This Class 507 is considered to be an integral part of Class 252 (see the Class 252 schedule for the position of this Class in schedule hierarchy). This Class retains all pertinent definitions and class lines of Class 252.

90 **PREVENTING CONTAMINANT DEPOSITS IN PETROLEUM OIL CONDUITS**
100 **EARTH BORING**
101 .Contains enzyme or living microorganism
102 .Contains intended gaseous phase at entry into wellbore
103 .Contains organic component
104 ..Organic component is cellular or fibrous material derived from plant or animal source (e.g., wood, nutshell, paper, leather, cotton, etc.)
105 ..Organic component contains fluorine bonded directly to carbon
106 ..Organic component is lignin or humate or derivative thereof (e.g., tannin, quebracho extract, etc.)
107 ...Humate component is fossilized (e.g., lignite, leonardite, brown coal, etc.)
108 ...Lignin or humate component contains sulfur or is reacted with substance containing sulfur (e.g., lignosulfonate, etc.)
109 ....Includes metal compound other than an alkali or alkaline earth metal compound (e.g., Al, Cr, Fe, Mn, Cu, etc.)
110 ..Organic component is carbohydrate or derivative thereof (e.g., sugar or gum, such as galactomannan, xanthan, etc.) or carboxylic acid ester of an alcohol which has five or more hydroxy groups bonded directly to carbons
111 ...Carbohydrate is starch or derivative thereof
112 ...Carbohydrate is cellulose or derivative thereof
113 ....Carboxyalkylcellulose (e.g., CMC, CMHEC, etc.)
114 ....Hydroxyalkylcellulose (e.g., HEC, etc.)
115 ...Carbohydrate is hydroxyalkyl ether derivative (e.g., HPG, etc.)
116 ...Ester is higher fatty or carboxylic acid ester (e.g., sorbitan oleate, etc.)
117 ..Organic component is solid synthetic resin
118 ...Resin is polymer derived from ethylenic monomers only (e.g., maleic, itaconic, etc.)
119 ....Polymer derived from acrylic acid monomer or derivative
120 .....Nitrogen is attached directly or indirectly to the acrylic acid monomer or derivative by nonionic bonding (e.g., acrylamide, acrylonitrile, etc.)
121 ......Sulfur is attached directly or indirectly to the acrylic acid monomer or derivative by nonionic bonding (e.g., acrylamidoalkane sulfonates, etc.)
122 ....Sulfur is attached directly or indirectly to the ethylenic monomer by nonionic bonding
123 ....Hetero nitrogen ring is attached directly or indirectly to the ethylenic monomer by nonionic bonding
124 ....Polymer contains vinyl alcohol unit
125 ....Carbocyclic ring is attached directly or indirectly to the ethylenic monomer by nonionic bonding (e.g., styrene, vinyl toluene, etc.)
126 ..Organic component is asphalt or a component or derivative thereof
127 ..Organic component contains silicon attached directly or indirectly to carbon by nonionic bonding

128 ..Organic component contains phosphorous attached directly or indirectly to carbon by nonionic bonding
129 ..Organic component contains nitrogen attached directly or indirectly to carbon by nonionic bonding
130 ...Nitrogen is part of a hetero ring
131 ...Oxygen is attached directly or indirectly to carbon by nonionic bonding
132 ....Organic component contains a nitrogen attached directly to oxygen by nonionic bonding (e.g., nitroaromatic, amineoxide, etc.)
133 ....Organic component contains an ether linkage
134 ..Organic component contains sulfur attached directly or indirectly to carbon by nonionic bonding
135 ...Organic component contains a sulfur attached directly to carbon by nonionic bonding (e.g., sulfonate, etc.)
136 ..Organic component contains ether linkage (e.g., PEG ether, etc.)
137 ..Organic component contains a carbocyclic group (e.g., cyclic alkyl, aromatic, tall oil, etc.)
138 ..Organic component is a fat, fatty alcohol, fatty oil, ester-type wax, fatty still residue, or higher fatty acid or salt thereof
139 ..Organic component contains an alcohol group
140 .Contains inorganic component other than water or clay
141 ..Inorganic component contains soluble potassium salt
142 ..Inorganic component contains phosphorous
143 ..Inorganic component is elemental metal or alloy
144 ..Inorganic component is asbestos
145 ..Inorganic component is soluble in boring medium
200 **WELL TREATING**
201 .Contains enzyme or living micro-organism
202 .Contains intended gaseous phase at entry into wellbore
203 .Contains organic component
204 ..Organic component is cellular or fibrous material derived from plant or animal source (e.g., wood, nutshell, paper, leather, cotton, etc.)
205 ..Organic component contains fluorine bonded directly to carbon
206 ..Organic component is lignin or humate or derivative thereof (e.g., tannin, quebracho extract, etc.)
207 ...Lignin or humate component contains sulfur or is reacted with substance containing sulfur (e.g., lignosulfonate, etc.)
208 ....Includes metal compound other than an alkali or alkaline earth metal compound (e.g., Al, Cr, Fe, Mn, Cu, etc.)
209 ..Organic component is carbohydrate or derivative thereof (e.g., sugar or gum, such as galactomannan, etc.) or carboxylic acid ester of an alcohol which has five or more hydroxy groups bonded directly to carbons
210 ...Carbohydrate has been grafted onto solid synthetic resin
211 ...Carbohydrate is polysaccharide
212 ....Polysaccharide is starch or derivative thereof
213 ....Polysaccharide is a xanthan (e.g., scleroglucans, etc.)
214 ....Polysaccharide is cellulose or derivative thereof
215 .....Carboxyalkylcellulose (e.g., CMC, CMHEC, etc.)
216 .....Hydroxyalkylcellulose (e.g., HEC, etc.)
217 ....Polysaccharide is hydroxyalkyl ether derivative (e.g., HPG, etc.)
218 ...Ester is higher fatty or carboxylic acid ester (e.g., sorbitan oleate, etc.)

219 ..Organic component is solid synthetic resin
220 ...Resin is polymer derived from phenolic and aldehydic monomers
221 ...Resin is polymer derived from ethylenic monomers only (e.g., maleic, itaconic, etc.)
222 ....Polymer derived from monomer having quaternary ammonium group
223 .....Nitrogen of the quaternary ammonium group is a member of a hetero ring
224 ....Polymer derived from acrylic acid monomer or derivative
225 .....Nitrogen is attached directly or indirectly to the acrylic acid monomer or derivative by nonionic bonding (e.g., acrylamide, acrylonitrile, etc.)
226 ......Sulfur is attached directly or indirectly to the acrylic acid monomer or derivative by nonionic bonding (e.g., acrylamidoalkane sulfonates, etc.)
227 ....Sulfur is attached directly or indirectly to the ethylenic monomer by nonionic bonding
228 .....Monomer contains benzene ring and sulfonate group
229 ....Hetero nitrogen ring is attached directly or indirectly to the ethylenic monomer by nonionic bonding
230 ....Polymer contains vinyl alcohol unit
231 ....Carbocyclic ring is attached directly or indirectly to the ethylenic monomer by nonionic bonding (e.g., styrene, vinyl toluene, etc.)
232 ..Organic component is asphalt or a component or derivative thereof
233 ..Organic component contains silicon attached directly or indirectly to carbon by nonionic bonding
234 ...Organic component contains a direct carbon to silicon bond
235 ..Organic component contains phosphorus attached directly or indirectly to carbon by nonionic bonding
236 ...Organic component contains nitrogen attached directly or indirectly to carbon by nonionic bonding
237 ...Organic component contains a direct carbon to phosphorous nonionic bond (e.g., phosphonate, etc.)
238 ...Organic component is a phosphate ester
239 ..Organic component contains nitrogen attached directly or indirectly to carbon by nonionic bonding
240 ...Organic component is quaternary ammonium salt
241 ...Organic component contains plural carboxylic acid, ester, or salt groups attached directly or indirectly to nitrogen by nonionic bonding
242 ...Nitrogen is part of a hetero ring
243 ....Plural heteroatoms in the ring
244 ...Oxygen is attached directly or indirectly to carbon by nonionic bonding
245 ....Organic component contains a nitrogen attached directly to oxygen by nonionic bonding (e.g., nitroaromatic, amineoxide, etc.)
246 ....Organic component contains an ether linkage
247 ...Sulfur is attached directly or indirectly to carbon by nonionic bonding
248 ...Organic component consists only of carbon, hydrogen, and nitrogen
249 ....Organic component contains carbon double or triple bonded to nitrogen (e.g., cyano, nitrilo, etc.)
250 ....Organic component is acyclic
251 .....Organic component contains plural nitrogen atoms attached directly or indirectly to carbon by nonionic bonding

252 ..Organic component contains sulfur attached directly or indirectly to carbon by nonionic bonding
253 ...Organic component contains ether linkage (i.e., C-O-C)
254 ....The sulfur is part of a sulfate group
255 ....The sulfur is part of a sulfonate group
256 ...Organic component contains a sulfur attached directly to carbon by nonionic bonding
257 ....Plural alkyls attached directly to the same sulfur atom or to a chain of sulfur atoms by nonionic bonding
258 ....Alkyl and hydrogen attached directly to the same sulfur atom or to a chain of sulfur atoms by nonionic bonding
259 ....The sulfur is part of a sulfonate group
260 ..Organic component is polycarboxylic acid, ester, or salt thereof
261 ..Organic component contains ether linkage (e.g., PEG ether, etc.)
262 ...Organic component contains a carbocyclic group
263 ..Organic component contains a carbocyclic group (e.g., cycloaliphatic, aromatic ring, tall oil, etc.)
264 ...Organic component is a phenol
265 ..Organic component is a fat, fatty alcohol, fatty oil, ester-type wax, fatty still residue, or higher fatty acid or salt thereof
266 ..Organic component contains an alcohol group
267 ..Organic component contains carboxylic acid, ester, or salt thereof
268 ..Organic component contains a carbonyl group (e.g., aldehyde, ketone, etc.)
269 .Contains inorganic component other than water or clay
270 ..Inorganic component is elemental metal or alloy
271 ..Inorganic component contains Ti, Zr, V, Cr, Mn, Fe, or Ni
272 ..Inorganic component contains copper or zinc
273 ..Inorganic component contains boron
274 ..Inorganic component contains phosphorous
275 ..Inorganic component contains arsenic or antimony
276 ..Inorganic component contains potassium
277 ..Inorganic component is soluble in the well treating medium

CROSS-REFERENCE ART COLLECTIONS

901 **ORGANICALLY MODIFIED INORGANIC SOLID**
902 **CONTROLLED RELEASE AGENT**
903 **CROSSLINKED RESIN OR POLYMER**
904 **PROCESS OF MAKING FLUIDS OR ADDITIVES THEREFOR**
905 **NONTOXIC COMPOSITION**
906 **SOLID INORGANIC ADDITIVE IN DEFINED PHYSICAL FORM**
907 **INDICATING MEANS (E.G., DYE, FLUORESCING AGENT, ETC.)**

CROSS-REFERENCE ART COLLECTIONS

910 **EARTH BORING FLUID DEVOID OF DISCRETE AQUEOUS PHASE**

CROSS-REFERENCE ART COLLECTIONS

920 **BIOCIDAL**
921 **SPECIFIED BREAKER COMPONENT FOR EMULSION OR GEL**
922 **FRACTURE FLUID**
923 .Fracture acidizing
924 .With specified propping feature
925 **COMPLETION OR WORKOVER FLUID**
926 **PACKER FLUID**
927 **WELL CLEANING FLUID**
928 .Spacing slug or preflush fluid
929 .Cleaning organic contaminant
930 ..Organic contaminant is asphaltic

931 ..Organic contaminant is paraffinic
932 .Cleaning sulfur deposits
933 **ACIDIZING OR FORMATION DESTROYING**
934 .With inhibitor
935 **ENHANCED OIL RECOVERY**
936 .Flooding the formation
937 ..With emulsion
938 ...With microemulsion
939 **CORROSION INHIBITOR**
940 **FREEING STUCK OBJECT FROM WELLBORE**

FOREIGN ART COLLECTIONS

FOR 000 **CLASS-RELATED FOREIGN DOCUMENTS**