WHAT IS CLAIMED IS:

1. A method for recovering valuable metals from a spent secondary battery, the method comprising:

a pre-processing process of pre-processing the spent secondary battery;

a melting process of heating the pre-processed spent secondary battery to generate a molten solution; and

a recovery process of recovering the valuable metals from the molten solution,

wherein, in the melting process, a flux and a chlorinating agent are added,

wherein, in the recovery process, lithium is recovered in a form of lithium dust,

wherein, in the melting process, the flux is added to produce a CaO-SiO_2-Al_2O_3 3-phase slag comprising 21-28 wt % CaO, 55-63 wt % SiO_2, and 12-17 wt % Al_2O_3,

wherein a slag composition analysis process is performed to analyze the composition of the slag generated during the melting process, and

wherein, based on a composition analysis result of the slag, an additional input amount of flux is adjusted to achieve the slag comprising 21-28 wt % CaO, 55-63 wt % SiO_2, and 12-17 wt % Al_2O_3.

2. The method of claim 1, wherein the chlorinating agent includes at least one of $CaCl_2$, $CuCl_2$, NaCl, KCl, and CuCl.

3. The method of claim 2, wherein the chlorinating agent includes $CaCl_2$ or $CuCl_2$.

4. The method of claim 1, wherein the chlorinating agent is added such that a molar equivalent of chlorine to lithium present in the pre-processed spent secondary battery is 1.2 or more.

5. The method of claim 1, wherein the pre-processed spent secondary battery is heated to a temperature of 1500 degrees C or higher in the melting process.

6. The method of claim 1, wherein the lithium dust is LiCl.

7. The method of claim 1, further comprising a spent secondary battery composition analysis process of analyzing a composition of the pre-processed spent secondary battery, and

wherein, based on a composition analysis result of the pre-processed spent secondary battery, an input amount of the flux is adjusted to achieve the slag comprising 21-28 wt % CaO, 55-63 wt % SiO_2, and 12-17 wt % Al_2O_3.

8. The method of claim 1, wherein the pre-processing process includes:

a discharge process of discharging the spent secondary battery;

a disassembling process of disassembling the spent secondary battery from a pack to a module;

a shredding/pulverizing process of shredding and pulverizing the disassembled spent secondary battery; and

a drying process of drying the shredded/pulverized spent secondary battery.