CLAIMS

1. An abrasive article comprising:

a body including:

a bond material comprising a vitreous phase having a melting temperature of not greater than 950°C and including zircon($ZrSiO_4$); and

abrasive agglomerates contained within the bond material, the abrasive agglomerates including silicon carbide particles.

2. The abrasive article of claim 1, wherein the body comprises for a total volume of the body, 4 vol% to 15 vol% of the bond material and 40 vol% to 64 vol% of porosity.

3. The abrasive article of claim 2, wherein the body further comprises unagglomerated abrasive particles including silicon carbide.

4. The abrasive article of claim 1, wherein the body comprises at least 25 vol% to not greater than 55 vol% abrasive agglomerates for a total volume of the body.

5. The abrasive article of claim 1, wherein the abrasive agglomerates comprise abrasive particles, and essentially all of the abrasive particles are silicon carbide particles.

6. The abrasive article of claim 1, wherein the bond material comprises at least 30 wt% to not greater than 60 wt% silica (SiO_2) for a total weight of the bond material.

7. The abrasive article of claim 1, wherein the bond material comprises at least 4 wt% to not greater than 18 wt% alumina (Al_2O_3) for a total weight of the bond material.

8. The abrasive article of claim 1, wherein the bond material comprises not greater than 8 wt% calcia (CaO).

9. The abrasive article of claim 1, wherein the bond material comprises at least 5 wt% to not greater than 24 wt% boron oxide (B_2O_3) for a total weight of the bond material.

10. The abrasive article of claim 1, wherein the bond material comprises at least 0.5 wt% to not greater than 15 wt% sodium oxide (Na_2O) for a total weight of the bond material.

11. The abrasive article of claim 1, wherein the bond material comprises at least 15 wt% to not greater than 44 wt% zircon ($ZrSiO_4$) for a total weight of the bond material.

12. The abrasive article of claim 1, wherein the bond material is essentially free of magnesium oxide (MgO), potassium oxide (K_2O), iron oxide (Fe_2O_3), and titanium dioxide (TiO_2).

13. The abrasive article of claim 1, wherein the body comprises at least 40 vol% to not greater than 75 vol% porosity for a total volume of the body.

14. An abrasive article comprising:

a body including:

a bond material comprising a vitreous phase and a polycrystalline phase including zircon; and

abrasive agglomerates contained within the bond material, the abrasive agglomerates including silicon carbide particles.

15. The abrasive article of claim 14, wherein the bond material comprises at least 15 wt% to not greater than 44 wt% zircon ($ZrSiO_4$) for a total weight of the bond material.