CLAIMS

WHAT IS CLAIMED IS:

1. A method for cooling a heat source, comprising:

(a) providing a cooling system in thermal communication with said heat source, wherein said cooling system comprises (i) a container comprising a container wall, wherein said container comprises said heat source submerged in a first liquid, (ii) a baffle disposed between said heat source and said container wall, and (iii) a recirculation loop comprising (A) a passageway comprising a converging structure disposed between said baffle and said container wall and (B) a pump that directs the flow of said first liquid through said converging structure, wherein said first liquid is in thermal communication with said heat source;

(b) transferring thermal energy from said heat source to said first liquid and, during said transferring, using said baffles to direct flow of said first liquid away from said heat source; and

(c) using said pump of said recirculation loop to direct said first liquid through said converging structure of said passageway to generate a suction force that pulls said first liquid through said converging structure and generates flow of said first liquid between said baffle and said container wall to thereby cool said heat source.

2. The method of claim 1, further comprising flowing said first liquid such that said first liquid is maintained in a subcooled state.

3. The method of claim 1 or claim 2, wherein said baffle directs said first liquid towards said container wall.

4. The method of any one of claims 1-3, wherein said first liquid is a dielectric liquid.

5. The method of any one of claims 1-4, wherein said baffle comprises a bottom plate comprising perforations that permit flow of said first liquid through said bottom plate.

6. The method of any one of claims 1-5, wherein said baffle comprises a flow diverter that directs flow of said first liquid around said heat source.

7. The method of any one of claims 1-6, wherein said container comprises a lid that seals said container.

8. The method of any one of claims 1-7, wherein said container comprises a liquid lid disposed adjacent to and above said first liquid.

9. The method of claim 8, wherein said container comprises a float that displaces a volume of said liquid lid.

10. The method of any one of claims 1-9, wherein said container comprises a relief valve that maintains a pressure of said container below a threshold value.

11. The method of any one of claims 1-10, wherein said container comprises a liner configured to seal said first liquid inside said container.

12. The method of any one of claims 1-11, further comprising using one or more processors coupled to said pump to control a flow of said first liquid through said converging structure.

13. The method of any one of claims 1-12, wherein said heat source is a mining machine, and wherein said mining machine comprises a wireless handle.

14. The method of claim 13, wherein said wireless handle comprises a wireless emitter.

15. A cooling system, comprising:

a container comprising a container wall, wherein said container is configured to retain a heat source submerged in a first liquid, wherein, during use, said first liquid is in thermal communication with said heat source and is configured to remove thermal energy from said heat source;

a baffle disposed in said container, wherein, during use, said baffle is disposed between said heat source and said container wall and is configured to direct flow of said first liquid during transfer of thermal energy away from said heat source; and

a recirculation loop configured to flow said first liquid, wherein said recirculation loop comprises (i) a passageway comprising a converging structure and (ii) a pump configured to direct said first liquid through said converging structure of said passageway, wherein, during

use, said passageway is disposed between said baffle and said container wall and said pump directs said first liquid through said converging structure to generate a suction force that pulls said first liquid through said converging structure to generate flow of said first liquid between said baffle and said container wall to thereby cool said heat source.

16. The cooling system of claim 15, wherein said first liquid is a dielectric liquid.

17. The cooling system of claim 15 or claim 16, wherein said baffle comprises a flow diverter configured to direct flow of said first liquid around said heat source.

18. The cooling system of any one of claims 15 – 17, wherein said heat source is a mining machine, and wherein said mining machine comprises a wireless handle.

19. The cooling system of any one of claims 15 – 18, further comprising a liner configured to seal said first liquid within said container.

20. The cooling system of any one of claims 15 – 19, wherein said container comprises a relief valve configured to maintain a pressure of said container below a threshold value.