grease* means total recoverable oil and grease.

(z) *PAH (as phenanthrene)* means polynuclear aromatic hydrocarbons reported as phenanthrene.

(aa) *Produced sand* means the slurried particles used in hydraulic fracturing, the accumulated formation sands and scales particles generated during production. Produced sand also includes desander discharge from the produced water waste stream, and blowdown of the water phase from the produced water treating system.

(bb) *Produced water* means the water (brine) brought up from the hydrocarbon-bearing strata during the extraction of oil and gas, and can include formation water, injection water, and any chemicals added downhole or during the oil/water separation process.

(cc) *Production facility* means any fixed or mobile structure subject to this Subpart that is either engaged in well completion or used for active recovery of hydrocarbons from producing formations.

(dd) *Sanitary waste* means the human body waste discharged from toilets and urinals located within facilities subject to this Subpart.

(ee) *Sediment toxicity* as applied to BAT effluent limitations and NSPS for drilling fluids and drill cuttings refers to the ASTM E 1367-92 method: "Standard Guide for Conducting 10-day Static Sediment Toxicity Tests with Marine and Estuarine Amphipods," 1992, with *Leptocheirus plumulosus* as the test organism and sediment preparation procedures specified in Appendix 3 of 40 CFR part 435, subpart A. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA, 19428. Copies may be inspected at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC. A copy may also be inspected at EPA's Water Docket, 1200 Pennsylvania Ave., NW., Washington, DC 20460.

(ff) *Solids control equipment* means shale shakers, centrifuges, mud cleaners, and other equipment used to separate drill cuttings and/or stock barite solids from drilling fluid recovered from the wellbore.

(gg) *SPP toxicity* as applied to BAT effluent limitations and NSPS for drilling fluids and drill cuttings refers to the bioassay test procedure presented in Appendix 2 of subpart A of this part.

(hh) *Static sheen test* means the standard test procedure 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 pre-

sented in Appendix 1 of subpart A of this part.

(ii) *Stock barite* means the barite that was used to formulate a drilling fluid.

(jj) *Stock base fluid* means the base fluid that was used to formulate a drilling fluid.

(kk) *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 (PAH's) but are sometimes found to contain levels of PAH up to 0.001 weight percent PAH expressed as phenanthrene. Internal olefins and vegetable esters are two examples of synthetic materials suitable for use by the oil and gas extraction industry in formulating drilling fluids. Internal olefins are synthesized from the isomerization of purified straight-chain (linear) hydrocarbons such as C<sub>16</sub>-C<sub>18</sub> linear alpha olefins. C<sub>16</sub>-C<sub>18</sub> linear alpha olefins are unsaturated hydrocarbons with the carbon to carbon double bond in the terminal position. Internal olefins are typically formed from heating linear alpha olefins with a catalyst. The feed material for synthetic linear alpha olefins is typically purified ethylene. Vegetable esters are synthesized from the acid-catalyzed esterification of vegetable fatty acids with various alcohols. EPA listed these two branches of synthetic fluid base materials to provide examples, and EPA does not mean 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.

(ll) *Well completion fluids* means salt solutions, weighted brines, polymers, and various additives used to prevent

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damage to the well bore during operations which prepare the drilled well for hydrocarbon production.

(mm) *Well treatment fluids* means any fluid used to restore or improve productivity by chemically or physically altering hydrocarbon-bearing strata after a well has been drilled.

(nn) *Workover fluids* means salt solutions, weighted brines, polymers, or other specialty additives used in a producing well to allow for maintenance, repair or abandonment procedures.

(oo) *4-day LC<sub>50</sub>* as applied to the sediment toxicity BAT effluent limitations and NSPS means the concentration (milligrams/kilogram dry sediment) of the drilling fluid in sediment that is lethal to 50 percent of the *Leptocheirus plumulosus* test organisms exposed to that concentration of the drilling fluids after four days of constant exposure.

(pp) *10-day LC<sub>50</sub>* as applied to the sediment toxicity BAT effluent limitations and NSPS means the concentration (milligrams/kilogram dry sediment) of the base fluid in sediment that is lethal to 50 percent of the *Leptocheirus plumulosus* test organisms exposed to that concentration of the base fluids after ten days of constant exposure.

(qq) *96-hour LC<sub>50</sub>* means the concentration (parts per million) or percent of the suspended particulate phase (SPP) from a sample that is lethal to 50 percent of the test organisms exposed to that concentration of the SPP after 96 hours of constant exposure.

(rr) *C<sub>16</sub>-C<sub>18</sub> internal olefin* means a 65/35 blend, proportioned by mass, of hexadecene and octadecene, respectively. Hexadecene is an unsaturated hydrocarbon with a carbon chain length of 16, an internal double carbon bond, and is represented by the Chemical Abstracts Service (CAS) No. 26952-14-7. Octadecene is an unsaturated hydrocarbon with a carbon chain length of 18, an internal double carbon bond, and is represented by the Chemical Abstracts Service (CAS) No. 27070-58-2. (Properties available from the Chemical Abstracts Service, 2540 Olentangy River Road, PO Box 3012, Columbus, OH, 43210).

(ss) *C<sub>16</sub>-C<sub>18</sub> internal olefin drilling fluid* means a *C<sub>16</sub>-C<sub>18</sub> internal olefin* drilling

fluid formulated as specified in Appendix 8 of subpart A of this part.

(tt) *C<sub>12</sub>-C<sub>14</sub> ester* and *C<sub>8</sub> ester* means the fatty acid/2-ethylhexyl esters with carbon chain lengths ranging from 8 to 16 and represented by the Chemical Abstracts Service (CAS) No. 135800-37-2. (Properties available from the Chemical Abstracts Service, 2540 Olentangy River Road, PO Box 3012, Columbus, OH, 43210)

[61 FR 66124, Dec. 16, 1996, as amended at 66 FR 6895, Jan. 22, 2001]

**§ 435.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).**

Except as provided in 40 CFR 125.30-32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available:

**BPT EFFLUENT LIMITATIONS—OIL AND GREASE**  
[In milligrams per liter]

Pollutant parameter waste source	Maximum for any 1 day	Average of values for 30 consecutive days shall not exceed	Residual chlorine minimum for any 1 day
Produced water .....	72	48	NA
Deck drainage .....	( <sup>1</sup> )	( <sup>1</sup> )	NA
Water-based:			
Drilling fluids .....	( <sup>1</sup> )	( <sup>1</sup> )	NA
Drill Cuttings .....	( <sup>1</sup> )	( <sup>1</sup> )	NA
Non-aqueous:			
Drilling fluids .....	No discharge	No discharge	NA
Drill Cuttings .....	( <sup>1</sup> )	( <sup>1</sup> )	NA
Well treatment fluids .....	( <sup>1</sup> )	( <sup>1</sup> )	NA
Sanitary:			
M10 .....	NA	NA	≥ 1
M9IM <sup>3</sup> .....	NA	NA	NA
Domestic .....	NA	NA	NA

<sup>1</sup> No discharge of free oil.

<sup>2</sup> Minimum of 1 mg/l and maintained as close to this concentration as possible.

<sup>3</sup> There shall be no floating solids as a result of the discharge of these wastes.

[58 FR 12504, Apr. 13, 1979, as amended at 66 FR 6897, Jan. 22, 2001]