FIGURE CAPTIONS

Figure 1. XRD patterns of raw laterite ore and the reduced calcine with the reduction degree of 93.4% (G: goethite, W: wustite, M: magnetite, Fe-Ni: iron-nickel alloy).

Figure 2. (a) Leaching of reduced calcine at 95°C under atmospheric pressure oxygen; (b) pH variation with time. (Conditions: calcine with reduction degree of 93.4%, A/O 0.46, L/S 20:1, O2 flow 1.5L·min-1).

Figure 3. Extraction of Ni and concentrations of free acid and Fe in solution during leaching of calcine with reduction degree of 93.4% and L/S of 4:1.

Figure 4. Effect of acid/ore ratio on extraction of Ni and concentrations of free acid and Fe in solution for a 60 min leach of calcine with a reduction degree of 93.4%.

Figure 5. Effect of acid/ore ratio on extraction of Ca, Mg and Al for a 60 min leach of calcine with the reduction degree of 93.45%.

Figure 6. XRD patterns of leaching residues formed at different temperatures after leaching of calcine with a reduction degree of 93.4% for 60 minutes at pO2= 1.0MPa, A/O= 0.164 and L/S= 10. (G: goethite, M: magnetite, H: hematite).

Figure 7. SEM morphology images of leaching residues formed at specific temperature after leaching for 60 minutes under pO2= 1.0MPa, A/O = 0.164 and L/S = 10.

Figure 8. Effect of A/O on leaching of calcines with three different reduction degrees. Leaching conditions: Duration= 60min, pO2=1.0MPa, T= 180°C, L/S = 10.

Figure 9. Effect of A/O ratio on the content of Al and S in residues corresponding to the leaching conditions given in Fig. 8c.

Figure 10. XRD patterns of residues produced by leaching of calcine with the reduction degree of 93.4%. Conditions: pO2=1.0MPa, T=180°C, time= 60 min. (H: hematite, M: magnetite).

Figure 11. Effect of temperature on extraction of nickel and residual iron in the leach solution. Calcine with the reduction degree of 93.45% was leached for 60 minutes at pO2= 1.0 MPa, A/O= 0.205, and L/S= 10.

Figure 12. Effect of pressure on extraction of nickel and residual iron in the leach solution. Calcine with the reduction degree of 93.45% was leached for 60 minutes at T= 160°C, A/O= 0.205, and L/S= 10.