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

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...Organic component contains phosphorous attached directly or indirectly to carbon by nonionic bonding

...Organic component contains nitrogen attached directly or indirectly to carbon by nonionic bonding

...Nitrogen is part of a hetero ring

...Oxygen is attached directly or indirectly to carbon by nonionic bonding

...Organic component contains a nitrogen attached directly to oxygen by nonionic bonding (e.g., nitroaromatic, amineoxide, etc.)

...Organic component contains an ether linkage

...Organic component contains sulfur attached directly or indirectly to carbon by nonionic bonding

...Organic component contains a sulfur attached directly to carbon by nonionic bonding (e.g., sulfonate, etc.)

...Organic component contains an ether linkage (e.g., PEG ether, etc.)

...Organic component contains a carbocyclic group (e.g., cyclic alkyl, aromatic, tall oil, etc.)

...Organic component is a fat, fatty alcohol, fatty oil, ester-type wax, fatty still residue, or higher fatty acid or salt thereof

...Organic component contains an alcohol group

...Contains inorganic component other than water or clay

...Inorganic component contains soluble potassium salt

...Inorganic component contains phosphorous

...Inorganic component is elemental metal or alloy

...Inorganic component is asbestos

...Inorganic component is soluble in boring medium

...Organic component contains fluorine bonded directly to carbon

...Organic component is lignin or humate or derivative thereof (e.g., tannin, quebracho extract, etc.)

...Lignin or humate component contains sulfur or is reacted with substance containing sulfur (e.g., lignosulfonate, etc.)

....Includes metal compound other than an alkali or alkaline earth metal compound (e.g., Al, Cr, Fe, Mn, Cu, etc.)

...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

...Carbohydrate has been grafted onto solid synthetic resin

...Carbohydrate is polysaccharide

....Polysaccharide is starch or derivative thereof

....Polysaccharide is a xanthan (e.g., scleroglucans, etc.)

....Polysaccharide is cellulose or derivative thereof

......Carboxyalkylcellulose (e.g., CMC, CMHEC, etc.)

...... Hydroxyalkylcellulose (e.g., HEC, etc.)

......Polysaccharide is hydroxyalkyl ether derivative (e.g., HPG, etc.)

......Ester is higher fatty or carboxylic acid ester (e.g., sorbitan oleate, etc.)
Organic component is solid synthetic resin.

Resin is polymer derived from phenolic and aldehydic monomers.

Resin is polymer derived from ethylenic monomers only (e.g., maleic, itaconic, etc.)

Polymer derived from monomer having quaternary ammonium group.

Nitrogen of the quaternary ammonium group is a member of a hetero ring.

Polymer derived from acrylic acid monomer or derivative.

Nitrogen is attached directly or indirectly to the acrylic acid monomer or derivative by nonionic bonding (e.g., acrylamide, acrylonitrile, etc.).

Sulfur is attached directly or indirectly to the acrylic acid monomer or derivative by nonionic bonding (e.g., acrylamidoalkane sulfonates, etc.)

Sulfur is attached directly or indirectly to the ethylenic monomer by nonionic bonding.

Polymer contains vinyl alcohol unit.

Carbocyclic ring is attached directly or indirectly to the ethylenic monomer by nonionic bonding (e.g., styrene, vinyl toluene, etc.).

Organic component is asphalt or a component or derivative thereof.

Organic component contains silicon attached directly or indirectly to carbon by nonionic bonding.

Organic component contains a direct carbon to silicon bond.

Organic component contains phosphorus attached directly or indirectly to carbon by nonionic bonding.

Organic component contains nitrogen attached directly or indirectly to carbon by nonionic bonding.

Organic component contains a direct carbon to phosphorous nonionic bond (e.g., phosphonate, etc.).

Organic component is a phosphate ester.

Organic component contains nitrogen attached directly or indirectly to carbon by nonionic bonding.

Organic component is quaternary ammonium salt.

Organic component contains plural carboxylic acid, ester, or salt groups attached directly or indirectly to nitrogen by nonionic bonding.

Nitrogen is part of a hetero ring.

Plural heteroatoms in the ring.

Oxygen is attached directly or indirectly to carbon by nonionic bonding.

Organic component contains a nitrogen attached directly to oxygen by nonionic bonding (e.g., nitroaromatic, amineoxide, etc.).

Organic component contains an ether linkage.

Sulfur is attached directly or indirectly to carbon by nonionic bonding.

Organic component consists only of carbon, hydrogen, and nitrogen.

Organic component contains carbon double or triple bonded to nitrogen (e.g., cyano, nitrilo, etc.).

Organic component is acyclic.

Organic component contains plural nitrogen atoms attached directly or indirectly to carbon by nonionic bonding.
..Organic component contains sulfur attached directly or indirectly to carbon by nonionic bonding

..Organic component contains ether linkage (i.e., C–O–C)

....The sulfur is part of a sulfate group

....The sulfur is part of a sulfonate group

...Organic component contains a sulfur attached directly to carbon by nonionic bonding

....Plural alkyls attached directly to the same sulfur atom or to a chain of sulfur atoms by nonionic bonding

....Alkyl and hydrogen attached directly to the same sulfur atom or to a chain of sulfur atoms by nonionic bonding

....The sulfur is part of a sulfonate group

..Organic component is polycarboxylic acid, ester, or salt thereof

..Organic component contains ether linkage (e.g., PEG ether, etc.)

...Organic component contains a carbocyclic group

..Organic component contains a carbocyclic group (e.g., cycloaliphatic, aromatic ring, tall oil, etc.)

...Organic component is a phenol

..Organic component is a fat, fatty alcohol, fatty oil, ester-type wax, fatty still residue, or higher fatty acid or salt thereof

..Organic component contains an alcohol group

..Organic component contains carboxylic acid, ester, or salt thereof

..Organic component contains a carbonyl group (e.g., aldehyde, ketone, etc.)

..Contains inorganic component other than water or clay

..Inorganic component is elemental metal or alloy

..Inorganic component contains Ti, Zr, V, Cr, Mn, Fe, or Ni

..Inorganic component contains copper or zinc

..Inorganic component contains boron

..Inorganic component contains phosphorous

..Inorganic component contains arsenic or antimony

..Inorganic component contains potassium

..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
Organic contaminant is paraffinic.

Cleaning sulfur deposits with inhibitor.

ACIDIZING OR FORMATION DESTROYING.

ENHANCED OIL RECOVERY.

Flooding the formation with emulsion.

...With microemulsion.

CORROSION INHIBITOR.

FREEING STUCK OBJECT FROM WELLBORE.

FOREIGN ART COLLECTIONS

FOR 000 CLASS-RELATED FOREIGN DOCUMENTS.