CLAIMS

1. A method for reducing a trace element of mercury in a crude oil feedstock, comprising:

passing the crude oil feedstock having a mercury concentration as feed to a filtration device having at least a filter element to generate a filtered crude having a reduced concentration of mercury and a reject stream containing crude oil having a concentrated mercury level of at least 10 times the concentration of mercury in the crude oil feed;

mixing into the reject stream an effective amount of an extractive agent to remove at least a portion of the mercury for a treated crude oil having a reduced concentration of mercury;

wherein the extractive agent is selected from the group of oxidizing agents; reducing agents, organic or inorganic sulfidic compounds with at least one sulfur atom reactive with mercury; tetrakis(hydroxymethyl)phosphonium sulfate; tetrakis(hydroxymethyl) phosphonium chloride; and combinations thereof.

2. The method of claim 1, where the treated crude oil is combined with the filtered crude oil to form a combined product stream having a mercury concentration of less than 100 ppbw.

3. The method of ~~any of claims 1 -~~ claim 2, wherein the combined product stream is at least 98 vol. % of the crude oil feedstock.

4. The method of any of claims 1 - 2, wherein the extractive agent extracts a portion of the mercury into a water phase, and wherein the method further comprises:

separating the water phase containing the mercury from the crude oil for the treated crude oil to have a concentration of mercury of less than 100 ppbw.

5. The method of any of claims 1 - 2, wherein the filtration device is periodically back-flushed to generate the reject stream, and wherein the filtration device is back-flushed with any of: an extraction solvent; a portion of the filtered crude; a gas selected from methane, nitrogen, carbon dioxide; and combinations thereof to generate the reject stream.