~~CLAIMS:~~

1. A method for producing asphalt, comprising: forming a froth from a mixture of a raw crude derived from mined oil sands and water, the froth corresponding to an oil-based phase; adding a polar organic solvent to the froth, the polar organic solvent having a dipole moment of 2.0×10^{-30} Cm to 5.9×10^{-30} Cm at 20°C, a solubility in water of less than 25 g/L, a boiling point of at least 70°C, and a melting point of 20°C or less; separating the oil-based phase from the water; and preparing at least a portion of the oil-based phase for transport via pipeline.

2. The method of claim 1, wherein forming a froth from a mixture of raw crude and water comprises performing a hot water extraction process or a cold water extraction process on the raw crude.

3. The method of any of the above claims, wherein preparing at least a portion of the oil-based phase for transport via pipeline comprises separating the solvent from the oil-based phase.

4. The method of claim 3, wherein preparing at least a portion of the oil-based phase for transport further comprises mixing the at least a portion of the oil-based phase with a naphtha boiling range or kerosene boiling range diluent.

5. The method of any of the above claims, wherein the polar organic solvent is an alcohol, a carboxylic acid, or an amine.

6. The method of any of the above claims, wherein the polar organic solvent contains 8 carbons or less.

7. The method of any of the above claims, wherein the polar organic solvent has a melting point of 30°C or less.

8. The method of any of the above claims, wherein the polar organic solvent ~~comprises trichloroethylene.~~

9. The method of any of the above claims, further comprising distilling the at least a portion of the oil based phase to form an asphalt feed; and forming an asphalt from the asphalt feed.

10. The method of claim 9, wherein distilling the at least a portion of the oil-based phase comprises performing a vacuum distillation on the at least a portion of the oil-based phase, the asphalt feed corresponding to a bottoms fraction produced by the vacuum distillation.

11. The method of claim 9 or 10, wherein the at least a portion of the oil-based phase is mixed with one or more other feeds prior to distillation.

12. The method of any of the above claims, wherein the polar organic solvent is added to the froth under effective conditions so that an asphaltene content of the froth is at least 80% of an asphaltene content of the raw crude.

CLAIMS:

1. A method for producing asphalt, comprising:

forming a froth from a mixture of a raw crude derived from mined oil sands and water, the froth corresponding to an oil-based phase on top of an aqueous phase;

adding a solvent consisting essentially of a polar organic solvent to the froth, the polar organic solvent having a dipole moment of 2.0×10^{-30} Cm to 5.9×10^{-30} Cm at 20°C, a solubility in water of less than 25 g/L, a boiling point of at least 70°C, and a melting point of 20°C or less, a weight ratio of solvent to bitumen after addition of the polar organic solvent being 1.4:1 to 2.2:1;

separating, after addition of the solvent consisting essentially of the polar organic solvent, the oil-based phase from the water; and

preparing at least a portion of the oil-based phase for transport via pipeline.

2. The method of claim 1, wherein forming a froth from a mixture of raw crude and water comprises performing a hot water extraction process or a cold water extraction process on the raw crude.

3. The method of claim 1, wherein preparing at least a portion of the oil-based phase for transport via pipeline comprises separating the solvent from the oil-based phase.

4. The method of claim 3, wherein preparing at least a portion of the oil-based phase for transport further comprises mixing the at least a portion of the oil-based phase with a naphtha boiling range or kerosene boiling range diluent.

5. The method of claim 1, wherein the polar organic solvent is an alcohol, a carboxylic acid, or an amine.

6. The method of claim 1, wherein the polar organic solvent contains 8 carbons or less.

7. The method of claim 1, wherein the polar organic solvent has a melting point of 30°C or less.

8. The method of claim 1, wherein the polar organic solvent comprises trichloroethylene.

9. The method of claim 1, further comprising distilling the at least a portion of the oil based phase to form an asphalt feed; and forming an asphalt from the asphalt feed.

10. The method of claim 9, wherein distilling the at least a portion of the oil-based phase comprises performing a vacuum distillation on the at least a portion of the oil-based phase, the asphalt feed corresponding to a bottoms fraction produced by the vacuum distillation.

11. The method of claim 9, wherein the at least a portion of the oil-based phase is mixed with one or more other feeds prior to distillation.

12. The method of claim 1, further comprising adding a solvent consisting essentially of the polar organic solvent to the water separated from the oil phase, a weight ratio of solvent to bitumen in the water separated from the oil phase after addition of the polar organic solvent being at least about 25:1.

13. A method for producing asphalt, comprising:

forming a froth from a mixture of a raw crude derived from mined oil sands and water, the raw crude having an asphaltene content, the froth corresponding to an oil-based phase on top of an aqueous phase;

adding a polar organic solvent to the froth under effective conditions so that an asphaltene content of the froth is at least 80% of the asphaltene content of the raw crude, the froth having an asphaltene content less than the asphaltene content of the raw crude, the polar organic solvent having a dipole moment of 2.0×10^{-30} Cm to 5.9×10^{-30} Cm at 20°C, a solubility in water of less than 25 g/L, a boiling point of at least

70°C, and a melting point of 20°C or less, a weight ratio of solvent to bitumen after addition of the polar organic solvent being 1.4:1 to 2.2:1;

separating, after addition of the polar organic solvent, at least a portion of the froth having an asphaltene content that is at least 80% of the asphaltene content of the raw crude and less than the asphaltene content of the raw crude from the water to form a separated froth having an asphaltene content that is at least 80% of the asphaltene content of the raw crude and less than the asphaltene content of the raw crude;

preparing the separated froth for transport via pipeline;

distilling, after transport via pipeline, the separated froth to form an asphalt feed; and

forming an asphalt from the asphalt feed.

14. The method of claim 13, wherein distilling the separated froth comprises performing a vacuum distillation on the separated froth, the asphalt feed corresponding to a bottoms fraction produced by the vacuum distillation.

15. The method of claim 13, wherein the separated froth is mixed with one or more other feeds prior to distillation.

16. The method of claim 13, wherein forming a froth from a mixture of raw crude and water comprises performing a hot water extraction process or a cold water extraction process on the raw crude.

17. The method of claim 13, wherein preparing the separated froth for transport via pipeline comprises separating the polar organic solvent from the separated froth.

18. The method of claim 17, wherein preparing the separated froth for transport further comprises mixing the separated froth with a naphtha boiling range or kerosene boiling range diluent.

19. The method of claim 1, wherein the solvent consists of a polar organic solvent.

20. The method of claim 13, further comprising adding a solvent comprising the polar organic solvent to the water separated from the oil phase, a weight ratio of solvent to bitumen in the water separated from the oil phase after addition of the polar organic solvent being at least about 25:1.