mean that a search has been made or that no other pertinent information as defined in 37 CFR § 1.56(a) exists.

Brief Summary of the Invention

In one aspect of the invention, there is provided a method of removing mercury bearing species from a hydrocarbon containing fluid, the method comprising the steps of: adding dithiocarbamate polymer to the fluid in an amount such that the number of mercury bonding sites on the polymer exceeds the amount of mercury atoms by at least 10% and removing the mercury bearing dithiocarbamate polymer with a water/oil separation device, wherein the mercury bearing dithiocarbamate polymer is soluble in water.

At least one embodiment of the invention is directed towards a method of removing mercury bearing species from a hydrocarbon containing fluid. The method comprises the steps of: i) adding dithiocarbamate polymer to the fluid in an amount such that the number of mercury bonding sites on the polymer exceeds the amount of mercury atoms by at least 10% and ii) removing the mercury bearing dithiocarbamate polymer with only a water/oil separation device.

Mercury free water may be added to the fluid prior to adding the polymer. The polymer may be added to the mercury free water prior to adding the solution to the hydrocarbon. An emulsifier may be added to the fluid before adding the polymer. The emulsifier may be added to the added mercury free water. An emulsion breaker may be added to the hydrocarbon before or after adding the polymer to the washwater. The method may exclude the use of solid liquid separation device. The hydrocarbon may be a naphtha fraction formed by a distillation process of crude oil.

The mercury bearing species may be one selected from the list consisting of elemental mercury, mercuric chloride, mercuric sulfide, mercuric selenide, dimethylmercury, diethyl mercury, asphaltic and sulfur containing complexes and compounds, and combinations thereof. The method may further comprise the step of converting elemental mercury into charged mercury. The

method may further comprise the use of an electrostatic device. The method may further comprises iii) mixing the liquid hydrocarbon with an organic compound containing at least one sulfur atom that is reactive with mercury, wherein said organic compound is not supported on carrier solids and is selected from the group consisting of sulfurized isobutylenes, dithiocarbamates, alkyl dithiocarbamates, polymeric dithiocarbamates, sulfurized olefins, thiophenes, mono and dithio organic acids, and mono and dithioesters; and iv) separating mercury-containing water-soluble