circumstance where all such trapped solvent has not been solubilized by the alcohol, the organic compound with a hydroxyl functional group, and/or organic or inorganic solvent, and moved into the recovery mixture. The residual material is then separated from the recovery mixture. The recovery mixture is further separated into a first portion and a second portion. The first portion of the recovery mixture includes a trapped solvent product stream that includes at least a portion of the trapped solvent extracted from the solvent-treated material. The second portion of the recovery mixture includes at least a portion of the alcohol, the organic compound with a hydroxyl functional group, and/or organic or inorganic solvent. In one embodiment, substantially all of the trapped solvent is recovered in the recovery mixture.

[005a] In another aspect, there is provided a method for dissolving, displacing, extracting, recovering, and/or removing a solvent and solvent-associated liquids trapped within pores of a solvent-treated material comprising the steps of: a) providing a solvent-extracting composition, b) contacting said solvent-treated material with said solvent-extracting composition such that said solvent-extracting composition penetrates into pores of said solvent-treated material, c) forming a recovery mixture, wherein the recovery mixture comprises at least a portion of the solvent and solvent-associated liquids extracted into the solvent- extracting composition; and d) separating the recovery mixture from any residual material containing non-extracted material from the solvent-treated material that is not extracted into the solvent- extracting composition.

[006] In another embodiment, the present invention provides a composition for extracting, removing and recovering trapped solvent and other associated liquids that are contained in rubber or hydrocarbon-containing material that has been treated with a solvent, e.g., a turpentine liquid. The composition, which hereinafter will be referred to as the "solvent-extracting composition" can include one or more of an alcohol, the organic compound with a hydroxyl functional group, and/or organic or inorganic solvent.

[007] A method of extracting hydrocarbon-containing organic matter from a hydrocarbon-containing material is provided, which includes the steps of providing a first liquid including a turpentine liquid and contacting the hydrocarbon-containing material with the turpentine liquid such that an extraction mixture is formed, as well as residual material. The extraction mixture contains at least a portion of the hydrocarbon-containing organic matter and the turpentine liquid. The residual material includes non-soluble material from the hydrocarbon-containing material. The residual material can also include a reduced portion of the hydrocarbon-containing organic matter in the circumstance where all such hydrocarbon-containing material has not been

solubilized by the turpentine liquid and moved into the extraction mixture. The residual material is then separated from the extraction mixture. The extraction mixture is further separated into a first portion and a second portion. The first portion of the extraction mixture includes a hydrocarbon product stream that includes at least a portion of the hydrocarbon-containing organic matter extracted from the hydrocarbon-containing material. The second portion of the extraction mixture includes at least a portion of the turpentine liquid. In one embodiment, at least a portion of the turpentine liquid is recycled to the hydrocarbon-extracting liquid.

[007a] In another aspect, there is provided a method of extracting hydrocarbon-containing organic matter from oil shale or tar (oil) sands into turpentine liquids and/or other associated liquids and subsequently dissolving, extracting, recovering, and/or removing turpentine liquids and/or other associated liquids from a turpentine liquid-treated material, comprising the steps of extracting the hydrocarbon-containing organic matter by a process comprising: providing a hydrocarbon-extracting liquid comprising a non-aqueous turpentine liquid; contacting oil shale or tar (oil) sands with said hydrocarbon-extracting liquid such that an extraction mixture is formed, the extraction mixture comprising at least a portion of hydrocarbon-containing organic matter from said oil shale or tar (oil) sands extracted into the turpentine liquid; separating the extraction mixture from a residual turpentine liquid-treated material containing non-soluble material from the oil shale or tar (oil) sands that is not soluble in the hydrocarbon-extracting liquid; providing a solvent-extracting composition; contacting said residual turpentine liquid-treated material containing non-soluble material from the oil shale or tar (oil) sands that is not soluble in the hydrocarbon-extracting liquid with said solvent-extracting composition such that said solvent-extracting composition penetrates into pores of said residual turpentine liquid-treated material, forming a recovery mixture, wherein the recovery mixture comprises at least a portion of the turpentine liquid and any associated liquids extracted into the solvent-extracting composition; and separating the recovery mixture from any material containing non-extracted material from the turpentine liquid-treated material that is not extracted into the solvent-extracting composition.

DETAILED DESCRIPTION OF THE INVENTION

[008] In one aspect, the present invention relates to a readily deployed composition for the dissolution, extraction, or penetration through pores or surface of a material containing solvent and associated liquids trapped in pores of a solvent-treated material (the "solvent-extractingremoving composition"). The present invention also relates to a readily deployed composition for use in a process for extraction, liquefaction and/or solubilization of fossil fuels from coal, oil shale, crude oil, and tar (oil) sands.

[009] According to one embodiment, a method is provided including the steps of displacing, dissolving, extracting, recovering, removing, and/or penetrating through the pores or surface of a material containing solvent trapped in its pores after a process of extracting hydrocarbons from the material. The material containing trapped solvent may have been previously treated with turpentine liquid. Examples of such materials are plastics, coal, oil shale, tar (oil) sands, a reservoir containing crude oil, crude oil, natural gas (which frequently coexists with crude oils and other said fossil fuels), rubber that has been devulcanized using turpentine liquid, or a combination thereof. The material containing turpentine liquids can be solid, semi-solid, liquid,