~~What is claimed is~~Claims:

1. An aqueous composition comprising:

~~a. about 1 wt% to about 50 wt% of plant material~~a mixture obtained by allowing water, corn gluten meal and an inorganic base to (i) stir at about 10 ºC to about 100 ºC for about 2 hours to about 4 hours or (ii) stand at about 10 ºC to about 100 ºC for about 10 minutes to about 8 hours;

~~b. 0% to about 20 wt% of a polysaccharide;~~

~~c.~~ 0% to about 10 wt% of an alcohol;

~~d.~~ ~~0~~ about 0.05 wt % to about 15 wt% of ~~a~~ the inorganic base, the organic base being sodium hydroxide, lithium hydroxide or potassium hydroxide;

~~e.~~ 0% to about 10 wt% of a salt;

~~f.~~ 0% to about 10 wt% of an acid;

~~g.~~ 0% to about 10 wt% of an additive; and

~~h.~~ about 10 wt% to about 95 wt% of water;

wherein

the aqueous composition has a pH of ~~from about 9 to~~ about 13;

the aqueous composition does not comprise a polysaccharide other than that present in or derived from corn gluten meal; and

the amount of corn gluten meal is about 1 wt% to about 50 wt% of the aqueous composition.

~~2. The aqueous composition of claim 1, wherein the plant material comprises plant protein.~~

~~3. The aqueous composition of claim 1, wherein the plant is corn, rice, wheat, barley, flax, sorghum, millet, rye, triticale, fonio, buckwheat, spelt, cotton or quinoa.~~

~~4. The aqueous composition of claim 2, wherein the plant material is corn gluten meal.~~

~~5~~2. The aqueous composition of claim 1, wherein the alcohol is ethanol, methanol, or isopropanol.

~~6. The aqueous composition of claim 1, wherein the base is sodium hydroxide, lithium hydroxide, or potassium hydroxide.~~

~~7~~3. The aqueous composition of claim 1, wherein the salt is sodium chloride, potassium chloride, calcium chloride, magnesium chloride, ammonium chloride, sodium bromide, potassium bromide, calcium bromide, magnesium bromide, ammonium bromide, sodium iodide, potassium iodide, calcium iodide, magnesium iodide, ammonium iodide, sodium sulfate, potassium sulfate, calcium sulfate, magnesium sulfate, ammonium sulfate or mixtures thereof.

~~8~~4. The aqueous composition of claim 1, wherein the acid is citric acid, formic acid, ascorbic acid, acetic acid, malic acid, adipic acid, tannic acid, lactic acid, fumaric acid, or mixtures thereof.

~~9~~5. The aqueous composition of claim 1, wherein the additive is Type S Hydrated Lime.

~~10. The aqueous composition of claim 1, wherein the composition does not comprise a polysaccharide other than that present in or derived from the plant material, wherein the plant material is corn gluten meal, and wherein the aqueous composition further comprises isopropanol, citric acid, Type S hydrated lime, sodium hydroxide, and sodium chloride.~~

~~11~~6. An extractant comprising:

~~a. about 0.1 wt% to about 2 wt% of plant material~~a mixture obtained by allowing water, corn gluten meal and an inorganic base to (i) stir at about 10 ºC to about 100 ºC for about 2 hours to about 4 hours or (ii) stand at about 10 ºC to about 100 ºC for about 10 minutes to about 8 hours;

~~b. 0% to about 2 wt% of a polysaccharide;~~

~~c.~~ 0% to about 1 wt% of an alcohol;

~~d.~~ 0.01% to about ~~10~~ 1 wt% of ~~a~~ the inorganic base, the organic base being sodium hydroxide, lithium hydroxide or potassium hydroxide;

~~e.~~ 0% to about ~~10~~ 1 wt% of a salt;

~~f.~~ 0% to about ~~10~~ 1 wt% of an acid;

~~g.~~ 0% to about ~~10~~ 1 wt% of an additive; and

~~h.~~ about 90 wt% to about 99.9 wt% water;

wherein:

the extractant does not comprise a polysaccharide other than that present in or derived from corn gluten meal;

the extractant is prepared by adding water to the aqueous composition of claim 1; and

the amount of corn gluten meal is about 0.1 wt% to about 2 wt% of the extractant.

~~12. The extractant of claim 11, wherein the plant material comprises protein.~~

~~13 The extractant of claim 11, wherein the plant is corn, rice, wheat, barley, flax, sorghum, millet, rye, triticale, fonio, buckwheat, spelt, cotton or quinoa.~~

~~14. The extractant of claim 12, wherein the plant material is corn gluten meal.~~

~~15~~7. The extractant of claim ~~11~~ 6, wherein the alcohol is ethanol, methanol, or isopropanol.

~~16. The extractant of claim 11, wherein the base is sodium hydroxide, lithium hydroxide, or potassium hydroxide.~~

~~17~~8. The extractant of claim ~~11~~ 6, wherein the salt is sodium chloride, potassium chloride, calcium chloride, magnesium chloride, ammonium chloride, sodium bromide, potassium bromide, calcium bromide, magnesium bromide, ammonium bromide, sodium iodide, potassium iodide, calcium iodide, magnesium iodide, ammonium iodide, sodium sulfate, potassium sulfate, calcium sulfate, magnesium sulfate, ammonium sulfate or mixtures thereof.

~~18~~9. The extractant of claim ~~11~~ 6, wherein the acid is citric acid, formic acid, ascorbic acid, acetic acid, malic acid, adipic acid, tannic acid, lactic acid, fumaric acid, or mixtures thereof.

~~19~~10. The extractant of claim ~~11~~ 6, wherein the additive is Type S Hydrated Lime.

~~20. The extractant of claim 11, wherein the pH of the extractant is from about 9 to about 13.~~

~~21. The extractant of claim 11, wherein the extractant does not comprise polysaccharide other than that present in or derived from the plant material, wherein the plant material is corn gluten meal, and wherein the aqueous composition further comprises isopropanol, citric acid, Type S hydrated lime, sodium hydroxide, and sodium chloride.~~

~~22~~11. A substantially anhydrous composition prepared by dehydrating the aqueous composition of claim 1, the substantially anhydrous composition comprising~~:~~

~~a. about 20 wt% to about 99.9 wt% of plant material;~~
~~b. 0 to about 20 wt% of a polysaccharide;~~
~~c. 0% to about 1 wt% of an alcohol;~~
~~d. 0% to about 15 wt% of a base;~~
~~e. 0% to about 10 wt% of a salt;~~
~~f. 0% to about 10 wt% of an acid;~~
~~g. 0% to about 10 wt% of an additive; and~~
~~h.~~ 0% to about 10 wt% water.

~~23 The substantially anhydrous composition of claim 22, wherein the plant material comprises plant protein.~~

~~24. The substantially anhydrous composition of claim 22, wherein the plant is corn, rice, wheat, barley, flax, sorghum, millet, rye, triticale, fonio, buckwheat, spelt, cotton or quinoa.~~

~~25. The substantially anhydrous composition of claim 23, wherein the plant material is corn gluten meal.~~

~~26~~12. The substantially anhydrous composition of claim ~~22~~ 11, wherein the alcohol is ethanol, methanol, or isopropanol.

~~27. The substantially anhydrous composition of claim 22, wherein the base is sodium hydroxide, lithium hydroxide, or potassium hydroxide.~~

~~28~~13. The substantially anhydrous composition of claim ~~22~~ 11, wherein the salt is sodium chloride, potassium chloride, calcium chloride, magnesium chloride, ammonium chloride, sodium bromide, potassium bromide, calcium bromide, magnesium bromide, ammonium bromide, sodium iodide, potassium iodide, calcium iodide, magnesium iodide, ammonium iodide, sodium sulfate, potassium sulfate, calcium sulfate, magnesium sulfate, ammonium sulfate, or mixtures thereof.

~~29~~14. The substantially anhydrous composition of claim ~~22~~ 11, wherein the acid is citric acid, formic acid, ascorbic acid, acetic acid, malic acid, adipic acid, tannic acid, lactic acid, fumaric acid, or mixtures thereof.

~~30~~15. The substantially anhydrous composition of claim ~~22~~ 11, wherein the additive is Type S Hydrated Lime.

~~31. The substantially anhydrous composition of claim 22, wherein the composition does not comprise polysaccharide other than that present in or derived from the plant material, wherein the plant material is corn gluten meal, and wherein the aqueous composition further comprises isopropanol, citric acid, Type S hydrated lime, sodium hydroxide, and sodium chloride.~~

~~32~~16. A method for extracting a hydrocarbon-containing substance from an inanimate substrate, comprising contacting the substrate with the aqueous composition of any of claims ~~1-10~~1-5, under conditions effective for extracting at least some of the hydrocarbon-containing substance from the substrate.

~~33~~17. The method of claim ~~32~~ 16, wherein the substrate is soil, sand, wood, rock, paper, skin, a waterbody, gravel, mud, clay, plant, hair, fabric, metal, glass, porcelain, concrete, ~~a living animal~~ or a dead animal.

~~34~~18. The method of claim ~~32~~16 wherein the extracting comprises removing the hydrocarbon-containing substance from the surface of the substrate.

~~35~~19. The method of claim ~~32~~ 16, wherein the contacting occurs at an aqueous composition or a substrate temperature of about 5° to about 50°C.

~~36~~20. The method of claim ~~32~~ 16, wherein the method further comprises subjecting the aqueous composition or the substrate to agitation.

~~37~~21. The method of claim ~~32~~ 16, wherein the hydrocarbon-containing substance is grease, crude oil, coal tar, sludge, bitumen, automotive oil, one or more petroleum distillates, diesel fuel, heating oil, jet fuel, aviation gasoline, kerosene, creosote, coal tar sand, tar sand, light tar oil, bitumen, sludge, oil-contaminated sludge or refined products thereof.

~~38~~22. A method for extracting a hydrocarbon-containing substance from an inanimate substrate, comprising contacting the substrate with the extractant of any of claims ~~11-20~~6-10, under conditions effective for extracting at least some of the hydrocarbon-containing substance from the substrate.

~~39~~23. The method of claim ~~38~~ 22, wherein the substrate is soil, sand, wood, rock, paper, skin, a waterbody, gravel, mud, clay, plant, hair, fabric, metal, glass, porcelain, concrete, ~~a living animal~~ or a dead animal.

~~40~~24. The method of claim ~~38~~ 22, wherein the extracting comprises removing the hydrocarbon-containing substance from the surface of the substrate.

~~41~~25. The method of claim ~~38~~ 22, wherein the contacting occurs at an extractant or a substrate temperature of about 5° to about 50°C.

~~42~~26. The method of claim ~~38~~ 22, wherein the method further comprises subjecting the extractant or the substrate to agitation.

~~43~~27. The method of claim ~~38~~ 22, wherein the hydrocarbon-containing substance is grease, crude oil, coal tar, sludge, bitumen, automotive oil, one or more petroleum distillates, diesel fuel, heating oil, jet fuel, aviation gasoline, kerosene, creosote, coal tar sand, tar sand, light tar oil, bitumen, sludge, oil-contaminated sludge or refined products thereof.

~~44~~28. A method for remediating an inanimate substrate, comprising contacting the substrate with the aqueous composition of any of claims ~~1-10~~1-5, under conditions effective for remediating the substrate.

~~45~~29. The method of claim ~~44~~ 28, wherein the substrate is soil, sand, wood, paper, skin, a waterbody, gravel, mud, clay, plant, hair, fabric, metal, glass, porcelain, ceramic, ~~a living animal~~ or a dead animal.

~~46~~30. The method of claim ~~44~~ 28, wherein remediating comprises extracting a hydrocarbon-containing substance from the substrate.

~~47~~31. The method of claim ~~44~~ 28, wherein the contacting occurs at an aqueous composition or a substrate temperature of about 5° to about 50°C.

~~48~~32. The method of claim ~~44~~ 28, wherein the method further comprises subjecting the aqueous composition or substrate to agitation.

~~49~~33. The method of claim ~~44~~ 28, wherein the hydrocarbon-containing substance grease, crude oil, coal tar, sludge, bitumen, automotive oil, one or more petroleum distillates, diesel fuel, heating oil, jet fuel, aviation gasoline, kerosene, creosote, coal tar sand, tar sand, light tar oil, bitumen, sludge, oil-contaminated sludge or refined products thereof.

~~50~~34. The method of claim ~~44~~30, wherein extracting comprises removing a hydrocarbon-containing substance from the surface of the substrate.

~~51~~35. The method of claim ~~44~~ 28, wherein remediating the substrate comprises sequestering one or more contaminants in the substrate.

~~52~~36. A method for remediating an inanimate substrate, comprising contacting the substrate with the extractant of any of claims ~~11-20~~6-10, under conditions effective for remediating the substrate.

~~53~~37. The method of claim ~~52~~ 36, wherein the substrate is soil, sand, wood, paper, skin, a waterbody, gravel, mud, clay, plant, hair, fabric, metal, glass, porcelain, ceramic, ~~a living animal or~~ a dead animal.

~~54~~38. The method of claim ~~52~~ 36, wherein remediating comprises extracting a hydrocarbon-containing substance from the substrate.

~~55~~39. The method of claim ~~52~~ 36, wherein the contacting occurs at an extractant or a substrate temperature of about 5° to about 50°C.

~~56~~40. The method of claim ~~52~~ 36, wherein the method further comprises subjecting the extractant or substrate to agitation.

~~57~~41. The method of claim ~~52~~ 36, wherein the hydrocarbon-containing substance grease, crude oil, coal tar, sludge, bitumen, automotive oil, one or more petroleum distillates, diesel fuel, heating oil, jet fuel, aviation gasoline, kerosene, creosote, coal tar sand, tar sand, light tar oil, bitumen, sludge, oil-contaminated sludge or refined products thereof.

~~58~~42. The method of claim ~~52~~38, wherein extracting comprises removing a hydrocarbon-containing substance from the surface of the substrate.

~~59~~43. The method of claim ~~52~~ 36, wherein remediating the substrate comprises sequestering one or more contaminants in the substrate.

~~60~~44. A hydraulic fracturing fluid comprising the aqueous composition of claim 1.

~~61~~45. The hydraulic fracturing fluid of claim ~~60~~ 44, further comprising a proppant, a viscosity modifier, a radioactive tracer, a gel, an alcohol, a detergent, an acid, a fluid loss additive, a gas, a dispersant or a flocculant.

~~62~~46. A method for extracting a hydrocarbon-containing substance from a substrate, comprising hydraulically fracturing the substrate with the hydraulic fracturing fluid of claim ~~60~~ 44.

~~63~~47. A hydraulic fracturing fluid comprising the extractant of claim ~~11~~ 6.

~~64~~48. The hydraulic fracturing fluid of claim ~~63~~ 47, further comprising a proppant, a viscosity modifier, a radioactive tracer, a gel, an alcohol, a detergent, an acid, a fluid loss additive, a gas, a dispersant or a flocculant.

~~65~~49. A method for extracting a hydrocarbon-containing substance from a substrate, comprising hydraulically fracturing the substrate with the hydraulic fracturing fluid of claim ~~63~~ 47.

~~66~~50. A method for precipitating fines contained in a vessel further containing a hydrocarbon-containing material and the aqueous composition of claim 1, comprising acidifying the contents of said vessel to a pH of about 4.6 or less.

~~67~~51. A method for separating fines from a hydrocarbon-containing material, comprising acidifying to a pH of about 4.6 or less, a mixture comprising the hydrocarbon-containing material, the fines, and an aqueous composition of claim 1; and allowing the fines to precipitate.

~~68~~52. The method of claim ~~67~~ 51, further comprising separating at least some of the precipitated fines from the mixture.

~~69~~53. The method of claim ~~68~~ 52, wherein separating comprises filtering or centrifuging the mixture.

~~70~~54. A method for separating fines from a hydrocarbon-containing material, comprising acidifying to a pH of about 4.6 or less, a mixture comprising the hydrocarbon-containing material, the fines, and an extractant of claim ~~11~~ 6; and allowing the fines to precipitate.

~~71~~55. The method of claim ~~70~~ 54, further comprising separating at least some of the precipitated fines from the mixture.

~~72~~56. The method of claim ~~71~~ 55, wherein separating comprises filtering or centrifuging the mixture.

57. The aqueous composition of claim 1, wherein the mixture is obtained by allowing water, corn gluten meal and the inorganic base to (i) stir at about 10 ºC to about 100 ºC for about 2 hours to about 4 hours and (ii) stand at about 10 ºC to about 100 ºC for about 10 minutes to about 8 hours.

58. The aqueous composition of claim 1, wherein the corn gluten meal is suspended or substantially dissolved in the mixture.

59. The extractant of claim 6, wherein the mixture is obtained by allowing water, corn gluten meal and the inorganic base to (i) stir at about 10 ºC to about 100 ºC for about 2 hours to about 4 hours and (ii) stand at about 10 ºC to about 100 ºC for about 10 minutes to about 8 hours.

60. The extractant of claim 6, wherein the corn gluten meal is suspended or substantially dissolved in the mixture.